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POSTAL SAVINGS

Reaching Everyone in Asia

Edited by Naoyuki Yoshino, José Ansón, and Matthias Helble

ASIAN DEVELOPMENT BANK INSTITUTE

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Contents

List of illustrations v
List of contributors ix
List of abbreviations xi

Introduction 1
Naoyuki Yoshino, José Ansón, and Matthias Helble

PART I: Global Overview

1. **Financial Inclusion and the Role of the Post Office** 7
José Ansón, Alexandre Berthaud, Leora Klapper, and Dorothe Singer

2. **Global Panorama of Postal Financial Inclusion** 36
Nils Clotteau and Bsrat Measho

3. **Postal Savings Bank and Macroeconomic Stability in Asia** 80
Anwar Nasution

PART II: Promoting Postal Financial Inclusion

4. **Remittances as a Trigger for Postal Financial Inclusion** 115
Hans Boon

5. **Regulation to Foster Postal Financial Inclusion** 147
Luisa Anderloni and Odile Pilley

PART III: The Impact of Postal Financial Inclusion

6. **Brazil: Postal Services for Financial Inclusion, Trade, and SME Development** 183
José Ansón, Laïa Bosch Gual, and Justin Caron

7. **Gender and Financial Inclusion Through the Post** 226
Smriti Rao

8. **Postal Savings and Financial Inclusion in Japan** 268
Naoyuki Yoshino, Matthias Helble, Asami Takeda, and Suguru Shimazaki

PART IV: The Future of Postal Financial Inclusion

9. **Postal Financial Services, Development and Inclusion: Building on the Past and Looking to the Future** 289
Gonzales d'Alcantara, Paul H. Dembinski, and Odile Pilley

10. **Disruptive Technologies and Financial Inclusion: Lessons for Postal Savings Banks to Strengthen Their Financial Inclusion Role Using Financial Technology** 317
Alexandre Berthaud

Index 337

List of illustrations

Figures

1.1 Account Ownership by Type and Country, 2011 11
2.1 Percentage of Total Financial Access Branches by Type of Financial Institution 39
2.2 Percentage of Total Financial Access Contact Points by Type of Financial Institution 40
2.3 Typology of Business Models for Posts to Offer Financial Services 45
2.4 Frequency of Business Model Adoption by Posts 46
2.5 Governance Between Entity Providing Postal Financial Services and The Rest of the Post 46
2.6 Ownership of the Entity Offering Financial Services 48
2.7 Areas of Responsibility of the Partners 51
2.8 Postal Density by Region: Average Area Covered by Permanent Posts (km^2) 58
2.9 Postal Density by Region: Average Number of Inhabitants Served by a Permanent Post 59
2.10 Percentage of Posts Connected to an Electronic Network by Region 61
2.11 Levels of Automation of Back Office by Region 62
2.12 Financial Services Regulation 64
2.13 Share of Posts with Potential to Become Agents for Banks 65
2.14 Ranking of the Top 10 Posts According to the Financial Inclusion Capacity Index 69
2.15 Ranking of the Top 10 Posts from Developing Countries 70
2.16 Financial Inclusion Capacity Index Compared to Account Ownership 71
2.17 Financial Inclusion Capacity Index for High-Income-Country Posts 72
2.18 Financial Inclusion Capacity Index for Upper-Middle-Income-Country Posts 73
2.19 Financial Inclusion Capacity Index for Lower-Middle-Income-Country Posts 74
2.20 Financial Inclusion Capacity Index for Low-Income-Country Posts 75
2.21 Financial Inclusion Capacity Index for ADB Regional Member Posts 76
3.1 Policy Tools to Conduct Monetary Policy 88

4.1 McKinsey's Global Payments Map 2016 121
5.1 Financial Inclusion: Who May be in Charge and Why 148
5.2 Number of Policies (thousands) in Force Through the Partnership between Barid Al-Maghrib-ABB and Wafa Assurance 159
5.3 Lien Viet Postbank Deposits and Loans (in VND billion) 169
5.4 Outstanding Loans by Beneficiary, Vietnam Bank for Social Policies 171
5.5 ABB in the Moroccan Market 173
5.6 LVPB Financial Performance 175
5.7 Range of Public Interventions to Enable Inclusive Financial Market Development Through Posts 176
6.1 Brazilian Municipalities With No Bank Branch in 2002 (Grey Areas) 187
6.2 Need for Simplified Export Processes (2005) 189
6.3 Geographical Distribution of Correios Post Offices (2005) 190
6.4 Evolution of DSE Exported Value 202
6.5 EF Exported Values 202
6.6 EF Number of Exporters 203
6.7 EF Number of Objects 203
6.8 Exporta Fácil vs. all Correios International Shipments 204
8.1 Japan's Postal Savings, ¥ Trillion, Years Ending 31 March 1979–2016 269
8.2 Household Savings Ratio in Japan 1955–2015 270
8.3 Use of Postal Savings 272
8.4 The Crowding-In Effect 275
8.5 The Crowding-Out Effect 276
8.6 Land Prices and the Total Expenditure by Deposit Insurance Corporation of Japan 1972–2017 281
10.1 The importance of Financial Services in the US Gross Domestic Product 319
10.2 Selected Fintech Companies Categorized According to their Activity 320
10.3 Reasons for Fintech Adoption 321
10.4 Blockchain Applications 322

Tables

1.1 Who Has an Account at the Post Office? 12
1.2 Overview of Postal Business Models 14
1.3 Individual-Level Regressions 17
1.4 Individual-Level Regressions with Country-Level Variables 24
3.1 Elements of Monetary Policy in ASEAN+3 Countries Following the Asian Financial Crisis of 1997 86

3.2	Size and Composition of Financial System (% of GDP)	100
3.3	Financial Inclusion in Indonesia, East Asia and Pacific	108
4.1	Ranking of Remittance Recipient Countries (as a % of GDP and in $ million)	119
4.2	Ranking of Remittance Recipient Countries in Terms of Average Cost of Remittances (in % and in currency value of 1% of the remittance cost)	122
4.3	Density of Postal and Bank Networks in Asia by Population Served	126
4.4	Top 10 and Bottom 10 National Postal Operators by Level of Diversification of Their Revenue Streams	128
5.1	Economic and Social Indicators of the Countries Studied	153
6.1	Socio-Demographic Regional Differences (2005 Values)	188
6.2	Exporting Activity Regional Differences (2005 Values)	188
6.3	Financial Access Regional Differences (2006 Values)	188
6.4	Tobit Regression of Number of Exporters and Exported Value, Per Type of Export—Sign of Effect	205
6.5	Networks by Semi-Deciles of Population, 2002	213
6.6	Networks by Semi-Deciles of Population, 2006	214
6.7	Networks by Semi-Deciles of GDP Per Capita (Current Values, BRL), Year 2002	215
6.8	Networks by semi-deciles of GDP per capita (current values, BRL), year 2002	216
6.9	Banco Postal Services and Products by Semi-Deciles of GDP Per Capita (Current Values, BRL), 2005	217
6.10	Banco Postal Services and Products by Semi-Deciles of GDP Per Capita (Current Values, BRL), Year 2005	218
6.11	ATT for the Whole Sample	220
6.12	ATT for Only Those Municipalities Unbanked in 2001	220
6.13	ATT for Municipalities with 1 to 5 Banks in 2001	221
6.14	ATT for Municipalities with More Than 5 Banks in 2001	221
6.15	ATT for the Whole Sample	222
6.16	ATT for Only Those Municipality Unbanked in 2001	222
6.17	ATT for Municipalities with 1 to 5 Banks in 2001	223
6.18	ATT for Municipalities with More Than Five Banks in 2001	223
6.19	Results of the Arellano–Bond Dynamic Panel Regression	225
7.1	List of Developing Countries with Postal Accounts	232
7.2	List of Developed Countries with Postal Accounts	236
7.3	Correlation of Countries Offering Postal Accounts	237
7.4	Summary Statistics	238
7.5	T-test: Post-FI Gender Gap Ratio by Developed and Developing Countries	240

7.6 T-test: Posts-only Ratio by Developed and Developing Country 240
7.7 T-test: FI-only Ratio by Developed and Developing Countries 241
7.8 Correlations: Metrics of Postal Branch Density and Female Staff Against Gender Ratios 243
7.9 Correlations: Metrics of Postal Branch Density and Female Staff Against Gender Ratio 245
7.10 Correlations: Demand-side Correlates of Gender Ratios 247
7.11 Regression Results, Dependent Variable Posts-Only Female:Male Ratio (t-statistics in parentheses) 251
7.12 Regression Results, Dependent Variable Posts-FI Female:Male Ratio Gap (t-statistics in parentheses) 253
7.13 Summary of Qualitative Survey of Postal Authorities 259
8.1 Sectoral Disbursement of Subsidies From 1955 to 2017 (¥ billon) 273
8.2 Investments in Social Overheads and Industrial Infrastructure 1955–1980 (every five years), ¥ billion 274
8.3 Composition of Fiscal Investment and Loans Program by Use (%) 276
8.4 Financial Institutions in Japan in 2017 278
8.5 Determinants of Demand for Postal Deposits 279
8.6 Financial Assistance in the Resolution of Failed Financial Institutions 1992–2014 (¥ billion) 280
8.7 Ratio of Postal-Savings Flow to Individual Bank-Deposit Flows by Selected Prefecture 282
8.8 Results of Operations (31 March 2017) 284

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List of abbreviations

A

ABB	Al Barid Bank
ADB	Asian Development Bank
AFC	Asian Financial Crisis
AFI	Alliance for Financial Inclusion
AI	Artificial Intelligence
ANGEM	National Agency for Management of Microcredit
APAC	Asia Pacific
APS	Advanced Payment Services
ARPT	Post and Telecommunications Regulatory Authority
ASEAN	Association of Southeast Asian Nations
ATM	Automated Teller Machine
ATE	Average Treatment Effect

B

BAM	Bank Al-Maghrib
BEREC	Body of European Regulators for Electronic Communications
BM	Business Model
B2B	Business to Business
BI	Bank Indonesia
BP	Banco Postal
BPR	*Badan Perkreditan Rakyat*
BRI	*Bank Rakyat Indonesia*
BRIC	Brazil, Russia, India, China
BRICS	Brazil, Russia, India, China, and South Africa
BRL	Brazilian Real

C

CB	Central Bank
CEO	Chief Executive Officer
CDG	Caisse Dépôt and Gestion
CGAP	Consultative Group to Assist the Poor
CI	Cash-In
CIS	Commonwealth of Independent States
CM	Cash Merchant
CMI	Chiang Mai Initiative

CMIM	Chiang Mai Initiative Multilateralization
CNEP	Caisse Nationale d'Epargne et de Prévoyance
CO	Cash-Out
Coop	Cooperative

D

DFS	Digital Financial Services
DICJ	Deposit Insurance Corporation of Japan
DO	Designated Operator
DPB	Deutsche Postbank
DSE	Declaração Simplificada de Exportação

E

EAP	East Asia and Pacific
ECT	Empresa de Correios e Telégrafos
EF	Exporta Fácil
EFMA	European Financial Management Association
EMEA	Europe, Middle East, and Africa
EMS	Express Mail Services
EU	European Union

F

FASBI	Financial Accounting Standards Board Interpretations
FI	Financial Institution
FILP	Fiscal Investment Loan Program
FTE	Full Time Equivalent
FTO	Fine Tune Operations

G

G	Government
3G	Third Generation
4G	Fourth Generation
G2P	Government to Person
GDP	Gross Domestic Product
GNI	Gross National Income

H

HDR	Human Development Report
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

I

ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
IFS	International Financial System
IMF	International Monetary Fund
ING	Internationale Nederlanden Groep
2IPD	Integrated Index for Postal Development
IT	Information Technology
ITU	International Telecommunication Union

L

LDR	Loan to Deposit Ratio
LPS	*Lembaga Penjamin Simpanan*
LLL	Legal Lending Limits
LTV	Loan to Value Ratio
LVPB	Lien Viet Postbank

M

MFI	Microfinance Institution
MDG	Millennium Development Goal
MDIC	Ministry of Development, Industry and Foreign Trade
MIC	Ministry of Information and Communication
MIS	Management Information System
MMO	Mobile Money Operator
MNO	Mobile Network Operator
MSME	Micro, Small and Medium-Size Enterprises
MTO	Money Transfer Operator

N

NBFI	Non-Bank Financial Institution
NEER	Nominal Effective Exchange Rate
NGO	Non-Governmental Organization
NOP	Net Open Positions
NPO	National Postal Operator

O

ODA	Official Development Aid
OECD	Organization for Economic Co-operation and Development
OIG	Office of the Inspector General
OJK	*Otoritas Jasa Keuangan*

OLS	Ordinary Least Squares
OMO	Open Market Operation

P

PCF	People's Credit Fund
PCK	Postal Corporation of Kenya
PLC	Public Limited Company
PO	Post Office
POS	Point of Sale
PRC	People's Republic of China
PSB	Postal Savings Bank
PSBC	Postal Savings Bank of China
P2B	Person to Business
P2G	Person to Government
P2P	Person to Person

R

RDB	Regional Development Bank
RE	Registry of Exports
REER	Real Effective Exchange Rate
ROSCA	Rotating Savings and Credit Association
RR	Reserve Requirement
RRS	Required Reserve System

S

SAM	Simple Automated Machine
SBI	Sertifikat Bank Indonesia
SDG	Sustainable Development Goals
SME	Small and Medium-Sized Enterprises
SMS	Short Message Services
SMU	Singapore Management University
SOE	State-Owned Enterprises

T

TV	Television

U

UFA	Universal Financial Access
UK	United Kingdom
UN	United Nations
UNCDF	United Nations Capital Development Fund
UN-DESA	United Nations Department of Economic and Social Affairs

UPU	Universal Postal Union
US	United States
USD	United States Dollar
USPS	United States Postal Service
USSR	Union of Soviet Socialist Republic

V

VBARD	Vietnam Bank for Agriculture and Rural Development
VBSP	Vietnam Bank for Social Policies
VDB	Vietnam Development Bank
VNPost	Vietnam Post
VSPC	Vietnam Postal Savings Company

W

WB	World Bank
WDI	World Development Indicators
WSBI	World Savings Banks Institute
WTO	World Trade Organization

Introduction

Naoyuki Yoshino, José Ansón, and Matthias Helble

Postal financial institutions have historically been the largest financial inclusion channels in human history. Back in the 19th century, the Postal Savings Bank in the United Kingdom and the Japanese Post played a critical role in the development of the economy of their countries, giving access to savings accounts to millions of citizens for the first time in their entire lives. The savings were then channelled into enabling investment in the development of key infrastructure of the two countries. The global reach of postal networks then quickly became an opportunity for governments to facilitate the introduction of the first ever global standardized system for international remittances, under the auspice of the Universal Postal Union's (UPU) international treaty on postal payments (1880s).

Today, more than 2 billion people are still considered unbanked or underbanked. What role have postal networks played in tackling this challenge in a digitally connected 21st century? While a number of postal companies in developed countries have progressively spun off their postal savings branch to other financial institutions, the opposite is true in developing and emerging countries where a considerable number of postal financial institutions have substantially contributed to expanding access to accounts, insurance and payment systems over the last decade. The case of Brazil, the Russian Federation, India, and the People's Republic of China, collectively known as the BRIC economies is particularly striking in this respect, and the potential for supporting economic growth and development is well documented in the different chapters of this book.

However, unlike in the 19th century, new information and communication technologies also offer new ways for the unbanked to start using financial services. The emergence of mobile telephony has led to the surge of mobile payments in the developing world given the increasing population access to mobile telephony in most developing countries. The provision of these mobile payment and savings services requires a vast physical network of agents for cashing in and out. More informal savings and credit schemes, such as rotating savings and credit associations, are still widespread around the world in spite of financial technological progress.

While mobile telephony has given a new voice and communication channels to several billion people today, internet communication has spurred the development of e-commerce at a global level. Today millions of Micro, Small and Medium-Size Enterprises (MSMEs) in any given country are empowered to trade with the rest of the world in a more seamless manner than ever before. The delivery of online purchases of physical goods requires adequate and reliable global logistics.

Be it for holding one of the largest physical networks in the world with over 650,000 post office branches, or handling about half of the world e-commerce related parcels, postal sector enterprises remain potentially relevant for facilitating physical access to billions of customers exchanging money through their mobile phones or delivering what is ordered online. Being at the crossroads of logistics and payments, post services can leverage their unique geographical network capillarity, physical reach and institutional trust among the population to ease access, for the underbanked, to an increasing variety of savings, insurance and credit products in the era of fintech and cryptocurrencies. Central to seizing these new opportunities is the redefinition of the systemic role that postal financial institutions can play in the 21st century digital economy ecosystem. This is where the challenge lies for most of them, given that outdated legacy systems built for the economy of the last fifty years must be replaced by leaner, more creative and inclusive ways of effectively providing the right digital–physical mix of ever more customized financial services to billions of citizens over the next decades. This book revisits postal financial inclusion, combining economic research and policy experience, and shedding new light on the way postal financial institutions can remain innovative, inclusive and relevant.

The reader will be taken on a journey to assess the potential and impact of postal financial inclusion throughout the different chapters of this book. After providing a global overview of postal financial inclusion and the role of the post office, the most recent outcomes of the UPU Panorama of Postal Financial Inclusion are presented. These analyses are completed by a detailed description of the interaction between postal savings and macroeconomic stability.

The promotion of postal financial inclusion must take into account the lessons from past reform and how to build sound regulatory framework that are supportive of postal financial inclusion goals. Two extensive chapters cover these issues and benefit from the wide experience of top practitioners in the field.

Another part of the book evaluates the impact of postal financial inclusion on economic and social development. The Japanese experience is presented in this respect. Postal financial inclusion is a way

of protecting the most vulnerable parts of the population. In this sense, the non-discriminatory behavior of postal financial institutions towards women opening accounts and handling their own finance through postal services is highlighted in a dedicated chapter. Another chapter deals with the econometric estimation of the local economic development and trade impacts of postal financial inclusion in more than 5,000 communities in Brazil. The last two chapters of the book deal with the future of postal financial inclusion. Building on the past in order to better look into the future is necessary, although the current context of fintech is truly disruptive for both banks and postal financial institutions.

In conclusion, postal companies could again be a major contributor to today's global financial inclusion agenda and support, and to the UN 2030 Agenda for Sustainable Development. Their extensive record of past contributions to financial inclusion and their provision of financial services to the most vulnerable segments of the population is the best proof of their potential. Moreover, countries supporting postal financial inclusion have benefited from greater economic development and growth as a result. Nevertheless, for postal organizations, yesterday's achievements are no guarantee of success in "banking the unbanked" in the coming decade, particularly if these institutions are not going through a faster process of digital transformation. Unlike in the 19th century, the postal service cannot provide, on its own, all the key elements and ingredients for successful postal financial inclusion. They increasingly need to cope with the surge of an ever more decentralized digital economy, smartly partner with all relevant stakeholders in tomorrow's financial ecosystem, and should definitely focus on adding value to their services for the unbanked where they cannot be easily replaced or substituted. Reinventing postal financial inclusion is just starting. It needs more harmony and collaboration between all relevant stakeholders than ever before, and it requires postal financial institutions to revisit their value proposition for the unbanked.

PART I

Global Overview

1

Financial Inclusion and the Role of the Post Office

José Ansón, Alexandre Berthaud, Leora Klapper, and Dorothe Singer[1]

1.1 Introduction

Post offices (or "posts") can play a leading role in advancing financial inclusion. In Brazil, for example, more than 10 million accounts were opened between 2002 and 2011 after the post established Banco Postal under a partnership model with an existing financial institution (Ansón and Bosch Gual 2008). Yet little is known about the type of clients that posts reach through their financial service offerings as compared to clients of traditional financial institutions (such as commercial banks). Moreover, the role of the post may vary depending on the business model that a government pursues in providing financial services via the postal network. The lack of systematic data has hindered efforts to understand the role of the post in providing financial services in most economies.

This chapter documents and analyzes account ownership patterns at posts, in comparison to traditional financial institutions such as banks and regulated microfinance institutions (MFIs). We use the global financial inclusion indicators ("Global Findex") database, which provides indicators measuring how people in 148 economies around the world save, borrow, make payments, and manage risk based on interviews with more than 150,000 nationally representative and randomly selected adults. For 60 countries these new indicators distinguish whether adults have an account at the post, a financial institution, or

[1] We thank Isabelle Huynh, Atisha Kumar, and Douglas Randall for helpful comments. This chapter's findings, interpretations, and conclusions are entirely those of the authors and do not necessarily represent the views of the Universal Postal Union nor the World Bank, their Executive Directors, or the countries they represent.

both.[2] Controlling for a host of individual characteristics and country fixed effects, we find that posts are relatively more likely than traditional financial institutions to provide accounts to individuals who are most likely to be financially excluded such as the poor, less educated, and those out of the labor force.

Using newly collected data from the Universal Postal Union (UPU), we also explore the degree to which different postal business models and the size of the postal network help explain differences in account ownership patterns across institutions (posts versus traditional financial institutions) and countries. Partnerships between the post and other financial institutions coincide with higher bank account penetration, suggesting that the contribution to financial inclusion through the post is potentially larger than what we can measure using the share of post accounts. We also find that the size of the postal network matters. The larger the network—both relative to the network of traditional financial institutions and to a country's population—the more likely it is that adults have an account at the post.

A formal account provides individuals with a safe place to save and creates a reliable payment channel to transact with family members, an employer, businesses, or the government. It can also facilitate formal savings and credit, which may be used to invest in education or starting a business. As such, account ownership is often the first step towards inclusion in the formal financial sector.

The first postal account was opened in 1861 when the post in the United Kingdom established a postal savings bank to encourage the poor to save. Postal services in many other countries soon followed suit in offering savings accounts. In some countries posts operated as agents for private savings institutions before becoming postal savings banks. For example, in the Netherlands the post served as an agent based on a royal decree from 1875 that regulated the connection between posts and existing savings banks before the Royal Postal Savings Bank was established in 1881 (Universal Postal Union 1879). For over a century, the business model of postal savings banks around the world remained essentially unchanged. In 1970, Finland was one of the first countries to convert its postal savings bank into a full-fledged postal bank reporting to the central bank. This move was taken by the Finnish government to allow the post to provide a wider range of services across its more than 3,000 posts. The increasing use of digital communication technologies in the 1990s and their substitution for mail, however, forced post operators to rethink their overall business strategy and to diversify

---

[2] Account ownership is the only indicator for which a breakdown by institution is available.

product offerings. As a result, some postal operators decided to leverage their existing post network and expand the number of financial services provided. While posts in some countries such as Brazil chose to partner with existing financial institutions, other posts decided to convert their postal savings banks into full-fledged postal banks (Berthaud and Davico 2013).

The rest of the chapter is organized as follows. Section 1.2 presents the data both at the individual and country level. Section 1.3 introduces the empirical methodology. Section 1.4 shows the econometric estimation results according to individual (demand-side) and country (supply-side) characteristics. Section 1.5 concludes.

1.2 Data

1.2.1 Individual-Level Data

Our data on account ownership comes from the first round of the Global Findex database.[3] The Global Findex data was collected over the calendar year 2011 by adding a questionnaire on financial inclusion to the annual Gallup World Poll. The 2011 World Poll surveyed at least 1,000 individuals in 148 economies using randomly selected, nationally representative samples.[4] The target population was the entire civilian, non-institutionalized, adult population (age 15 and over) in each country. The questionnaire included a question on ownership of an individual or joint account at a formal financial institution. For 62 countries in which post savings accounts are offered, the questionnaire also included a question on ownership of an individual or joint account at a post.[5] In our sample, we focus on the over 65,000 individuals who were interviewed in 60 of these countries.[6] Appendix 1.1 lists all the countries included in our sample.

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[3] See Demirguc-Kunt and Klapper (2012) for a description of the database.

[4] Detailed country-level information about the data collection dates, sample sizes, excluded populations and margins of error can be found at: http://www.worldbank.org/globalfindex. In BRIC countries, the sample size ranges from 2000 to 4000 individuals.

[5] For seven countries (Algeria, Republic of Congo, Arab Republic of Egypt, Greece, Morocco, Tunisia, and Republic of Yemen) the data is for 2012 instead of 2011 because of data quality issues in the 2011 round.

[6] We drop Madagascar from our sample because more than 20% of the population is not sampled and Taipei,China because no economy-level post office information is available.

The Global Findex data allows us to distinguish between three types of account ownership: an account at a financial institution only, accounts at both a financial institution and a post, and an account at a post only. Within our sample of countries that offer postal accounts, we find that 49.9% of adults have an account at either or both institutions, 11.6% of adults have an account at a post, and 2.8% of adults have an account at a post only (5.6% of account holders).

Figure 1.1 shows a wide variation in overall account ownership between high income and developing countries. While account penetration is close to universal in the developed countries included in our sample (90%), on average, only 44% of adults in developing countries offering postal financial services report having an account.[7] However, beyond account penetration, we are interested in the types of accounts owned by individuals. In most of countries in our sample, account ownership at a formal financial institution only is the most common type of account ownership, followed by account ownership at both a financial institution and a post. Having a post account only is typically the least common.

One exception to that general pattern is Japan, where 80% of adults in Japan report owning an account at the post. Japan is also the only country where owning an account at both a financial institution and the post is the most common type of account ownership (77%). The gap between the share of post account ownership in Japan and the countries with the next highest levels of account ownership illustrates that the Japanese case is indeed an exception. In Ireland and Luxembourg, a little over 30% of adults report owning a post account. Furthermore, in most countries, fewer than 10% of adults have a post account. With respect to the percentage of adults who *only* own an account at a post, Italy stands out with 16% of adults who report owning an account at a post only. In contrast, in most other countries, less than five% of adults have a post account only. We report the percentages for all three types of account ownership by country in Appendix 1.1.

In addition to sharp differences in account penetration across countries, there are also important disparities in account penetration by individual characteristics. Allen et al. (2012) document that men and more educated, wealthier, and older adults, as well as adults residing in urban areas, are more likely to own an account. We test whether demographic characteristics also matter for the type of account that adults own. Table 1.1 reports the univariate statistics of type of account

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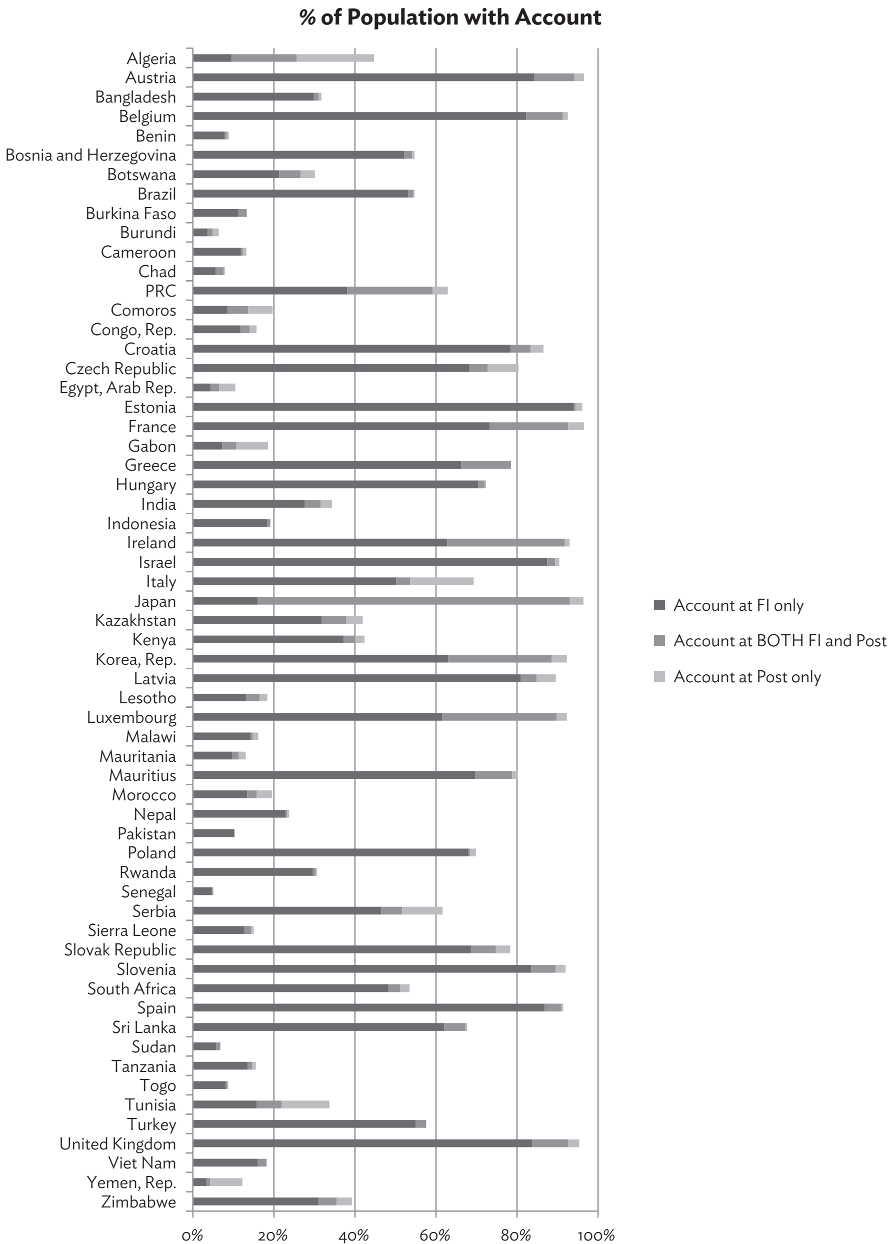
[7] This compares to 89% account penetration in high income countries and 41% account penetration in developing countries for the full sample of countries in the Global Findex database. The data are population weighted.

Figure 1.1 Account Ownership by Type and Country, 2011



FI = financial institution, PRC = People's Republic of China.

Source: Authors.

Table 1.1 Who Has an Account at the Post Office?

	FI Account vs. Post Office Only Account			Unbanked vs. Post Office Only Account		
	Account at FI or Post Office and FI	Account at Post Office Only	Sig. T-test	Unbanked	Account at Post Office Only	Sig. T-test
Female (0/1)	0.4917	0.4982		0.5405	0.4982	***
Income: poorest 20% (0/1)	0.1718	0.2042	***	0.2631	0.2042	***
Income: second 20% (0/1)	0.1873	0.2190	***	0.2298	0.2190	
Income: middle 20% (0/1)	0.1971	0.2144		0.1973	0.2144	
Income: fourth 20% (0/1)	0.2212	0.1703	***	0.1759	0.1703	
Income: richest 20% (0/1)	0.2226	0.1920	***	0.1340	0.1920	***
Age	42.1835	44.1920	***	35.6902	44.1920	***
Rural (0/1)	0.5885	0.5934		0.7364	0.5934	***
0–8 years of education (0/1)	0.2811	0.4585	***	0.6938	0.4585	***
9–15 years of education (0/1)	0.5705	0.4572	***	0.2848	0.4572	***
>15 years of education (0/1)	0.1483	0.0843	***	0.0214	0.0843	***
Household size (ln)	1.2252	1.3257	***	1.6246	1.3257	***
Married (0/1)	0.6012	0.5369	***	0.5255	0.5369	
Divorced/separated (0/1)	0.0510	0.0436		0.0309	0.0436	**
Employed for employer (0/1)	0.4386	0.2877	***	0.1643	0.2877	***
Unemployed (0/1)	0.0526	0.0639	*	0.0922	0.0639	***
Out of workforce (0/1)	0.3332	0.4517	***	0.4666	0.4517	
Employed for self (0/1)	0.1757	0.1967		0.2770	0.1967	***

*** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.1$.

Source: Authors.

by individual demographics that were included in the Gallup World Poll Survey.

Because there are three account types—financial institution only, both financial institution and post, and post only—we present two sets of statistics. First, we compare individuals with an account at a financial institution or both financial institution and post to those with an account at a post only. We find that individuals with an account at a post only tend to be significantly poorer, older, less educated, less likely to be married, and less likely to be employed. This suggests that posts may play an important role in providing financial services to segments of the population that might be particularly likely to be financially excluded. Notably, we find no statistically significant gender or rural–urban gap between adults with an account at a financial institution or financial institution and post, and adults with an account at a post. Second, we compare adults with an account at a post only to those with no account. We find that individuals with an account at a post only are relatively more likely be male, richer, older, reside in urban areas, more educated and employed by an employer. They are less likely to be unemployed or self-employed. This suggests that the postal service may provide financial services to vulnerable parts of the population if we restrict ourselves to the universe of account owners. However, relative to the unbanked, adults with a post account only may not represent the most vulnerable segment of society.[8]

1.2.2 Country-Level Data

We combine individual-level data from the Global Findex database and the Gallup World Poll with country-level information on the adopted business model of posts and the types of financial services provided. The data on the different business models pursued by posts with regard to providing financial services was collected by the UPU, a United Nations specialized agency that is the primary forum for cooperation between governments and postal sector players.[9] Appendix 1.2 provides an overview of the included business models. First, we identify dummy variables (0/1) on whether posts have a postal bank license, provide unlicensed postal savings (usually referred to as a post savings bank), or offer financial services through various partnership models with

[8] For the most vulnerable segment of society owning an account might not make economic sense due to costs related to opening and maintaining an account. However, those individuals may use the post for transactional financial services such as sending remittances.

[9] See Berthaud and Davico (2013) for a description of the database.

Table 1.2 Overview of Postal Business Models

Business Models	Countries					
	All		High Income		Developing	
Licensed postal financial services	7	12%	3	16%	4	10%
Unlicensed postal savings	29	48%	5	26%	24	59%
Partnership with a financial service provider	24	40%	11	58%	13	32%
Total	60	100%	19	100%	41	100%
Cash Merchant for						
Remittances	43	72%	18	95%	25	61%
Government payments	40	67%	11	58%	29	71%

Source: Authors.

other financial institutions.[10] Because few countries have fully licensed postal financial services, we combine the licensed and unlicensed financial services in the regression analysis and create one dummy that equals 1 if posts provide financial services through partnerships and 0 if the post provides licensed or unlicensed financial services directly. Second, we identify dummy variables (0/1) if the post acts as a cash merchant for (i) remittance service providers or (ii) government payments. Note that the latter two categories are not necessarily mutually exclusive. Appendix 1.1 includes data on the post bank business models by country.

Table 1.2 summarizes the number of countries that adopt each business model. Overall, seven countries[11] in our sample of 60 countries have a licensed post bank. In 29 countries, the post offers unlicensed postal savings. Posts have entered a partnership with a financial service provider in the remaining 24 countries. In developing countries, unlicensed postal savings are the most common business model. In contrast, in high income countries the dominant model involves partnerships with financial service providers. In addition, in many countries the post offers cash merchant services. In 43 countries (72%), the post offers such services on behalf of remittance service providers and in

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[10] Licensed in this context refers to the fact that the post has been issued a banking license by the banking supervisor (typically the central bank) and falls under its supervision. Unlicensed here refers to the fact that the postal savings bank does not fall under the supervision of the banking supervisor. Instead, it falls under the supervision of its line ministry or the postal regulator.

[11] People's Republic of China, France, Gabon, Japan, Kazakhstan, Morocco, Poland.

40 countries (67%) the post offers services to facilitate government payments. While the postal service in nearly all high-income countries acts as a cash merchant for remittance service providers, it only does so in 61% of posts in the developing world (25 countries).

In addition to data on postal network business models in providing financial services, we also use data on post access points both relative to the total number of post and financial institutions contact points as well as the proportion of access points per 1,000 inhabitants. We hypothesize that a larger presence of post branches compared to financial institutions or a denser postal branch network in general increases the convenience of having a post account. This may in turn influence an individuals' choice of account type in favor of postal accounts. Data on post access points is collected by the UPU. The IMF's Financial Access Survey provides data on financial access such as branch penetration. Data on GDP per capita come from the World Bank's World Development Indicators database. Appendix 1.3 provides detailed descriptions of all indicators and their sources.

1.3 Empirical Methodology

To examine the determinants of an individuals' choice of the type of account owned, we specify a multivariate estimation model. In particular, we fit a multinomial logit regression model to the response variable account ownership since it has four distinct categories: 0 if an individual does not have an account, 1 if the account is at a post only, 2 if the individual owns an account both a post and a financial institution, and 3 if the account is at a financial institution only. We choose no account (0) as our baseline category.

$$y_{ij} = x'_{ij}\beta + z'_{j}\gamma + \varepsilon_{ij} \qquad (1)$$

where y_{ij} is account ownership type of an individual i residing in country j. The variables x_{ij} and z_j are the vectors of country- and individual-level characteristics, respectively. Their corresponding vectors of parameters are given by β and γ. ε_{ij} denotes the error term.

Among the individual-level characteristics we include in x_{ij} are the following socioeconomic variables that may be associated with account ownership. We include dummies for gender, income quintiles based on the income of respondents in a country, whether a respondent lives in a rural area, and the respondent's marital status, educational attainment, and employment status. We also include age and age squared in years and the logarithm of household size in our regression. In the first set of

regressions, we focus on the explanatory role of individual characteristics and replace the vector z_j of country characteristics with country fixed effects.

In the second set of regressions, we test the explanatory power of the different postal business models and the relative size of the postal branch network on the type of account owned. To do so, we replace country fixed effects with the logarithm of GDP per capita and include the several country-level characteristics that might influence choice of account type. As discussed in the data section above, we include a dummy variable for the different business models with respect to offering financial services at a post. We also include variables measuring the number of post access points relative to the total number of post and financial institution access points and post access points per 1,000 inhabitants. Appendix 1.3 provides detailed descriptions of each indicator and its source.

1.4 Results

1.4.1 Account Ownership and Individual Characteristics

Table 1.3 examines the relationship of individual characteristics and the odds of falling into one of four account ownership categories: no account, account at a post only, account at both a post and a financial institution, and account at a financial institution only. Our baseline category is no account. Thus, the coefficient estimates represent the log-odds ratio of each of the three account owning categories relative to not having an account. We report our results for the entire data set in panel A and separately for high income and developing countries in panel B. Each regression controls for country fixed effects.

The results in panel A indicate that the log-odds of having any of the three types of accounts relative to not having an account decrease for women compared to men. This drop is statistically the same for both post only and financial institution only account holders. The relative log-odds of having any kind of the three types of accounts compared to not having an account also decrease as one moves from the highest income quintile to the lowest, and decreases by a larger amount for accounts at a financial institution only versus none than for post accounts only compared to none for the bottom 60% of the population. This suggests that posts are relatively better in reaching lower income individuals. As expected, an increase in age leads to an increase in the relative log-odds of having an account both at a post only and at a financial institution only

Table 1.3 Individual-Level Regressions

Panel A: All Countries

	All Countries			
	Mlogit (Base Category: No Account)			
	Post Office Account Only	Post Office and FI Account	FI Account Only	p-value diff (1) and (3)
	1	2	3	
Female (0/1)	−0.131**	−0.280***	−0.166***	
	(0.049)	(0.000)	(0.000)	
Income: poorest 20% (0/1)	−0.892***	−1.350***	−1.214***	***
	(0.000)	(0.000)	(0.000)	
Income: second 20% (0/1)	−0.577***	−1.055***	−0.845***	**
	(0.000)	(0.000)	(0.000)	
Income: middle 20% (0/1)	−0.326***	−0.720***	−0.578***	**
	(0.001)	(0.000)	(0.000)	
Income: fourth 20% (0/1)	−0.373***	−0.402***	−0.278***	
	(0.000)	(0.000)	(0.000)	
Age	0.047***	0.091***	0.085***	***
	(0.000)	(0.000)	(0.000)	
Age squared	−0.000**	−0.001***	−0.001***	***
	(0.031)	(0.000)	(0.000)	
Rural (0/1)	0.040	−0.234***	−0.241***	***
	(0.620)	(0.003)	(0.000)	
0–8 years of education (0/1)	−1.355***	−2.153***	−1.854***	***
	(0.000)	(0.000)	(0.000)	
9–15 years of education (0/1)	−0.668***	−0.981***	−0.972***	***
	(0.000)	(0.000)	(0.000)	
Household size (ln)	−0.103	−0.305***	−0.274***	**
	(0.145)	(0.000)	(0.000)	

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Table 1.3, Panel A *continued*

	All Countries			
	Mlogit (Base Category: No Account)			
	Post Office Account Only	Post Office and FI Account	FI Account Only	p-value diff (1) and (3)
	1	2	3	
Married (0/1)	−0.068	0.415***	0.238***	***
	(0.419)	(0.000)	(0.000)	
Divorced/separated (0/1)	0.030	0.255**	0.020	
	(0.860)	(0.038)	(0.801)	
Employed for employer (0/1)	0.285**	0.476***	0.489***	*
	(0.018)	(0.000)	(0.000)	
Unemployed (0/1)	−0.436***	−0.613***	−0.629***	
	(0.006)	(0.000)	(0.000)	
Out of workforce (0/1)	−0.454***	−0.670***	−0.699***	**
	(0.000)	(0.000)	(0.000)	
Constant	−1.726***	−3.616***	−2.243***	
	(0.000)	(0.000)	(0.000)	
Country fixed effects		YES		
N		59,550		
Number of countries		55		

FI = financial institution.
*** = p < 0.01, ** = p < 0.05, * = p < 0.1.
Note: P-values reported in parentheses.

Panel B: By High Income and Developing Countries

	High Income Countries				Developing Countries			
	Mlogit (Base Category: No Account)				Mlogit (Base Category: No Account)			
	Post Office Account Only	Post Office and FI Account	FI Account Only	p-value diff (1) and (3)	Post Office Account Only	Post Office and FI Account	FI Account Only	p-value diff (1) and (3)
	1	2	3		1	2	3	
Female (0/1)	0.001	−0.099	0.058		−0.137*	−0.322***	−0.240***	
	(0.995)	(0.280)	(0.407)		(0.069)	(0.000)	(0.000)	
Income: poorest 20% (0/1)	−0.358	−0.663***	−0.792***	**	−1.002***	−1.698***	−1.267***	**
	(0.122)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	
Income: second 20% (0/1)	−0.101	−0.518***	−0.512***	**	−0.678***	−1.284***	−0.861***	
	(0.663)	(0.001)	(0.000)		(0.000)	(0.000)	(0.000)	
Income: middle 20% (0/1)	−0.176	−0.268*	−0.300**		−0.310***	−0.913***	−0.599***	**
	(0.447)	(0.085)	(0.013)		(0.005)	(0.000)	(0.000)	
Income: fourth 20% (0/1)	0.238	0.016	0.048		−0.510***	−0.513***	−0.309***	*
	(0.343)	(0.921)	(0.713)		(0.000)	(0.000)	(0.000)	
Age	0.086***	0.122***	0.106***		0.038***	0.082***	0.083***	***
	(0.000)	(0.000)	(0.000)		(0.002)	(0.000)	(0.000)	
Age squared	−0.001***	−0.001***	−0.001***	**	−0.000	−0.001***	−0.001***	***
	(0.006)	(0.000)	(0.000)		(0.190)	(0.000)	(0.000)	

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Table 1.3, Panel B *continued*

	High Income Countries				Developing Countries			
	Mlogit (Base Category: No Account)				Mlogit (Base Category: No Account)			
	Post Office Account Only	Post Office and FI Account	FI Account Only	p-value diff (1) and (3)	Post Office Account Only	Post Office and FI Account	FI Account Only	p-value diff (1) and (3)
	1	2	3		1	2	3	
Rural (0/1)	0.204	−0.014	0.043		0.029	−0.235*	−0.342***	***
	(0.149)	(0.899)	(0.594)		(0.776)	(0.053)	(0.000)	
0–8 years of education (0/1)	−0.977***	−1.981***	−1.491***	**	−1.396***	−2.047***	−1.913***	***
	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	
9–15 years of education (0/1)	−0.450**	−0.888***	−0.837***	**	−0.732***	−0.963***	−0.997***	**
	(0.035)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	
Household size (ln)	0.027	−0.260**	−0.325***	**	−0.143*	−0.313***	−0.233***	
	(0.866)	(0.017)	(0.000)		(0.071)	(0.000)	(0.000)	
Married (0/1)	−0.080	0.406***	0.354***	***	−0.055	0.480***	0.204***	***
	(0.656)	(0.001)	(0.000)		(0.570)	(0.000)	(0.000)	
Divorced/separated (0/1)	0.001	0.295	0.088		0.020	0.136	−0.011	
	(0.998)	(0.113)	(0.543)		(0.928)	(0.489)	(0.912)	
Employed for employer (0/1)	0.725**	0.548***	0.506***		0.183	0.426***	0.469***	**
	(0.021)	(0.006)	(0.002)		(0.173)	(0.000)	(0.000)	

Unemployed (0/1)	−0.574	−0.780***	−0.821***		−0.412**	−0.598***	−0.607***
	(0.165)	(0.002)	(0.000)		(0.016)	(0.002)	(0.000)
Out of workforce (0/1)	−0.127	−0.668***	−0.712***	**	−0.525***	−0.683***	−0.720***
	(0.669)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)
Constant	−2.041***	0.248	2.884***		−1.289***	−3.280***	−2.083***
	(0.008)	(0.670)	(0.000)		(0.001)	(0.000)	(0.000)
Country fixed effect		YES				YES	
N		17,476				42,074	
Number of countries		18				37	

FI = financial institution.
*** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.1$.

Note: P-values reported in parentheses.

Source: Authors.

compared to not having an account. However, the relationship between age and account ownership is not linear; the statistical significance of the included square term means that account ownership eventually diminishes with an increase in age. The estimates on the coefficients suggest that an increase in the log-odds associated with age is smaller for accounts at a post. Living in a rural area has no significant impact on the relative log-odds of having an account at a post only compared to having none. However, it does have a significant impact on accounts at a financial institution only; it decreases the log-odds of having an account at a financial institution relative to not having an account. This suggests that posts could play a role in bridging the gap in account penetration between rural and urban areas that we typically observe (Allen et al. 2012).

The relative log-odds of having any kind of the three types of accounts compared to none decrease as one moves from more than 15 years of schooling (masters degree or more) to fewer years. The negative effect is larger for accounts at a financial institution only relative to no accounts than for post accounts only compared to not having an account. Household characteristics such as household size and marital status significantly impact the relative log-odds of having an account at financial institutions but not at a post. Finally, as expected, employment status is an important determinant of account ownership. Our results indicate that the relative log-odds of having any kind of the three types of accounts compared to none increase as the employment status changes from self-employed to being employed by an employer but decrease as the status changes to being unemployed or exiting the workforce. The results are stronger in magnitude for both increases and decreases for accounts at a financial institution only compared to individuals with accounts at a post only. Overall, the results thus seem to suggest that posts may be relatively better at providing accounts to groups that are often most likely to be financially excluded, such as the poor, less educated, unemployed, or those out of the labor market.

In panel B, we report regression results separately for high income and developing countries. We find three main differences in how individual characteristics influence account ownership in the two groups. Unlike in our sample of developing countries, gender and rural residency no longer have a statistically significant impact on the three log-odds ratios. Furthermore, in high income countries the log-odds ratio of having an account at a post versus not having an account does not significantly change moving from the highest income quintile to the lowest one. The log-odds ratio of having an account at a financial institution, however, does change when moving from the richest income

quintile to one of the lowest 60% income quintiles. Similarly, moving from self-employed to unemployed or exiting the workforce does not affect the log-odds of owning a post account compared to not having an account, while there is a significant impact on accounts at a financial institution only compared to no account. This suggests that, in high income countries, posts are not only relatively better at providing financial services such as accounts to some segments of the population most likely to be financially excluded, such as lower income individuals and those unemployed or out of the labor force, compared to financial institutions, but that there is actually no significant difference in providing account services to them.

1.4.2 Account Ownership and Country Characteristics

In Table 1.4, we explore the explanatory power of the different postal business models and the relative size of the postal branch network on the choice of account type. To do so, we use the same specification as in Table 1.3 but instead of country fixed effects we now control for GDP per capita and one postal variable at a time. In the interests of space and readability the coefficients for the individual characteristics are not reported. They are of similar size and sign as those reported in Table 1.3.

Our results in panel A indicate that the relative log-odds of having an account at a post relative to not having an account decrease if a country moves from an unlicensed or licensed postal savings model (omitted category) to a partnership model. At the same time, the log-odds of having an account at a financial institution increase. This finding is in line with evidence from Brazil where Ansón and Bosch Gual (2008) show that, in municipalities with certain characteristics, the launch of Banco Postal attracted other bank branches not previously present in these municipalities. This suggests that the contribution to financial inclusion through the post is potentially larger than what we can measure using the share of post accounts alone.

Our results also indicate that, regardless of whether posts offer financial services as a (un)licensed institution or in partnership with a financial institution, the log-odds of having an account at a post increase if posts serve as cash merchants for remittances or government payments. Notably, posts serving as cash merchants for remittances also increases the log-odds of individuals having an account at a financial institution only compared to none, albeit to a smaller degree. While this may at first seem counterintuitive, remittances need both a sender and receiver. If remittances can be received at other financial institutions,

Table 1.4 Individual-Level Regressions with Country-Level Variables

Panel A: All Countries

	m1			m2			m3			p-value diff (1) and (3)
	Post Office Account Only	Post Office and FI Account	FI Account Only	Post Office Account Only	Post Office and FI Account	FI Account Only	Post Office Account Only	Post Office and FI Account	FI Account Only	
	1	2	3	1	2	3	1	2	3	
GDP per capita (ln)	0.608***	1.091***	0.817***	0.528***	1.026***	0.786***	0.588***	1.107***	0.822***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Partnership with a financial service provider (0/1)	−0.692***	−1.084***	0.262***							***
	(0.000)	(0.000)	(0.000)							
CM for remittances (0/1)				0.517***	0.892***	0.319***				**
				(0.000)	(0.000)	(0.000)				
CM for government payments (0/1)							0.254***	−0.022	−0.086*	***
							(0.005)	(0.806)	(0.078)	
Constant	-7.224***	-9.776***	-6.254***	-7.127***	-10.127***	-6.160***	-7.391***	-10.078***	-6.173***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
N		59,550			59,550			59,550		
Number of countries		55			55			55		

*** = p < 0.01, ** = p < 0.05, * = p < 0.1.
Notes: P-values reported in parentheses.
Individual characteristics controlled for but not reported.

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Table 1.4, Panel A *continued*

	m4			m5			p-value diff (1) and (3)
	Post Office Account Only	Post Office and FI Account	FI Account Only	Post Office Account Only	Post Office and FI Account	FI Account Only	
	1	2	3	1	2	3	
GDP per capita (ln)	0.712***	1.209***	0.672***	0.470***	1.234***	0.811***	
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Post branches as % of total FI and post branches	1.214***	0.156	-1.438***				***
	(0.000)	(0.404)	(0.000)				
Post branches per 1000 inhabitants (ln)				0.297***	-0.347***	0.033	***
				(0.000)	(0.000)	(0.230)	
Constant	-9.514***	-11.963***	-3.985***	-5.558***	-12.069***	-6.050***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
N		43,776			59,550		
Number of countries		42			55		

FI = financial institution.
*** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.1$.

Notes: P-values reported in parentheses.
Individual characteristics controlled for but not reported.

Panel B: Developing Countries

	m1			m2			m3			p-value diff (1) and (3)
	Post Office Account Only	Post Office and FI Account	FI Account Only	Post Office Account Only	Post Office and FI Account	FI Account Only	Post Office Account Only	Post Office and FI Account	FI Account Only	
	1	2	3	1	2	3	1	2	3	
GDP per capita (ln)	0.655***	0.877***	0.644***	0.572***	0.783***	0.613***	0.601***	0.949***	0.639***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Partnership with a financial service provider (0/1)	−0.741***	−0.772***	0.154**							***
	(0.000)	(0.000)	(0.012)							
CM for remittances (0/1)				0.466***	0.787***	0.302***				
				(0.000)	(0.000)	(0.000)				
CM for government payments (0/1)							0.300**	−0.986***	0.108*	
							(0.033)	(0.000)	(0.099)	
Constant	-7.289***	-7.923***	-4.829***	-7.166***	-7.942***	-4.756***	-7.203***	-8.341***	-4.801***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
N		42,074			42,074			42,074		
Number of countries		37			37			37		

*** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.1$.
Notes: P-values reported in parentheses.
Individual characteristics controlled for but not reported.

continued on next page

Table 1.4, Panel B *continued*

	m4			m5			p-value diff (1) and (3)
	Post Office Account Only	Post Office and FI Account	FI Account Only	Post Office Account Only	Post Office and FI Account	FI Account Only	
	1	2	3	1	2	3	
GDP per capita (ln)	0.685***	0.619***	0.496***	0.496***	0.957***	0.624***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Post branches as % of total FI and post branches	1.622***	0.577**	-1.796***				***
	(0.000)	(0.024)	(0.000)				
Post branches per 1000 inhabitants (ln)				0.311***	−0.226***	0.055*	***
				(0.000)	(0.000)	(0.071)	
Constant	−9.475***	−7.570***	−2.399***	−5.515***	−9.328***	−4.495***	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
N		29,276			42,074		
Number of countries		27			37		

FI = financial institution.
*** = $p < 0.01$, ** = $p < 0.05$, * = $p < 0.1$.
Notes: P-values reported in parentheses.
Individual characteristics controlled for but not reported.
Source: Authors.

posts providing remittance services can also increase the log-odds of having an account at only a financial institution. When we only consider the sample of high income and developing countries (panel B), we find that there is actually no statistically significant difference between the increase in the log-odds ratios for post accounts only and financial institutions accounts only compared to none for remittances and government payments.

Finally, we control for the size of the postal network. As expected, the log-odds of having an account at a post only relative to having no account increase as the size of the postal branch network increases relative to the sum of post and financial institutions access points. At the same time, the log-odds of having an account at a financial institution only versus not having an account decrease. When we consider the number of post branches per 1,000 inhabitants, we find that the log-odds of having an account at a post increase compared to none. This time, however, we do not measure a statistically significant impact on the relative log-odds of having an account at a financial institution only.

1.5 Conclusion

Using data from the Global Findex database, which collects data on account ownership at posts for 60 countries where postal accounts are offered, this Chapter documents and analyzes account ownership patterns at posts in comparison to traditional financial institutions such as banks to help clarify the role that posts can play in advancing financial inclusion. Controlling for a host of individual characteristics and country fixed effects, we find that posts are relatively more likely than traditional financial institutions to provide accounts to individuals who are most likely to be financially excluded, such as the poor, less educated, and those out of the labor force.

We also use data from the UPU to explore the degree to which different postal business models and the size of the postal network help explain differences in account ownership patterns. The results suggest that posts can boost account ownership—perhaps at both a post and other financial institutions—and that the size of the postal network matters. The larger the network—relative to the network of traditional financial institutions—the more likely it is that adults have an account at a post.

Overall, our results suggest that posts can play an important role in advancing financial inclusion. However, more research is needed to better understand under which circumstances and under which business models posts can best expand financial inclusion.

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Appendix 1.1 Summary Statistics of Account Penetration and Post Bank Business Model, By Country

Country	Account Penetration by Type			Post Bank Business Model		
	Account at FI Only	Account at both FI and Post	Account at Post Only	Licensed Postal Financial Services (bm 5a, 5b, and 5c)	Unlicensed Postal Savings (bm 4a)	Partnership with a Financial Service Provider (bm 3c, 3d, 3e, and 3f)
Algeria	0.10	0.16	0.19	0	1	0
Austria	0.84	0.10	0.02	0	0	1
Bangladesh	0.30	0.01	0.01	0	1	0
Belgium	0.82	0.09	0.01	0	0	1
Benin	0.08	0.01	0.01	0	1	0
Bosnia and Herzegovina	0.52	0.02	0.01	0	0	1
Botswana	0.21	0.05	0.04	0	0	1
Brazil	0.53	0.01	0.00	0	0	1
Burkina Faso	0.11	0.02	0.00	0	1	0
Burundi	0.04	0.01	0.02	0	1	0
Cameroon	0.12	0.00	0.01	0	1	0
Chad	0.06	0.02	0.00	0	1	0
China, People's Republic of	0.38	0.21	0.04	1	0	0
Comoros	0.09	0.05	0.06	0	1	0
Congo, Republic of	0.12	0.02	0.02	0	1	0
Croatia	0.78	0.05	0.03	0	0	1
Czech Republic	0.68	0.04	0.08	0	0	1
Egypt, Arab Republic of	0.04	0.02	0.04	0	1	0
Estonia	0.94	0.00	0.02	0	0	1
France	0.73	0.19	0.04	1	0	0
Gabon	0.07	0.04	0.08	1	0	0
Greece	0.66	0.12	0.00	0	0	1
Hungary	0.70	0.02	0.00	0	0	1

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Appendix 1.1 *continued*

Country	Account Penetration by Type			Post Bank Business Model		
	Account at FI Only	Account at both FI and Post	Account at Post Only	Licensed Postal Financial Services (bm 5a, 5b, and 5c)	Unlicensed Postal Savings (bm 4a)	Partnership with a Financial Service Provider (bm 3c, 3d, 3e, and 3f)
India	0.28	0.04	0.03	0	1	0
Indonesia	0.18	0.01	0.00	0	0	1
Ireland	0.63	0.29	0.01	0	1	0
Israel	0.87	0.02	0.01	0	1	0
Italy	0.50	0.03	0.16	0	1	0
Japan	0.16	0.77	0.03	1	0	0
Kazakhstan	0.32	0.06	0.04	1	0	0
Kenya	0.37	0.03	0.02	0	0	1
Korea, Republic of	0.63	0.26	0.04	0	1	0
Latvia	0.81	0.04	0.05	0	1	0
Lesotho	0.13	0.03	0.02	0	0	1
Luxembourg	0.62	0.28	0.02	0	1	0
Malawi	0.14	0.00	0.01	0	0	1
Mauritania	0.10	0.02	0.02	0	1	0
Mauritius	0.70	0.09	0.01	0	0	1
Morocco	0.13	0.02	0.04	1	0	0
Nepal	0.23	0.00	0.01	0	1	0
Pakistan	0.10	0.00	0.00	0	1	0
Poland	0.68	0.00	0.01	1	0	0
Rwanda	0.30	0.01	0.00	0	1	0
Senegal	0.05	0.00	0.00	0	1	0
Serbia	0.46	0.05	0.10	0	0	1
Sierra Leone	0.13	0.02	0.01	0	1	0
Slovak Republic	0.69	0.06	0.04	0	0	1
Slovenia	0.84	0.06	0.02	0	0	1
South Africa	0.48	0.03	0.02	0	1	0
Spain	0.87	0.04	0.01	0	0	1

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Appendix 1.1 *continued*

Country	Account Penetration by Type			Post Bank Business Model		
	Account at FI Only	Account at both FI and Post	Account at Post Only	Licensed Postal Financial Services (bm 5a, 5b, and 5c)	Unlicensed Postal Savings (bm 4a)	Partnership with a Financial Service Provider (bm 3c, 3d, 3e, and 3f)
Sri Lanka	0.62	0.05	0.00	0	0	1
Sudan	0.06	0.01	0.00	0	1	0
Tanzania	0.13	0.01	0.01	0	0	1
Togo	0.08	0.00	0.00	0	1	0
Tunisia	0.16	0.06	0.12	0	1	0
Turkey	0.55	0.03	0.00	0	1	0
United Kingdom	0.84	0.09	0.03	0	0	1
Viet Nam	0.16	0.02	0.00	0	0	1
Yemen, Republic of	0.03	0.01	0.08	0	1	0
Zimbabwe	0.31	0.04	0.04	0	0	1

FI = financial institution.

Appendix 1.2 Postal Business Models for Financial Services

Variable Code	Short Variable Descriptions
bm0	Real estate provider
	Business model 1: cash merchant (CM) for transactional financial services
bm1a	CM for remittance service provider
bm1b	CM for government payments
bm1c	CM for bill collection
bm1d	CM for insurance companies—collection of premiums, payout of insured amount
bm1e	CM for mobile network operator—registration, cash-in, cash-out
bm1f	CM for MFIs and banks—loan disbursement and repayment
bm1g	CM for MFIs and banks—deposit and withdrawal from accounts
	Business model 2: proprietary transactional financial services
bm2a	Proprietary domestic transfers
bm2b	Proprietary international transfers
	Business model 3: partnership with a financial service provider
bm3a	Partnership model with an insurance company to offer its services
bm3b	Partnership with a mobile network operator for financial services
bm3c	Partnership model on a regional basis
bm3d	CM for multiple banks but partnership for savings accounts
bm3e	Partnership model with a bank
bm3f	Partnership model with a post bank or a government savings bank
	Business model 4: unlicensed postal savings and financial services
bm4a	Unlicensed post bank
bm4b	Unlicensed postal insurance
	Business model 5: licensed postal financial services
bm5a	Microfinance license
bm5b	Limited post bank license
bm5c	Universal post bank license

Appendix 1.3 Variable Definitions

Variable	Description	Source
Panel A: Individual Characteristics		
Account (0/1)	Respondent reported to currently have, possibly together with someone else, a bank account at a formal financial institution—a bank, credit union, cooperative, post office, or microfinance institution. This includes having a debit card.	Gallup
Post office account (0/1)	Respondent reported to currently have, possibly together with someone else, a bank account at a post office.	Gallup
Account at FI (0/1)	Respondent reported to currently have, possibly together with someone else, a bank account at a formal financial institution—a bank, credit union, cooperative or microfinance institution.	Gallup
Female (0/1)	Dummy that takes the value 1 if the respondent is female and 0 otherwise.	Gallup
Income: poorest 20% (0/1)	Dummy that takes the value 1 if the respondent falls in the lowest income quintile and 0 otherwise. Income quintiles are based on the incomes of the respondents in a country.	Gallup
Income: second 20% (0/1)	Dummy that takes the value 1 if the respondent falls in the second lowest income quintile and 0 otherwise. Income quintiles are based on the incomes of the respondents in a country.	Gallup
Income: middle 20% (0/1)	Dummy that takes the value 1 if the respondent falls in the middle income quintile and 0 otherwise. Income quintiles are based on the incomes of the respondents in a country.	Gallup
Income: fourth 20% (0/1)	Dummy that takes the value 1 if the respondent falls in the second highest income quintile and 0 otherwise. Income quintiles are based on the incomes of the respondents in a country.	Gallup
Income: richest 20% (0/1)	Dummy that takes the value 1 if the respondent falls in the highest income quintile and 0 otherwise. Income quintiles are based on the incomes of the respondents in a country.	Gallup
Age	Age in years	Gallup
Age squared	Age in years, squared	Gallup
Rural (0/1)	Dummy that takes the value 1 if the respondent lives in a rural area and 0 otherwise. A rural area is defined as a town or rural village with less than 50,000 inhabitants. If this information is unavailable, a rural area is based on the interviewer's perception of whether a respondent lives in a rural area, on a farm, in a small town, or in a village.	Gallup
0–8 years of education (0/1)	Dummy that takes the value 1 if the respondent completed elementary education or less (up to 8 years of education) and 0 otherwise.	Gallup
9–15 years of education (0/1)	Dummy that takes the value 1 if the respondent completed secondary education and some education beyond secondary education (9–15 years of education) and 0 otherwise.	Gallup

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Appendix 1.3 *continued*

Variable	Description	Source
>15 years of education (0/1)	Dummy that takes the value 1 if the respondent completed four years of education beyond high school and/or received a 4-year college degree and 0 otherwise.	Gallup
Household size (ln)	Logarithm of household size.	Gallup
Married (0/1)	Dummy that takes the value 1 if the respondent is married and 0 otherwise.	Gallup
Divorced/ separated (0/1)	Dummy that takes the value 1 if the respondent is divorced or separated and 0 otherwise.	Gallup
Employed for employer (0/1)	Dummy that takes the value 1 if the respondent is employed for an employer, either full or part time, and 0 otherwise.	Gallup
Unemployed (0/1)	Dummy that takes the value 1 if the respondent is unemployed and 0 otherwise.	Gallup
Out of workforce (0/1)	Dummy that takes the value 1 if the respondent is out of the workforce and 0 otherwise.	Gallup
Employed for self (0/1)	Dummy that takes the value 1 if the respondent is self-employed and 0 otherwise.	Gallup
Panel B: Country Characteristics		
GDP per capita (ln)	Logarithm of GDP per capita in USD.	WDI
Licensed postal financial services	Dummy that takes the value 1 if post office has a post bank license (bm 5a, 5b or 5c) and 0 otherwise.	UPU
Unlicensed postal savings	Dummy that takes the value 1 if post office offers unlicensed postal savings (bm 4a) and 0 otherwise.	UPU
Partnership with a financial service provider	Dummy that takes the value 1 if post office partnership with financial services provider (bm 3c, 3d, 3e or 3f) and 0 otherwise.	UPU
CM for remittance service providers	Dummy that takes the value of 1 if the post office acts as a cash merchant for remittance service providers and 0 otherwise.	UPU
CM for government payments	Dummy that takes the value of 1 if the post office acts as a cash merchant for government payments and 0 otherwise.	UPU
Post branches as % of total FI and post branches	Post branches as a percentage of total number of post branches and financial institutions.	UPU IMF FAS
Post branches per 1000 inhabitants	Post branches per 1000 inhabitants.	UPU WDI

FAS = Financial Access Survey, FI = financial institution, GDP = gross domestic product, UPU = Universal Postal Union, WDI = World Development Indicators.

2

Global Panorama of Postal Financial Inclusion

Nils Clotteau and Bsrat Measho

2.1 Postal Financial Inclusion: An Introduction

Since the creation of the first postal savings bank in the United Kingdom in 1861, postal operators have been key players in financial inclusion worldwide, in small and large countries alike. This is the case in Namibia for example, a country with 2.2 million inhabitants, where 39% of the adult population (600,000 people) has an account with the post office (post). The same is true for the People's Republic of China, where 43% of adults (490 million people) have an account with the Postal Savings Bank of China. At the global level, out of a total adult population of approximately 5.4 billion people worldwide, 1.5 billion—or 28%—have access to some form of financial service (remittances, government payments, insurance, current accounts, savings, etc.) through a postal operator (Ansón and Toledano 2010). Among these, 1 billion people—or 19% of the world's adults—hold a current or savings account with a post.

At the worldwide level, 183 posts out of the 201 we studied—or 91%—provide at least one type of financial service. Apart from Northern Europe, where five posts have chosen to focus on logistics, mail and parcels services (all of them used to offer financial services), we observe a quasi-universality of postal financial services. The few exceptions are mostly linked to specific national contexts. For example, Mongolia had a postal bank (Mongol Post Bank), which was taken over by another public bank along with all the financial services of the post.

Recent studies reveal that posts are comparatively better than other financial institutions in banking segments of the population that tend to be excluded, such as women (Rao 2015), the poor, the less educated and those in the informal economy (Ansón et al. 2013). Posts are thus key financial inclusion players at the global level and postal networks should therefore be an integral part of discussions when governments,

policymakers and international organizations design strategies for fostering financial inclusion.

2.1.1 Methodology

This chapter is based on research developed by the Universal Postal Union (UPU) for its flagship publication on financial inclusion, the Global Panorama on Postal Financial Inclusion 2016 (Clotteau and Measho 2016). Data for this study were gathered by various means:

- A detailed questionnaire was sent to all UPU designated operators (DOs)[1] and was answered by 161 of them from all around the world. It contained 82 questions on topics such as regulatory framework, staff training, network, operations, cash management, partnerships, products offered, business models, and revenues. We also took into account the latest UPU statistics available for topics such as the size of the network, the connectivity, and the profitability of posts (UPU 2008).
- Desk research was conducted on 201 DOs from the UPU's 192 member countries.
- Interviews were conducted with a number of postal financial services stakeholders, with experts, managers in charge of financial service units, and CEOs of postal operators.

2.1.2 Definition of Postal Financial Inclusion and the Main Challenges Addressed

We define postal financial inclusion as the process by which people and enterprises excluded from the formal financial system are provided with access to financial services through the postal network. This does not necessarily mean that the post must offer its own financial services to the unbanked, as postal financial inclusion also applies to cases where postal operators provide the unbanked with access to the financial services of partner financial institutions through a postal channel.

Posts are well positioned to address the three main challenges of financial inclusion—access, eligibility and affordability—as detailed below.

[1] DOs are postal operators that are officially designated by their government to provide a number of postal services and ensure the implementation at national level of various international treaty obligations referring to postal affairs. DOs can be state-owned institutions or private entities. Countries can designate one or more DOs on their territory.

2.1.2.1 Access

The first and most obvious barrier to accessing financial services is the physical barrier. The lack of contact points in outlying areas is one of the main reasons why large proportions of populations are not banked. With 661,000 posts worldwide, posts have one of the largest retail networks in the world. Furthermore, posts, unlike bank branches, are located in regions with a scarcity of other businesses, including rural areas, less populous areas, and impoverished regions. A study led by the UPU in 2008 in the Sub-Saharan Africa region showed that 82% of posts were located outside the three main cities of each country, in areas where 80% of the population lived (Ansón and Toledano 2008). This is because posts have developed as a public network with a strategy to connect each part of a country to the whole, unlike other financial institutions that generally tend to congregate in profit centers such as the larger and wealthier cities.

Yet, based on the latest International Monetary Fund data,[2] we estimate there are now 928,000 bank branches and agents worldwide, roughly 40% more than postal branches. This situation is a complete reversal of what it was 10 years ago, when the postal network was larger than the bank network. One of the main reasons for this is that banks have been developing agent networks in various countries, especially in the Latin America and Caribbean region. For example, in Colombia, there are now 1,158 post offices, compared to 5,486 bank branches, and a staggering 85,600 bank agents. Figures are similar in Peru and Brazil. If we look at the regional level, only South Asia and Europe and Central Asia have more posts than bank contact points. In all other regions, the bank network dominates. However, as presented in Figure 2.1, which shows the percentage of financial access points by type of financial institution, posts still have the second largest network worldwide, and constitute a valuable tool for facilitating access.

We can expand the scope of the analysis by adding to these numbers other potential financial access contact points:

- Mobile money agents: the GSM Association (GSMA) estimates there are 3.2 million mobile money agents, of which approximately half (1.6 million) are active (GSMA 2016).
- Postcarriers: there are 1.4 million postcarriers worldwide, visiting hundreds of millions of households daily.

Figure 2.2 is a clear illustration of that new paradigm, with posts now representing 30% of total potential financial access contact points, and mobile money agents representing 46% (including inactive agents).

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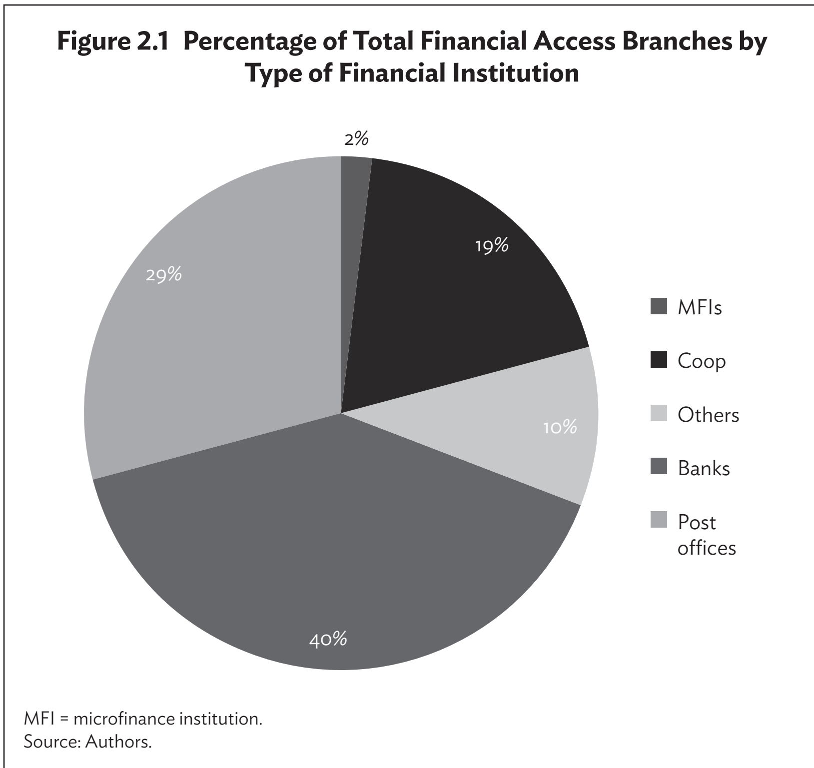
[2] IMF Financial Access Survey 2015. http://fas.imf.org.

Figure 2.1 Percentage of Total Financial Access Branches by Type of Financial Institution



MFI = microfinance institution.
Source: Authors.

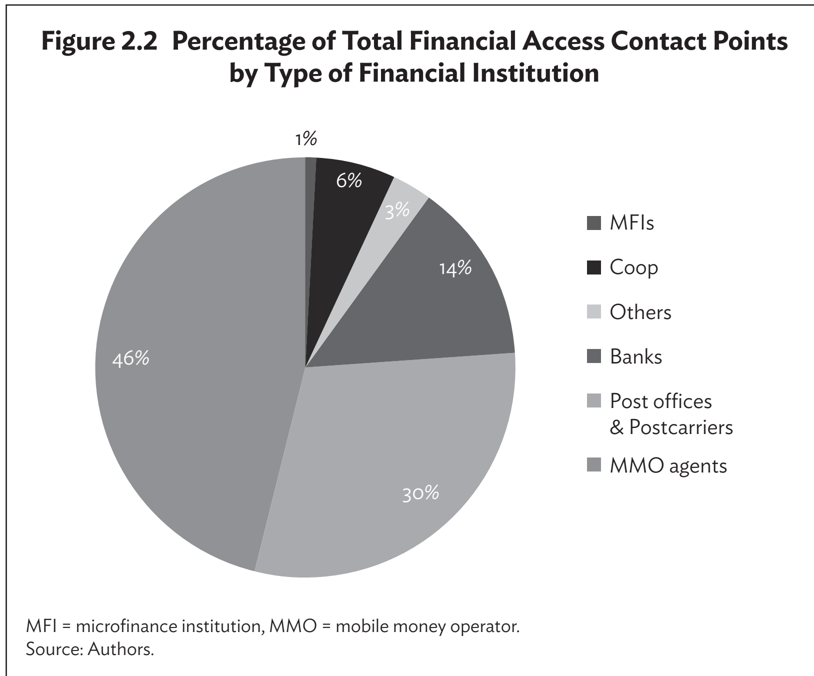
In countries such as Afghanistan, Bangladesh, India, Indonesia, Kazakhstan, and Viet Nam posts are extremely well positioned to break the access barrier for unbanked populations.

2.1.2.2 Eligibility

The second main financial inclusion challenge is that of eligibility. In many cases, banks, deliberately or not, focus on higher-income customers. To do so, they charge customers for opening an account, set minimum deposit amounts, or only accept customers able to present proof of employment. As a consequence, more fragile (i.e., less profitable) customers have *de facto* been excluded from banking services.

By contrast, most postal operators are double-bottom-line institutions. As public corporations (in most cases), they need to be profitable—to ensure the sustainability of their operations—while bringing about social impact by providing services that other institutions are not willing to provide. This emerged from a study (Ansón et al. 2013) led by the UPU and the World Bank in 2013, which showed that “post

Figure 2.2 Percentage of Total Financial Access Contact Points by Type of Financial Institution



MFI = microfinance institution, MMO = mobile money operator.
Source: Authors.

offices are more likely than traditional financial institutions to reach out to individuals at the greatest risk of financial exclusion, such as the poor and less educated, and those in the informal economy". Similarly, another piece of research by Rao, published in 2015 jointly with UN Women (Rao 2015), demonstrated that, in developing countries, posts offering account-based services have twice as many female customers as banks, whereas the financial inclusion rate of women worldwide is still 7% lower than that of men (according to the Global Findex 2014).

As a consequence of its unique public-oriented mission and universal service obligation, we observe, almost universally, that posts are willing to accept all customers—be they rich or poor, employed or not, male or female. Interviews conducted by the UPU illustrate this repeatedly, showing that posts, in general, do not discriminate against any segment of the society. Indeed, posts are often the only institution with such an egalitarian mission among its competitors.

2.1.2.3 Affordability

The issue of cost is the last main barrier to financial inclusion. Having a bank account or sending a money transfer can be expensive, not only

because of the various associated costs (monthly fees, overdraft fees, ATM fees, transaction fees, foreign exchange fees, etc.), but also because of indirect costs, such as the time and cost of travelling to a bank.

Posts generally have a traditional business model based on large volumes and low margins. In a recent book on the unbanked in the United States, Baradaran discusses how postal banking in that country could lead to economies of scale and of scope: "The size and reach of the Post Office can lead to lower costs [...]. This ability to offer more at a lower cost is the reason large banks now dominate the market. 'Economies of scale', or control of a large market of a single product, could bring down the costs for financial services [...]. 'Economies of scope', costs saved when an institution can sell a variety of products, could mean, for example, lower costs on loans because the Post Office is attracting more deposits, cashing more checks, or wiring more funds. We know economies of scale and scope work; they are the reason banks conglomerated and rushed to form banking supermarkets." (Baradaran 2015).

In addition, posts are not required by their shareholders to maximize profits. As a consequence, they usually offer well-priced financial services, for example with no, or small, minimum amounts charged for opening accounts. One type of product for which global comparisons can be made is international remittance, the costs of which are tracked quarterly by the World Bank. In this ranking, postal operators are repeatedly classified as the most affordable channel for sending money internationally, well in front of banks. Another important issue is that posts do not generally charge their customers for cash out, unlike mobile money operators, who usually charge a low fee for sending money but a much larger one for cashing it out.

2.2 Business Models and Institutional Arrangements

The range of products and services provided by postal operators is extremely large, and postal financial institutions are quite heterogeneous, from posts only offering basic remittance services to posts operating as full-fledged banks. A number of posts have a very long financial services tradition dating back to the 19th century, while others are just starting to venture into the financial services industry. Also, some posts are still an administrative department within a ministry, while others are independent public or private entities operating in a fully competitive environment.

Such diversity implies that posts have deployed almost as many different business models as there are operators. In addition, with the range of services, and the number and scope of partnerships, postal operators have a business model that is evolving constantly, making it difficult to identify clear-cut models that have been set for a long period of time.

2.2.1 Business Model Typology

The UPU established a business model (BM) typology for the provision of financial services by postal operators. In all models, there is a varying level of operational complexity and involvement of the postal operator in the provision of financial services. Six main BM families have been identified and are presented below in basic terms, with more detailed information being available in the first opus of the Global Panorama on Postal Financial Inclusion (Berthaud and Davico 2013):

- BM0: real estate provider. The post enters into an arrangement with an external financial services provider whereby this partner uses space rented in a postal branch to install an office or a window, and provides its own services with its own staff. Unlike the following five models, in this case the post plays no role in the provision of the services. This commercial arrangement is a source of rental revenue for the post, but has limited impact on financial inclusion as such partnerships usually have a limited scale and mainly focus on urban areas where posts have well-positioned estate.
- BM1: cash merchant. The post acts as a cash-in/cash-out agent for one or various partners (money transfer operator (MTO), mobile money operator, government entity, utility company, financial institution, etc.). The services facilitated by the post are transactional financial services such as remittances, bill payments, mobile payments, account withdrawals/deposits, etc. BM1 is the easiest model to deploy for posts that are starting to offer financial services as it does not require much know-how and is relatively inexpensive to deploy. However, the fees collected can be low and posts need to ensure the availability of cash throughout their network, which can be challenging in some countries.
- BM2: proprietary domestic and cross-border payments. The post operates its own domestic payments or international remittances (for the latter, in partnership with other posts). This can be done in posts using paper-based money orders—a model that is progressively disappearing—or electronic transfers, which

are now the norm. 88% of the 150 posts that operate under this model provide electronic services.

- BM3: partnership with a financial services provider. The post partners with a financial services provider, such as a bank, an insurance company, a mobile network operator (MNO), or a microfinance institution (MFI), to provide the partner's financial services. The main difference to BM1 is that the posts is not merely providing cash-in/cash-out services, but is much more involved in the provision of the services. Products can be developed jointly with the partner and adapted to the postal clientele. In a number of such partnerships, the postal brand is used to sell the product. This is typically the case in Brazil where the commercial name of the partnership between the post and Banco do Brasil is "Banco Postal", the Portuguese for postal bank.

  In BM3 models, the post is fully involved in all front-office aspects and postal staff have an important role to play in promoting the service. In some cases, some of the back-office operations can also be led by the post, although this generally falls under the responsibility of the partner.
- BM4: postal savings bank. The post offers its own insurance and/or account-based services (savings or current accounts) under a regulatory framework that is specific to the post. In most cases, limited monitoring is ensured by the communications regulator and/or basic reporting is provided by the post to the financial regulator, but without the latter actually performing any regulatory function.

  As is the case for payment services mentioned in BM2, postal accounts have been modernizing in recent years, from the old paper passbook to electronic accounts accessible through multiple channels (ATMs, cards, internet or mobile phones). Of the 39 postal operators worldwide that operate under BM4, 32 have already discontinued paper passbooks.

  Normally, for BM4 the post is not allowed to offer loan services or any other sophisticated financial product, which is often one of the main reasons why posts are willing to transition to BM5.
- BM5: full-fledged postal bank. In this last model, the post offers its own insurance and/or account-based services, but under the supervision of the financial services regulatory authority. In some cases, postal banks still have some limitations either on the type of product they can offer (not all types of loan for example) or the clientele they can target (in Morocco, for example, the postal bank has to focus on middle- and low-income customers).

The above business models are not mutually exclusive. For example, a postal operator can offer the remittance services of an MTO (BM1), its own domestic payment services (BM2), and savings accounts (BM4). In our sample of 201 posts, we identified a total of 420 different instances of BMs, meaning that, on average, each post operates a little over two different BMs simultaneously.

In addition, it should be noted that a post's BM does not always evolve in a linear manner. A postal operator willing to develop its range of financial services or to increase its financial services revenue does not need to go through all the models from BM0 to BM5. A post can, for example, go from BM1 to BM3, or from BM3 to BM5.

Of course, the six BMs are not sufficient to fully characterize the different operational and institutional arrangements set up by posts to offer financial services. Therefore, each BM can, in turn, be divided into subgroups, as described in Figure 2.3.

In terms of frequency of adoption of the various BMs, as indicated in Figure 2.4, the most common are BM1 and BM2, which are used by 79% and 75% of posts, respectively. In terms of sub-models, BM2a (proprietary domestic transfers) has the most observations, with 132 postal operators, followed by BM1a (CM for domestic or international remittances—126 posts) and BM2b (proprietary international transfers—121 posts).

2.2.2 Institutional Arrangements and Ownership

2.2.2.1 Institutional arrangements

In the BM typology outlined above, little mention was made of the positioning of the entity providing the financial services within the postal company and the relationship between the financial services entity and the rest of the post. As is the case for BMs, various institutional arrangements are possible, from complete integration within the post to full separation between the postal and the financial service entities. These various arrangements are presented below (see Figure 2.5 for their respective frequencies).

- Full integration: in this case, the postal financial services entity is a department or a directorate of the postal operator. The top management of the postal operator oversees both the financial and the non-financial services, and processes are very much integrated. This is the most common model encountered in the postal sector, with 76% of postal operators using it to provide financial services.
- Subsidiary: this model is becoming increasingly popular, with almost 12% of posts now using it compared to less than 10% four

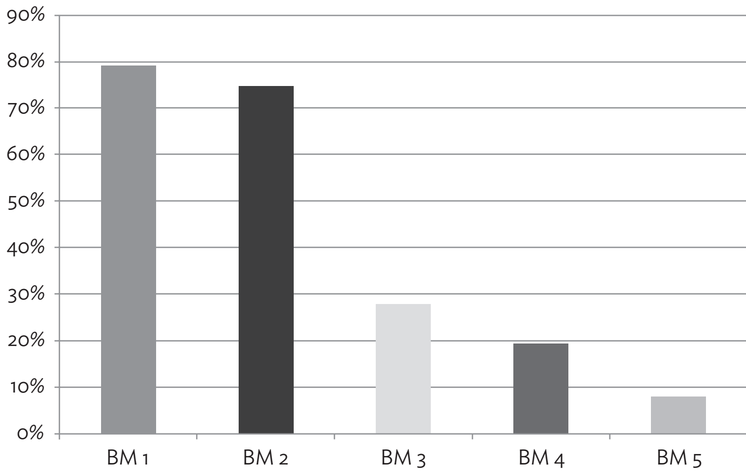
Figure 2.3 Typology of Business Models for Posts to Offer Financial Services

BM0: real estate provider
BM1: cash merchant (CM)
BM1a: CM for domestic or international remittances (P2P)
BM1b: CM for government payments (G2P and P2G)
BM1c: CM for collection of bill payments (P2B)
BM1d: CM for insurance companies—collection of premiums, pay-out of insured amounts
BM1e: CM for MNO or FinTech—registration, cash in, cash out
BM1f: CM for MFIs and banks—disbursement and repayment of loans, deposit and withdrawal from accounts, cash-in and cash-out bank transfers
BM2: proprietary domestic and cross-border payments
BM2a: proprietary domestic transfers
BM2b: proprietary international transfers
BM2c: partnership with an MNO or a FinTech to deliver proprietary payment services
BM2d: set up of own subsidiary to offer remittances (United Arab Emirates, Morocco)
BM3: partnership with a financial service provider
BM3a: partnership model with an insurance company to offer its services
BM3b: partnership with an MNO or a FinTech for financial services
BM3c: partnership model with a bank for the provision of account-based services, loans, and/or insurance
BM4: postal savings bank
BM4a: postal giro center and savings bank
BM4b: unlicensed postal insurance
BM5: full-fledged postal bank
BM5a: microfinance license (possibly through a subsidiary, as is the case in Zambia)
BM5b: limited postal bank license
BM5c: universal postal bank license
BM5d: licensed postal insurance

BM = business model, G2P = government to person, MFI = microfinance institution, MNO = mobile network operator, P2B = person to business, P2G = person to government, P2P = person to person.

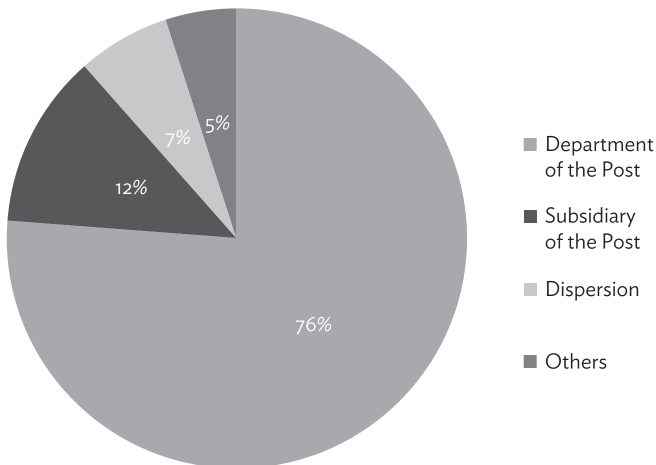
Source: Berthaud and Davico (2013).

Figure 2.4 Frequency of Business Model Adoption by Posts



Source: Authors.

Figure 2.5 Governance Between Entity Providing Postal Financial Services and The Rest of the Post



Source: Authors.

years ago. In this case, the entity offering the financial services is spun off from the entity offering other postal services to give it more independence and flexibility. The financial services entity remains a part of the postal group but has its own management and, usually, separate accounting. Service-level agreements are often established between the entity operating the network and the entity offering the financial services. Most of the time, the postal staff and the postal branches belong to the entity offering the physical postal services (mail, parcels, etc.) and the financial services entity pays a certain amount (either fixed or usage based) to use this network.

There are numerous examples of this subsidiary model and, in several instances, subsidiarization has been a first step in the transition from BM4 to BM5 to prepare for the creation of a full-fledged postal bank.

- Dispersion: this model is a hybrid between the previous two models. Some postal operators have decided to separate their financial services offering into various entities. This relatively uncommon model can be observed in Senegal and Zambia. Posts in both countries offer money transfer services as part of the mother company (La Poste and ZamPost, respectively) and have set up a separate subsidiary for other services. Postefinances in Senegal provides savings and checking accounts, while ZamPost Microfinance Ltd provides various types of micro-loan throughout its parent company's network of branches.
- Joint venture: in this model, the post establishes a joint venture with a bank or regulated financial institution to offer financial services through the postal network. bpost bank in Belgium is one of the few examples of this model. It was established under the name "Banque de La Poste" in 1995 as a 50/50 partnership between the Belgian Post (now bpost) and a private bank, Générale de Banque (now BNP Paribas Fortis). bpost is the exclusive distributor of the products of the company, which has 1.1 million customers or 10% of Belgium's total population. bpost bank positions itself as a bank that is "simple, safe, and for all". The partnership between the two owners was last renewed in December 2013 for the period January 2015 to December 2021.

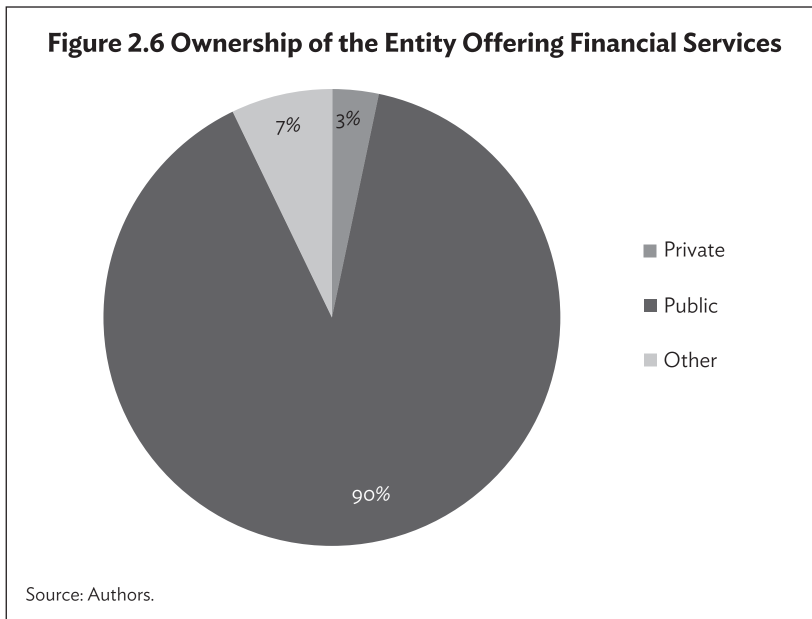
Each postal operator is a distinct case and needs to adapt the institutional arrangement between the financial services entity and the rest of the postal group to its own local context. One fundamental issue is that the financial services entity should work hand in hand with the rest of the postal group. The two biggest assets of the post are its network and

the trust the population has in it. The financial services arm has to make full use of that physical network, without establishing its own network on the side to "compete" with the regular posts, and to try as much as possible to make financial services available throughout the postal network, not only at selected posts. Maintaining the trust that customers have in the Post, its second main asset, should be viewed as a priority for the group as a whole. All failures and shortcomings in the delivery of physical services have an impact on financial services and vice versa. Indeed, for customers, any service provided at a post office is a service of the post, regardless of the relation between the financial services entity and the rest of the post.

2.2.2.2 Ownership

As presented in Figure 2.6, posts where the financial services entity is state owned represent 90% of all posts. Only 3% of posts report that the entity offering financial services is privately held. CTT Correios (the Portuguese Post) was privatized in 2013 and 2014 as a consequence of the financial difficulties experienced by Portugal. These operations allowed the Portuguese government to raise a total of €922 million. Similarly, the Italian Government sold 38% of Poste Italiane at the end of 2015, raising €3.4 billion, and announced a further sale of capital at the end of 2016

Figure 2.6 Ownership of the Entity Offering Financial Services



Source: Authors.

to reduce the country's debt; as a result the company is majority owned by private shareholders. It will be important to monitor this trend in the coming years as it could have a strong impact in terms of financial inclusion. Indeed, we can assume that posts that become too focused on generating profits might be willing to reduce their social impact to increase the shareholders' return on investment.

The last category, "other", includes the 7% of posts that have developed partnerships with other financial institutions, such as a joint venture (the case of bpost in Belgium) or a full-fledged partnership (e.g. Brazil's Correios with Banco do Brasil). In these cases, the ownership is mixed and therefore cannot be classified as either public or private.

2.2.3 Business Models for Mobile Financial Services

2.2.3.1 The rationale for posts to become actors in mobile financial services

According to the GSMA, (GSMA 2016) at the end of 2015:

- there were 411 million mobile money accounts globally;
- 271 services had been deployed in 93 countries;
- there were 3.2 million mobile money agents (with approximately 1.6 million being active).

This reflects the growing importance of mobile money worldwide. Of course, if we compare mobile money accounts to current/savings accounts held by postal operators worldwide, which stood at about 2 billion in 87 countries at the end of 2015, postal accounts still represent almost five times the number of mobile money accounts. However, if we look at the number of agents then, for example, MNOs have a clear edge over postal branches (about five times more agents than posts). Mobile money is therefore clearly becoming a major factor in many developing countries and postal operators have to develop strategies to address this new reality.

For postal operators, banks, and non-bank financial institutions, mobile financial services are not products per se but rather another channel for delivering financial services, just like physical branches, the internet, ATMs, or payment cards. However, the arrival of new players, such as MNOs or FinTech, has changed the rules of the game. These new players tend to focus on products such as domestic money transfers, bill payments, government payments, or remittances, all of which are products that were traditionally the most widely offered by posts. One of the best examples of the threats that new entrants represent is the Postal Corporation of Kenya (PCK), which had a 27% market share for domestic transfers in 2006. This market share has now shrunk to a mere 1.1% with the emergence of M-Pesa and others (Berthaud 2012).

All of this leads to one logic conclusion for many posts: become part of the mobile financial services ecosystem or be left out. In this ecosystem we can identify three groups of actors: users (individuals, businesses, governments), providers (banks, posts, MNOs, MFIs, etc.), and support services for providers (FinTech, agent networks, switch, etc.).[3] Postal operators have been playing the roles of both direct providers of mobile financial services and as support services for other providers.

2.2.3.2 Description of business models

The following describes in greater detail the various business models adopted by posts in this field.

Posts as support services

Posts can act as partners of digital financial services (DFS) providers such as banks, FinTechs, or mobile money providers, and help them offer or distribute their financial services. In this regard, posts have implemented a variety of BMs, which are all variations of the BM1 and BM3 models described above.

- Cash merchant for a mobile financial services provider (BM1). Posts from 27 countries or territories have signed agreements with banks (8 posts), FinTechs (5 posts), or MNOs (14 posts) to provide cash-in/cash-out services for the provision of mobile-enabled services. Under this model, the role of the post is mainly to ensure that liquidity is available throughout the network.

  For the bank, FinTech or MNO partner, the benefit of signing up a postal operator as an agent is to have immediate access to a large number of agents covering the entire national territory, often with good cash availability. Given the experience of various postal operators in managing a network of agents for their own postal services (financial or not), posts could also act as super/master agents, but this has not been observed so far for mobile financial services.[4]

  For the post, however, this model has some limitations. First of all, the fees are relatively low compared to the costs of ensuring liquidity availability throughout the network. Also, most postal operators offer their own electronic money orders, which

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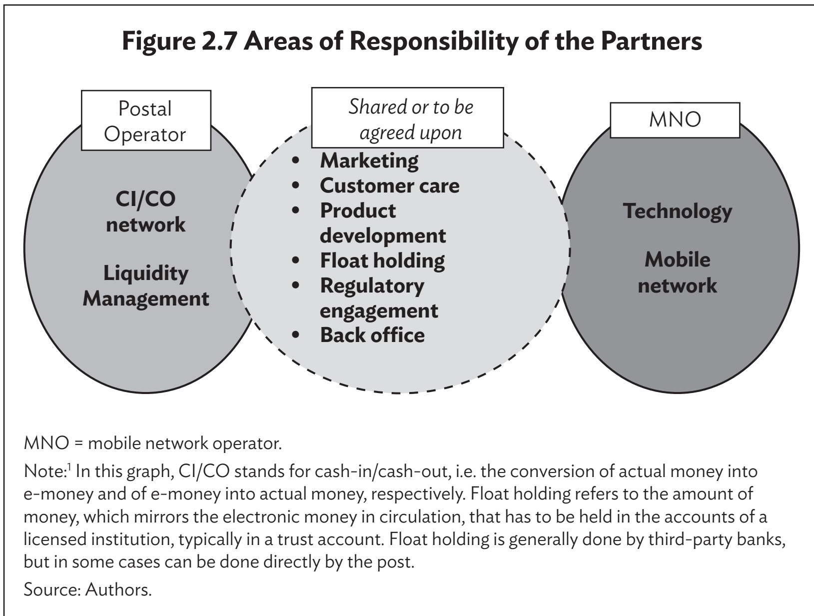
3 Adapted from the work of the ITU Focus Group on Digital Financial Services on DFS Ecosystem.

4 In Kenya, PCK has super-agent status with Airtel, but all its agents are posts. PCK does not manage other entities external to the post and does not offer liquidity management services to non-postal agents.

Figure 2.7 Areas of Responsibility of the Partners



MNO = mobile network operator.

Note:[1] In this graph, CI/CO stands for cash-in/cash-out, i.e. the conversion of actual money into e-money and of e-money into actual money, respectively. Float holding refers to the amount of money, which mirrors the electronic money in circulation, that has to be held in the accounts of a licensed institution, typically in a trust account. Float holding is generally done by third-party banks, but in some cases can be done directly by the post.

Source: Authors.

means that mobile products often come as competitors to their own products and could potentially cannibalize these.

- Partnership model with one or various MNOs or FinTech (BM3). In this model, there is a real partnership between the MNO or FinTech and the post. The partners share the responsibilities (and the revenues), based on their respective strengths and competitive advantages. Figure 2.7 allows this to be visualized.

  Tunisia Post is the best example of BM3 with an MNO, as the post has concluded partnerships with the three MNOs in the country (Tunisie Télécom, Ooredoo, and Orange). In Tunisia, MNOs are not allowed to offer mobile financial products on their own and therefore need to have a financial institution as a partner. Tunisia Post, which is not a bank per se, is nevertheless the largest financial institution in the country in terms of number of customers, which explains why all three MNOs decided to select it as a partner. Compared to the cash merchant model, the post has more control over product design, operations and revenues.

Posts as Direct Providers

Under BM2, BM4, and BM5 postal operators offer their own financial services: payment services, current accounts, savings products, loans,

etc. Nowadays, a large number of posts are leveraging electronic and mobile networks to offer their services digitally. Here are a few examples of business models deployed by posts to offer mobile financial services.

- A post offering its own transactional services via a mobile channel (BM2). There are various examples of posts that offer this type of service; those that do so generally also have account-based services, all (accounts and payments) linked to their mobile platform, which in our definition classifies as BM4 or BM5. So there are very few examples of BM2s with a mobile channel. One interesting example, though, is the "simple automated machine" (SAM) service designed by SingPost. SAM was first launched in the 1990s when the post deployed payment kiosks throughout Singapore for customers to pay bills. SAM was progressively updated and enhanced, and has now become an electronic platform for SingPost, where customers can receive digital mail, buy tickets, and make payments. SAM is still available at posts and kiosks, but, more interestingly, also on the internet and via mobile applications, making services available 24/7.
- Post offering its postal savings or current account via a mobile channel (BM4). There are eight examples of posts operating under BM4 and linking their account-based services to a mobile channel. One innovative example of this emerged in 2015, in Senegal, when the post joined forces with a start-up called Numherit to launch a service that is available through various channels. All customers of the service get two separate accounts: a current account at the post and an e-wallet, with transfers possible from one account to the other. Payments to and from the e-wallet can then be processed through the Visa International Service Association, VISA, the internet, feature phones or smartphones. The post, which handles a number of social transfers on behalf of the government, transfers these cash payments to the new platform, and 200,000 people were benefiting from the system only three months after its launch. The interesting point in relation to this alliance is that both organizations were involved in the development of the service, with special focus being placed on the development of the merchant ecosystem. Retail shops, drugstores, restaurants, and gas stations were all actively targeted to ensure acceptance of mobile and card payments. It will be interesting to monitor the development of the service going forward as currently the mobile service is made available to new customers only, whereas customers who already have a postfinances account do not get automatic access to the new system. Ensuring adequate repartition of both responsibilities and revenues in the venture will go a long way to determining

the long-term success of the partnership. Numherit is already in discussions with the posts of various West and Central African countries to replicate this model.

- Post offering licensed postal financial services via a mobile channel (BM5). ABB in Morocco provides banking services to 6 million customers. All 1,800 post offices in the country are interconnected and financial services are offered in a fully digital form. In mid-2014, ABB launched a suite of mobile banking services available on both smartphones and feature phones. Customers can manage their postal accounts, pay bills, send money, etc. To develop this offering, ABB did not enter into any partnerships with the MNOs as mobile networks are considered as channels to carry data only. At the end of 2015, ABB had 150,000 customers registered for its mobile service, 75% of whom were active. In terms of financial inclusion, it should be emphasized that 42% of mobile customers are new, previously unbanked, customers. After less than two years of operation, the results continue to be modest, but ABB's management is confident that they will steadily improve.

The three BMs presented above are all ways for posts to offer their financial services through a new channel: the mobile phone. Some posts have gone even further by becoming mobile virtual network operators to control their own mobile channel. In this model, the post buys capacity from a telecom operator to offer its own communication services, including its own SIM cards. The post is then able to offer all of its financial services via a digital platform, under its own postal brand. This model was adopted successfully by Poste Italiane, the Italian postal operator, in 2007. Poste Italiane now has 3.3 million customers actively using Poste Mobile, its mobile telephony services. Among these, 75% use their Poste Mobile phone subscription to access postal financial services (payments, mobile top-ups, account management, etc.). This model is hard to replicate as it requires substantial know-how and significant investment, but it illustrates the capacity of posts to innovate and find new ways of bringing financial services closer to the population.

2.3 Financial Products and Services Offered by Posts

Financial inclusion is the process of providing financial services to those who are excluded from them. These services are usually classified into four broad families: payments, savings, insurance and credit.

2.3.1 Payment Services

Payment services comprise all domestic and cross-border payments, from person to person (P2P) (including domestic and international remittances), person to business (P2B), person to government (P2G), government to person (G2P), business to business (B2B), etc. We estimate that posts worldwide have a total of 1.5 billion customers for their payment services (Ansón and Toledano 2010). This figure includes all channels (post offices, internet, cards, mobile, ATMs) and all products (remittances, bill payments, government payments, business payments, etc.).

2.3.1.1 International Remittance

80% of posts provide international remittance services. This is by far the most widespread postal financial product, which is not surprising considering that posts have been exchanging paper-based money orders since 1878 when the first UPU international treaty on postal payment services was adopted. Nowadays, traditional money orders have almost completely disappeared and posts have implemented two strategies to deploy such services (posts often use both simultaneously).

- Electronic postal money orders. 132 posts offer their own domestic money transfer service, and 121 their own international money transfer service. For domestic money transfers, posts deploy their own electronic solution, sometimes in partnership with a technology provider. For international remittances, two main systems are available for posts to exchange with each other: the UPU's International Financial System (IFS), and Eurogiro, both of which are interconnected.[5]
- Partnerships with banks and MTOs. 126 postal operators worldwide partner with banks or MTOs to offer money transfer services as their agents.

2.3.1.2 Government Payments and Bill Payments

55% of posts provide government payment services and 57% provide bill payment services. It should be mentioned that these numbers are under-estimated, since most posts that are connected to the national payment

[5] Both platforms allow posts to offer money transfer services. The IFS is a technical solution developed by the UPU's Postal Technology Centre and first launched in 1999. The development of the IFS network is ensured by a group of posts called the "Postransfer Group". Eurogiro was launched in 1993 by a group of European posts willing to develop cross-border payments. It has since expanded to become a global network of posts and banks.

infrastructure perform these services but do not have specific contracts with government agencies or utility companies.

The share of posts providing government payment services is extremely interesting as it demonstrates the willingness of a number of governments to use their postal network as a tool for deploying their public policies.

2.3.2 Checking and Savings Accounts

Worldwide, 92 posts are offering current or savings accounts under three different models.[6]

- Limited partnerships for cash-in/cash-out (BM1). 19 posts act as non-exclusive agents for banks, providing deposit and withdrawal services for bank customers. In these cases, the products are not branded as postal products and posts generally provide this type of service for various banks at once. Examples of this model include the posts of Kenya, Thailand and Australia.
- Full-fledged partnerships with a bank to offer account-based services (BM3). 36 operators have concluded advanced partnerships with banks to offer their services. With this type of agreement, there is deep involvement of the post in the operation, and products are very often branded as postal products. Typical examples of this model are observed in Brazil (since 2002) and the Russian Federation (since the start of 2016).
- Posts offering their own account-based services (BM4 and 5): 52 posts in the world do so, with a large proportion in North, West and Central Africa, Central Asia, and South Asia.

Altogether, 87 posts that have implemented one or both of the latter two models hold 1.96 billion accounts for a total of about 1 billion customers.

2.3.3 Insurance

As described in an International Labour Organization–UPU study on posts and insurance (Suedekum 2016), 38% of posts provide insurance services. Proportionally, more posts in developed countries provide insurance (39%) than in developing countries (34%). There is therefore huge potential for insurance companies to partner with postal operators for the distribution of their products.

[6] Note: many posts are using various models simultaneously.

A number of posts worldwide have a very large number of customers. Japan Post Insurance, for example, boasts 38 million customers, while India Post has a combined total of 30 million customers in its various insurance schemes. However, insufficient data are available to quantify the actual outreach of insurance provided via postal networks at the global level.

2.3.4 Credit

Postal financial institutions could rightfully view credit as the "last frontier". Indeed, there are only five posts worldwide with a full banking license and the ability to provide loans to their customers. An additional eight posts hold a banking license but with no or limited possibility of providing loan services. Of course, providing savings services is completely different from providing loans, as the latter requires different capacities and organization. Credit is also a more profitable sector, with high market demand in many countries for small loans. For this reason, posts deploy various strategies to penetrate this more profitable market segment.

- Partnership with banks. This is the option chosen by the largest number of posts. In this case, the postal operator partners with a licensed financial institution and acts as an agent to offer the partner's product. The posts of Namibia and Senegal, for example, have adopted this model. Some posts even push the model further by offering a bank's product under their own brand. Such is the case in Switzerland, where PostFinance has partnered with Valiant Bank and Münchener Hypothekenbank eG to offer their mortgages under its own brand (white-label approach).
- Unlicensed loans. For customers whose salaries are paid into a postal account, a number of postal operators have started to offer small loans, even though they do not have a formal banking license issued by the Central Bank. These products are often reserved for civil servants, which gives the postal institution some level of security as to the probability of reimbursement. In Benin, for example, at the end of 2015, the post had $1.7 million in outstanding loans, and earned $850,000 in interest revenue during the year, with a default rate of 1.5%. Various West African posts have adopted this strategy, which they view as a way of gaining experience and expertise until they can find a regulatory model that will allow them to extend those services to a larger clientele.
- Microfinance institution. In this case, the post sets up an entity outside the postal operator to offer microfinance services,

under a microfinance license. Even though various posts are, or have been, considering this model (Benin, Togo and Tunisia, for example), only one has managed to develop it thus far: Zambia Postal Services Corporation, with its Zampost Microfinance Limited subsidiary.[7] This entity provides loans to individuals, small groups, and large groups, and distributes its products and collects loan repayments solely through the postal network.

- Licensed credit, supervised by financial services authorities. This "postal bank" model is currently used in 13 countries. For a majority of these posts there are certain restrictions, such as the maximum loan amount or the type of credit they can provide. A case in point is La Poste (France), which adopted a step-by-step approach. It first obtained a license for property loans in 2005, then approval to offer consumer credit in 2007, and corporate loans in 2010. To gain knowledge and experience, La Poste chose to partner with external specialized companies for certain products but to offer other products itself, thereby allowing it to accelerate its learning curve while limiting its risk exposure.

2.4 Key Success Factors for Postal Financial Inclusion

To have an impact in terms of financial inclusion, posts need to offer financial services that are both inclusive, i.e. addressing the needs of the unbanked or underbanked, and profitable, so that they can be offered sustainably. To do so, the UPU identified nine key success factors: the network, the staff, financial capacity, trust, digitization of processes, risk management, support of public authorities, legal and regulatory frameworks, and marketing (Clotteau and Measho 2016). In the section below, we present five of these factors.

2.4.1 The Network

A wide and well connected network is crucial when providing financial services as it addresses one of the three main challenges of financial inclusion: accessibility. Access is especially important in rural areas where a large share of the unbanked population lives. Indeed, according

[7] There are various reasons that explain the lack of success in developing this model—one being the reluctance of regulators to allow posts to offer credit without having the appropriate structure and skills in place.

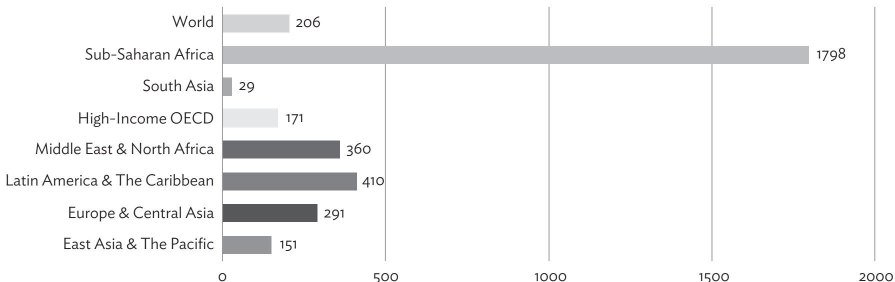
to the Global Findex 2014, 43% of the world's rural population is unbanked compared to 39% globally (Demirguc-Kunt et al. 2015). This is where the postal network can play an important role, with its presence in rural areas promoting the integration of individuals into the formal financial system. This has been highlighted in a joint UPU–World Bank paper (Ansón et al. 2013). that shows that the size of the postal network is positively associated with the number of adults having a postal account.

2.4.1.1 Capillarity

At the end of 2015, the postal network consisted of 661,000 outlets worldwide. Postal density can be defined either in terms of surface (i.e. the number of square kilometers covered by a postal outlet) or in terms of human density (i.e. the number of inhabitants served by a postal outlet). The density of this network, however, is quite heterogeneous, as illustrated by Figure 2.8.

Globally, one post covers an average area of 206 km². South Asia has by far the highest density with 29 km² per post. India, with more than 155,000 posts, has a density of 21 km² per post office, which is remarkable given the size of the country (3.3 million km²). With 2.4% of the world's territory (and 18% of the world's population), India is home to 24% of the world's posts. At the other end of the ranking, Sub-Saharan Africa lags far behind with 1,798 km² covered per post. In this region, it is interesting to compare the number of post offices to the number of agents working for MNOs offering mobile money. For example, in Kenya, Safaricom reported having 85,756 agents for its M-Pesa operation at the

Figure 2.8 Postal Density by Region: Average Area Covered by Permanent Posts (km²)



Source: Authors.

end of 2015 (Safaricom 2016). PCK, at the same time, had 623 posts, or 0.7% of Safaricom's financial service footprint.

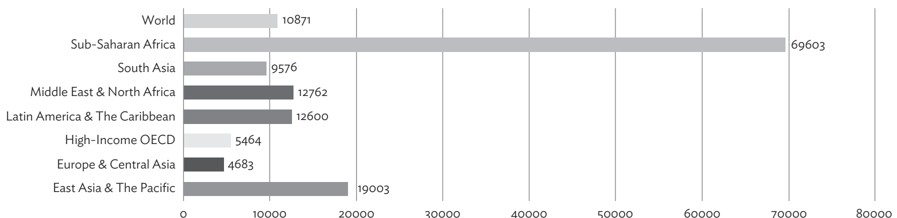
When it comes to density by inhabitants, as illustrated by Figure 2.9, the world average is one post office serving 10,871 inhabitants. This time Europe and Central Asia (4,683) leads, followed by OECD high-income economies (5,464) and South Asia (9,576). It is worth noting that highly populated regions such as South Asia and East Asia-Pacific (19,003) are doing much better in terms of postal density by area than postal density by inhabitants.

Even though the UPU does not set any specific standard for postal density, it is obvious that a certain level of physical presence is necessary to ensure an actual impact on financial inclusion. For posts with a small network various actions could be undertaken.

A first option is to leverage the huge potential of postal delivery staff. Indeed, 1.4 million postmen worldwide go door to door five or six days a week, throughout entire countries. Very few of them currently deliver financial services, but equipped with smartphones or POS devices, they have the potential to significantly increase the postal footprint. This model has already been adopted by Bangladesh Post, which uses its postmasters to deliver money transfers directly to the homes of its customers.

Another way forward for postal operators with a small network is to create an agent network. One of the best examples of this is PT Pos Indonesia, which has less than 5,000 self-operated post offices, but has built a large network of 30,000 agents to distribute its products and services. This allows the post to have a much larger presence, throughout the country, at a lower cost than if it were operating its own network of posts. In addition, there are usually shorter queues in agents'

Figure 2.9 Postal Density by Region: Average Number of Inhabitants Served by a Permanent Post



Source: Authors.

branches and opening hours are more flexible than for regular posts. In order to remain relevant as financial service providers, and taking into account the growing footprint of mobile money agents, posts need to extend their networks by developing agent partnerships, just like banks or mobile money providers.

Lastly, an option that will soon become unavoidable for all posts is to create new digital distribution channels. This is something that low-income countries have not done enough so far, but which numerous posts in more advanced countries are pursuing by developing multichannel strategies, offering their products at posts (at the counters and via automated machines), as well as through mobile channels, cards, ATMs, and the internet. While the costs for developing posts are relatively high, this can nevertheless be done successfully through appropriate partnerships, as the experience of Senegal has shown (see section 2.2 on business models).

2.4.1.2 Full Use of the Network

As far as possible, posts should offer their financial services throughout their network and not only in a portion thereof. Indeed, for customers, it is very confusing not to have the same range of services offered at two different post offices. Only 61% of posts offer financial services throughout their network. One of the reasons for this low figure is that posts are increasingly offering real-time electronic services and discontinuing paper-based money orders and passbooks for accounts. As a consequence, the posts that are offering financial services do so only in the portion of their network that is connected.

2.4.2 Connectivity and Digitization of Processes

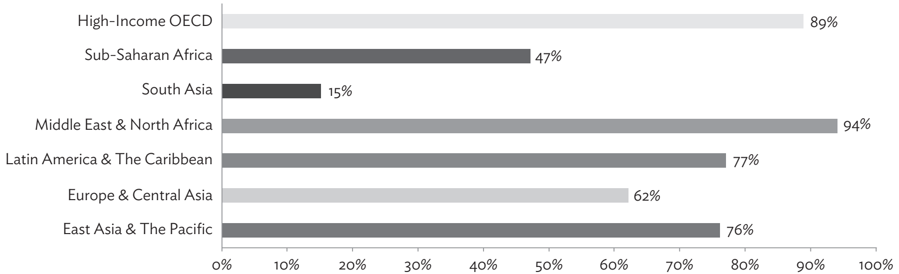
There are two main reasons why posts should focus on offering digital financial services. First and foremost, it is a necessity if they are to offer services that are affordable to low-income customers on a large scale. It is also a requirement in order to compete with other financial service providers. This includes shifting from paper-based to digital financial services, as well as modernizing the back office.

2.4.2.1 Connectivity

In order to fully reap the benefits of a vast network, post offices, including agents, need to be interconnected through an electronic network. Otherwise, there is no possibility of exchanging and processing information with other posts and headquarters in real time.

Figure 2.10 shows the percentage of posts connected to an electronic network. The global average is 58%. The East Asia and Pacific (EAP) region

Figure 2.10 Percentage of Posts Connected to an Electronic Network by Region



Source: Authors.

stands at 76%, while South Asia is the region with the lowest level of connectivity; only 13% of posts there are connected to an electronic network. It is worth noting that India Post embarked on a major $750 million, five-year modernization project at the end of 2012, as a result of which 25,000 out of 156,000 posts are now connected (i.e. a connectivity rate of 16%). The project aimed to connect the rest of the network by the end of 2017, which would certainly have a very positive impact on the entire region's connectivity rate, given the sheer size of India's postal network.

2.4.2.2 Automation (IT)

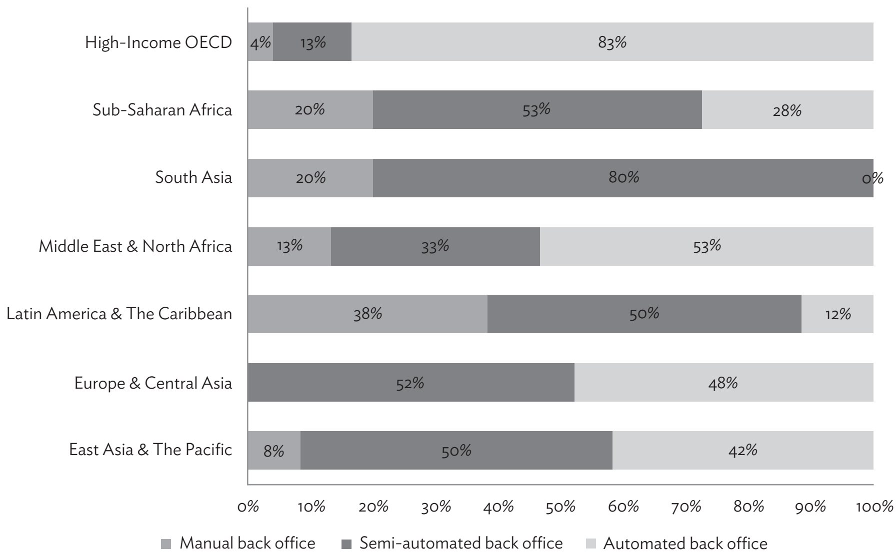
As illustrated by Figure 2.11, 83% of posts in high-income OECD countries have fully automated back offices. Elsewhere, the situation is much worse: only 42% of posts in the EAP region report having an automated back office for financial services and none in South Asia (80% of posts there report having a semi-automated one).

77% of postal operators have a management information system (MIS) for financial services in place. Over the last few years, various examples have been reported of posts launching new systems, such as Campost (Cameroon) in 2016, or Benin Post, which adopted a new MIS for its financial services in 2015. Increasingly, posts worldwide, regardless of their development level, have understood the importance of digitization and automation in offering successful financial services.

2.4.3 Support of Public Authorities

In the previous sections, we emphasized that capacity is a very important factor when offering financial services. However, willingness

Figure 2.11 Levels of Automation of Back Office by Region



Source: Authors.

to foster financial inclusion is also fundamental. Most posts have traditionally been assigned public service missions and are nowadays double-bottom-line institutions, meaning that they have to reach the parallel objectives of being profitable while achieving social impact. Posts cannot achieve these objectives without the support of public authorities.

There is nothing new about governments leveraging their postal network to collect savings and bring financial services to large portions of their populations. In the United States, for example, President Taft, who gave the final approval for the launch of the US postal banks in 1910, "felt that it is to these poorer people in the United States that the Postal Banks will appeal and that it will encourage the saving of money by them" (New York Times 1910).

More recently, various governments have implemented voluntarist public policies to foster financial inclusion through their postal network. This is the case in Brazil where the government promoted a set of policies at the end of the 1990s to ensure that its postal network would constitute a strong lever for socio-economic development. This included "Exporta Fácil", a program aimed at simplifying export procedures for MSMEs

with a view to using the postal infrastructure in rural and less developed areas of the country (Ministry of Communications, Brazil and UPU 2011). Another program consisted in strengthening the agent banking model initiated in 1973 by adopting a new resolution in 1999 that provided for an expansion of the range of services agents can offer.

Correios, Brazil's national postal operator, was viewed by the government as one of the main agent networks that could be used by banks to improve access to financial services throughout the country. However, the Postal Law, approved in 1969 and revised in 1978, limited the services that the post was authorized to offer. The Ministry of Communications, convinced of the potential positive impact of the post entering into a partnership with a bank, authorized Correios to offer banking services as an agent, which allowed the post to initiate contacts with potential partners. Of course, this launched one of the biggest postal financial inclusion success stories, with the post bringing banking services to 95% of Brazil's municipalities within around three years.

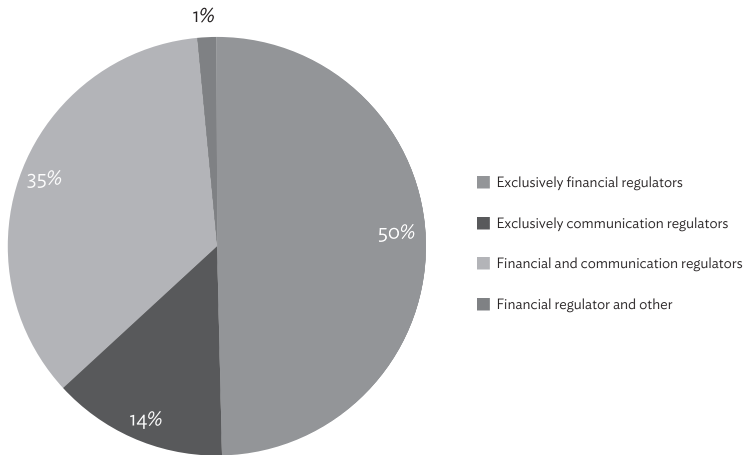
2.4.4 Legal and Regulatory Framework

Another important success factor for posts is the legal and regulatory framework, which determines whether the post can offer financial products and, if so, what type of products and how (e.g. through partnerships). Therefore, it also determines the BM under which the post operates.

2.4.4.1 Oversight/Supervision

91% of postal operators that responded to our questionnaire stated that they were regulated. As shown by Figure 2.12, half of the respondents declared that they were regulated exclusively through financial regulators/supervision entities, i.e. the Central Bank, the Ministry of Finance, or the Banking Commission. Another large group (35%) indicated that they were regulated both by financial and communication regulators. This includes the aforementioned financial regulators plus the Ministry of Communication (or the ministry responsible for postal affairs) and/or the postal and communication regulator. This situation can raise some coordination issues if the respective responsibilities of the different entities are not explicitly defined. The third group, which represents 14% of posts, is regulated exclusively by communication regulators. This can lead to potentially risky situations as the regulation and supervision of financial services is very different from that of postal services, and requires specific competencies. To ensure sound regulation and supervision, it is strongly recommended to at

Figure 2.12 Financial Services Regulation



Source: Authors.

least establish a line of reporting from the communications regulator to the financial supervision entity in order to ensure a minimum level of control.

Some posts might feel that it is better for them to remain outside the purview of financial supervisors, but being regulated should ultimately allow them to strengthen their internal control and risk management processes while opening up access to new opportunities.

On the other hand, various banking regulators are also opening up to non-bank financial institutions and starting to award "light" banking licenses. In 2015, in an effort to foster financial inclusion, the Reserve Bank of India selected 11 institutions, including India Post, to become "payment banks". This allowed the post to strengthen its financial services offering in the field of deposits and payments, even though it is still prevented from offering loans directly to its customers (it will need to partner with full-fledged banks to do so). This model represents an innovative approach that more posts could pursue to expand their range of financial services.

2.4.4.2 Agents for Other Financial Service Providers

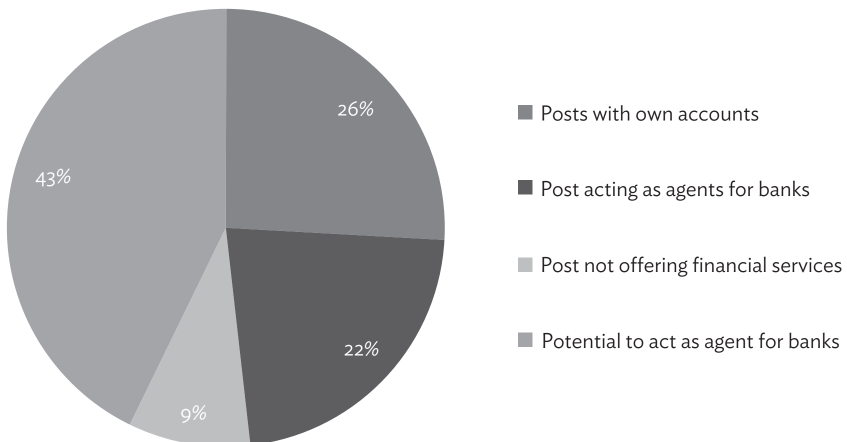
Postal operators have two options for offering financial services. They can either develop their own services (if they have the capacity and

willingness to do so), or partner with other financial service providers to act as their agent and offer their services. 76% of posts that offer financial services (139 out of 183) have concluded at least one partnership with a bank, mobile money operator, MTO, MFI, insurance company, or with other non-bank financial institutions to offer financial services on their behalf. To be able to do so, however, an enabling regulatory framework is essential.

One specific partnership model is the agent banking model, where a bank is allowed by law to partner with a non-bank (i.e. a postal operator, but also drugstores, supermarkets, gas stations, etc.) for the distribution of its products (savings, loans, etc.). Depending on the country there are variations in the model, with agents being allowed to perform different types of services, from merely providing cash-in/cash-out services to account opening, pre-screening of loan applications, or even customer advisory services.

89% of posts believe there are agency banking guidelines in their country (which does not imply that posts are explicitly allowed to act as bank agents under these guidelines). However, a relatively small share of posts do act as agents for banks. As presented in Figure 2.13, if we exclude posts that already offer their own account-based services (i.e. those that might not be interested in offering the products of a competing bank),

Figure 2.13 Share of Posts with Potential to Become Agents for Banks



Source: Authors.

posts that do not offer any financial services (i.e. those that might not be interested in offering financial services at all), and posts that already have partnerships with a bank, we still have 43% of the posts in our sample that could potentially become agents for banks, depending of course on the legal framework.

Taking into account the difference between the number of countries with agent banking guidelines and the number of posts that could potentially become agents, it appears that posts need to be more proactive if they want to achieve that potential. This implies engaging with regulators to ensure they are included in agency banking guidelines. It also means that posts have to become more attractive as partners for banks, working for example on improving the connectivity of posts and on staff training.

2.4.5 Marketing

Most postal operators used to be postal administrations operating as monopolies. Customers were then called "users" and postal staff did not need to develop sophisticated marketing approaches. Times have changed, though, bringing two major phenomena: liberalization and the advent of new technologies.

Liberalization, which has been taking place at various degrees in many parts of the world, has introduced competition in postal markets, whether we are talking about mail, logistics, or financial services markets. Posts, therefore, need to stand out from their competitors by offering products that are attractive to their customers in terms of intrinsic quality of the product, price, quality of service, customer service, etc. The second factor having a profound impact on postal activities is technological change, which is impacting mail services in that e-mail is gradually substituting traditional mail. It is also transforming financial services, as customers can perform all their operations online, or via cards, mobile phones, etc. Again, this is not without consequences for posts. To face competition, postal operators need to meet customer expectations, to be innovative, and also make their products and services known to potential customers.

2.4.5.1 Understanding Customer Needs

As financial service providers, posts need to understand the needs of both their current and prospective customers. For current customers, posts need to have a customer database and to use all the data in their possession: gender, age, occupation, address, spending habits, preferred distribution channels, etc. With the information that postal

operators have at their disposal (both from the financial services side and from the mail side), they should be able to at least deploy customer segmentation activities, which are necessary to better serve specific groups of customers. Additional information can also be gathered through focus groups, market research, polls, etc. More advanced posts can use data analytics tools to get to know their customers better, and to offer them the products and services they really need. Even though some posts are developing such strategies, there is still much room for improvement.

Regarding prospective customers, especially when talking about the unbanked, posts need to understand prospective customers' actual needs in order to develop the appropriate products. Such customer-centered approaches are becoming increasingly popular in the financial inclusion space, but are yet to be widely adopted by posts. These new approaches include understanding current financial tools used by the unbanked, identifying their needs, creating various product concepts that could potentially address those needs, testing the concepts with small groups, and adapting them based on feedback from customers. Various iterations are necessary before the products can be scaled up.

2.4.5.2 Promotion of Products and Brands

In most countries, there is very good general awareness of the postal brand, which is often classified as what marketers call "top-of-mind" awareness. However, if almost everybody knows of the post, very few are aware of all the products it has to offer. For financial services especially, posts need to make specific efforts to promote their range of services.

There are various examples of posts leading successful promotion campaigns. In Gabon, the post invested considerably in developing the "Mandat Express", a domestic and international express remittance service. This investment included radio and TV campaigns, advertisements on billboards and postal vehicles, and the sponsoring of various events. These efforts led to a tripling of sales in five years (2009–2014), a remarkable result in a very competitive environment.

ABB in Morocco also devotes significant resources to promoting its products and services. Various channels are used (TV, radio, Internet, billboards and, of course, posts). In 2016, ABB launched specific social media campaigns for young adults and women, presenting new services targeting these populations. The results of these campaigns are not yet known, but similar efforts have allowed the post to significantly increase its customer base and to open 500,000 new accounts each year from 2013 to 2015.

2.5 Financial Inclusion Capacity Index and Regional Snapshots

On the basis of the success factors listed in section 2.4, we quantified the capacity of postal operators to advance financial inclusion by computing a financial inclusion capacity index. This index takes into account the following elements.

- Density and level of connectivity of the postal network:
  - number of postal branches compared to bank branches;
  - share of postal contact points connected to an electronic network;
  - postal network density in terms of the number of people and the average area covered by a post office (including agents).
- Staff capacity: estimated based on computer literacy rates and levels of training in the field of financial services.
- Level of profitability.
- Level of automation of operations:
  - availability of an MIS;
  - automation of the back-office.
- Security of post offices and cash logistics capacity:
  - availability of security features at post offices;
  - availability of an automated cash management system;
  - time needed to deliver cash to posts in the case of a cash shortage.
- Enabling a legal framework:
  - regulation of postal financial services;
  - possibility of acting as an agent for other financial institutions;
  - access to a national payments system.

All these factors were then graded and weighted with a maximum total of 100 points. It is important to emphasize here that a high score on this index does not represent the post's actual contribution to financial inclusion, but rather shows its capacity to be a strong contributor.

2.5.1 Financial Inclusion Capacity Index: The Global Leader Board

We computed the financial inclusion capacity index for 156 of the 161 posts that answered our questionnaire.[8] The world average stands at

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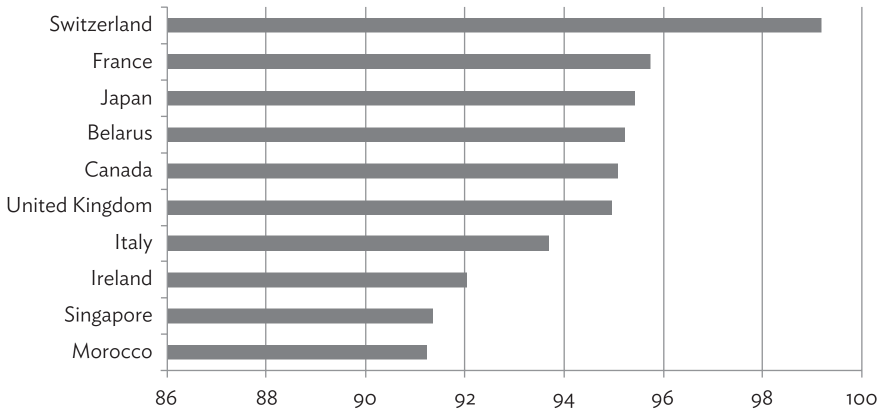
8 A number of posts did not answer all the questions in our survey. For five posts, we did not have enough data to compute their capacity index. For the others, we made

Figure 2.14 Ranking of the Top 10 Posts According to the Financial Inclusion Capacity Index



Source: Authors.

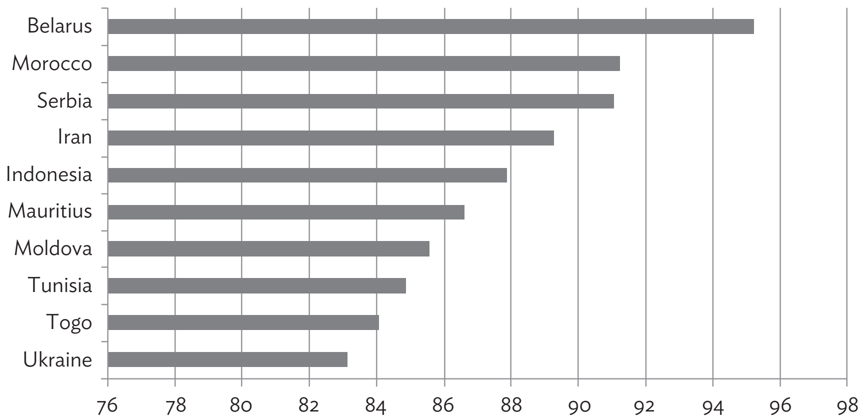
59.9, and the median at 62.22. The best-ranked post, Swiss Post, achieved a quasi-perfect score of 99.18. The top 10 posts worldwide in terms of financial inclusion advancement capacity are presented in Figure 2.14.

Swiss Post, La Poste Group (France), and Japan Post top this ranking. All three operators have established their own postal banks, offer a full range of financial services, and have been assigned a strong financial inclusion mission by their respective governments. Belpochta (the Belarus Post) ranked an excellent fourth, and, along with Morocco's Barid al Maghrib, is one of only two posts from non-high-income countries ranked in the global top 10. One of the big surprises is Canada Post, which ranks fifth, even though it offers only a limited range of financial services. SingPost (the Singaporean post), ranked ninth, is in a similar situation with strong financial inclusion potential, even though financial services are not a priority area for this post.

If we look at the top 10 for developing countries, as presented in Figure 2.15, PE Post (Serbia) ranks third, behind the above-mentioned Belpochta and Barid al Maghrib. While these three operators have

estimates when possible, and left the answer blank when not. This means that some posts could potentially have achieved a much better index than they currently enjoy. The Postal Savings Bank of China, in particular, stands out as a Post that has a much stronger capacity than we were able to calculate.

Figure 2.15 Ranking of the Top 10 Posts from Developing Countries



Source: Authors.

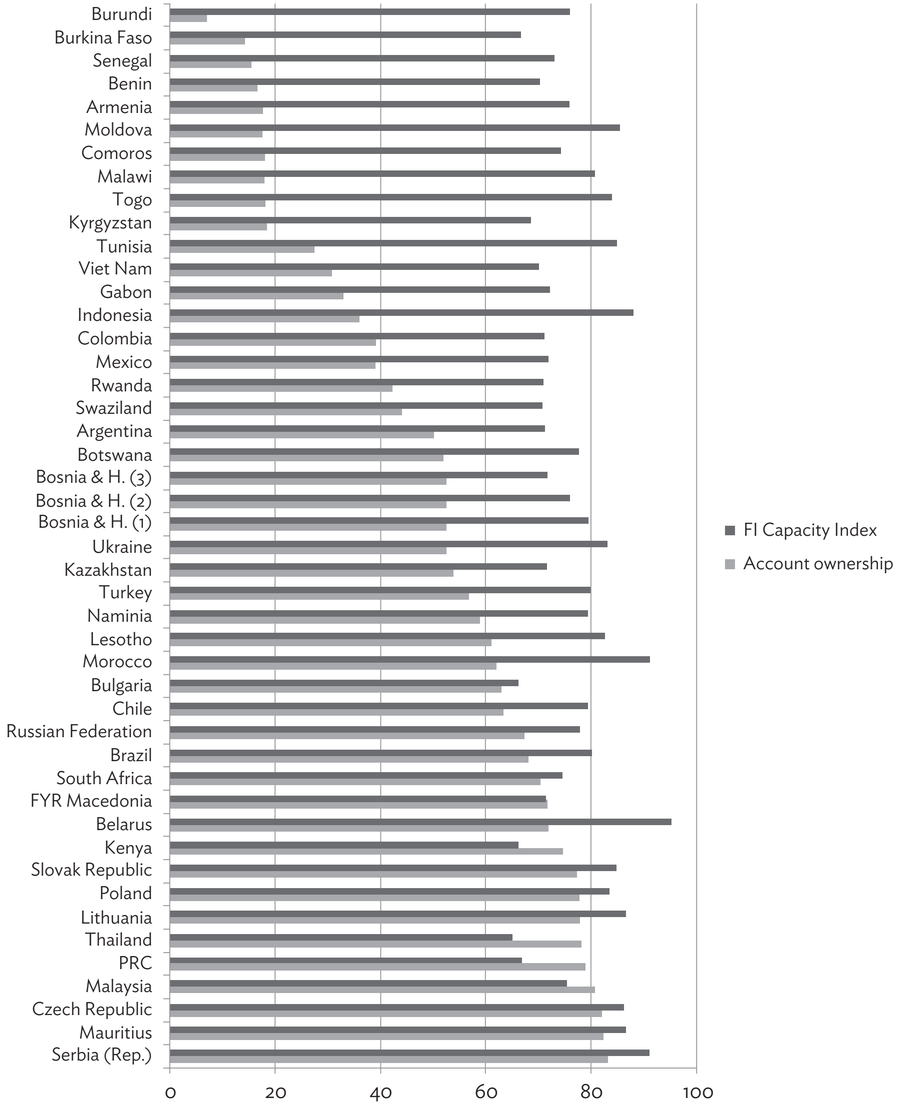
very different business models, they have all placed a strong focus on financial services, with a large share of their revenues coming from this area.

A number of posts on the leader board operate in countries where financial inclusion rates are quite high. To highlight what could be defined as quick wins, i.e., countries where the financial inclusion rate is low and where the postal operator has a good financial inclusion capacity index, Figure 2.16 presents countries with financial inclusion rates below 85% where posts have a capacity index above 65, which we estimate to be a level that is sufficient to provide quality financial services. To mention but a few, Armenia, Indonesia, Kazakhstan, the Kyrgyz Republic, and Viet Nam stand out as countries where there is a strong potential for posts to advance financial inclusion.

2.5.2 Rankings by Income Group

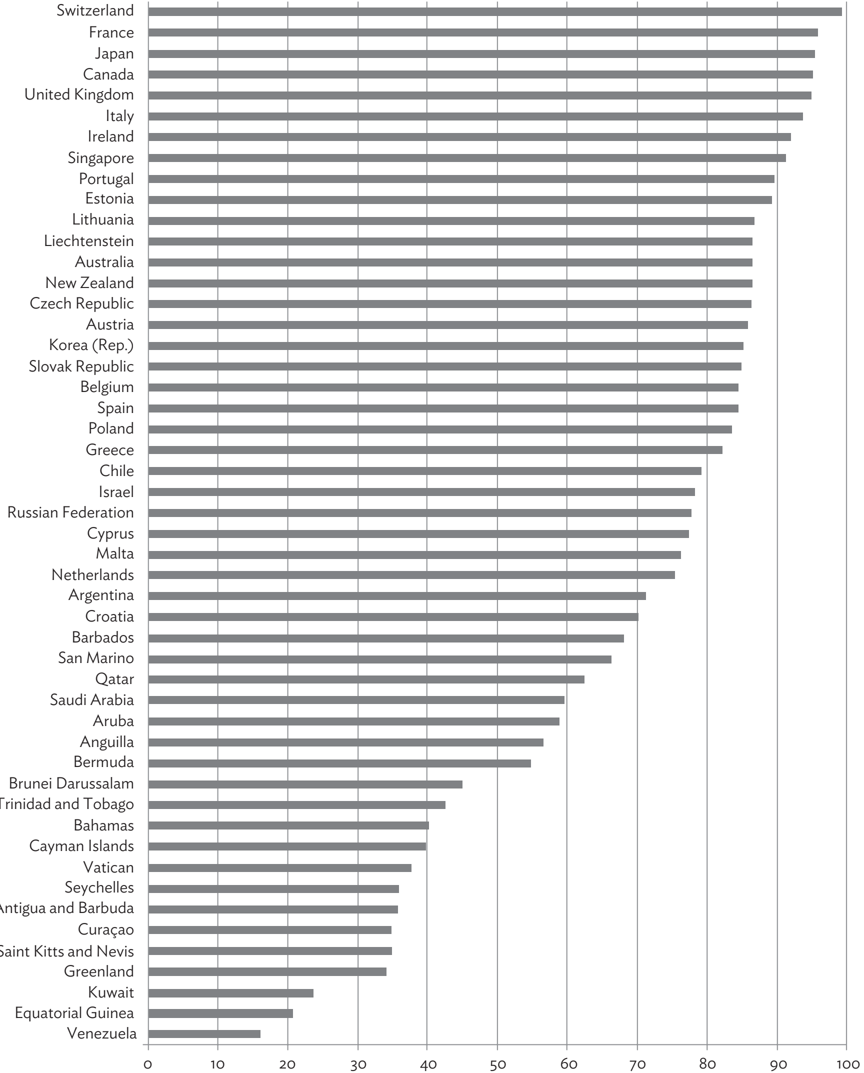
The rankings by income group are presented in Figures 2.17–2.21. These will allow posts to compare their respective potential for advancing financial inclusion with posts from countries with similar levels of economic development and, hopefully, to identify areas for improvement.

Figure 2.16 Financial Inclusion Capacity Index Compared to Account Ownership



FI = financial inclusion, PRC = People's Republic of China.
Source: Authors.

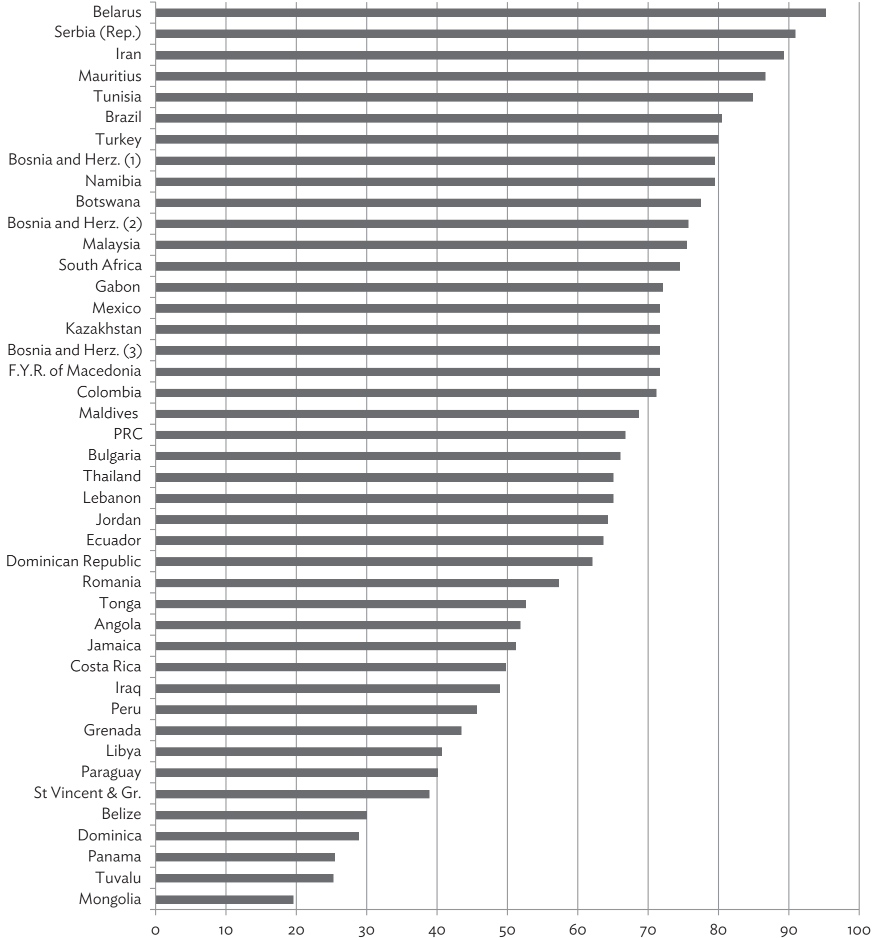
Figure 2.17 Financial Inclusion Capacity Index for High-Income-Country Posts



PRC = People's Republic of China.

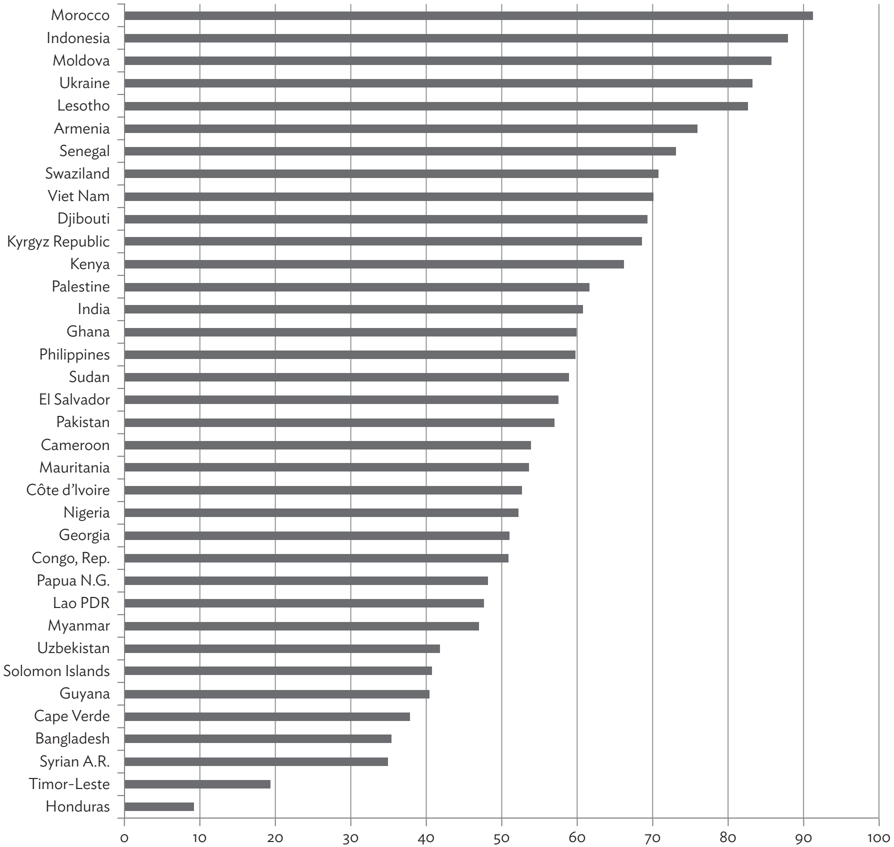
Source: Authors.

Figure 2.18 Financial Inclusion Capacity Index for Upper-Middle-Income-Country Posts



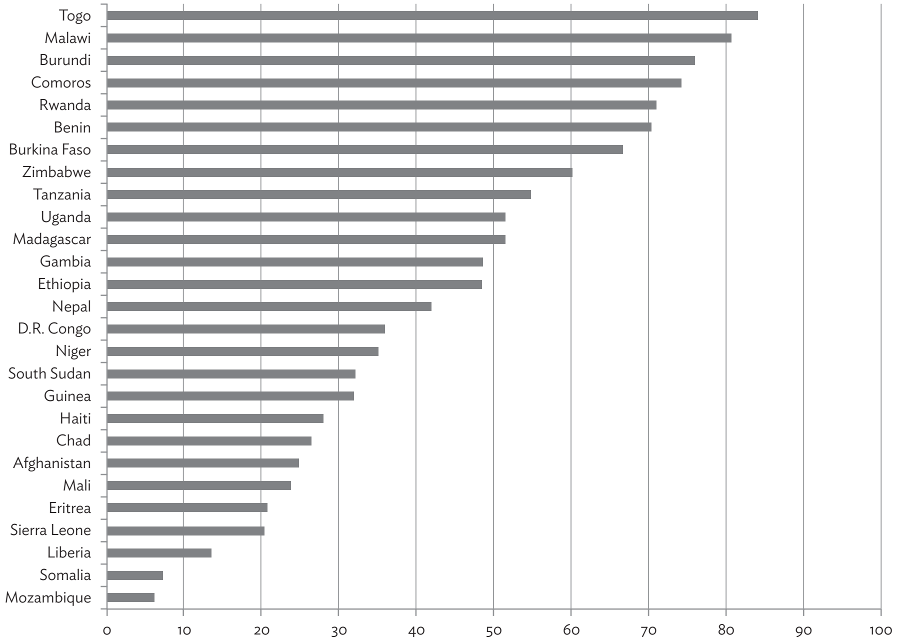
Source: Authors.

Figure 2.19 Financial Inclusion Capacity Index for Lower-Middle-Income-Country Posts



Source: Authors.

Figure 2.20 Financial Inclusion Capacity Index for Low-Income-Country Posts



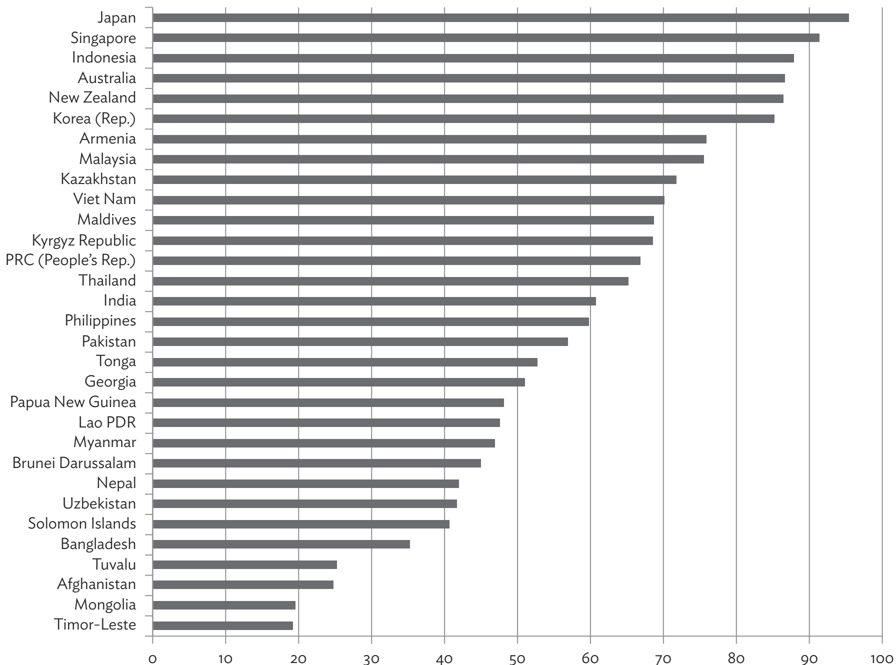
Source: Authors.

2.5.3 Snapshot for Regional ADB Members (Asia and the Pacific)

In this section, all financial inclusion data is extracted from the Global Findex 2014 (Demirguc-Kunt et al. 2015). Population and postal data come from UPU statistics for 2014.

Population	4,025 million
% of adults with accounts	69% in EAP, 46% in South Asia
% of women with accounts	67% in EAP, 37% in South Asia
% of posts offering financial services	93%
Postal density (area)	1 post covers 103 km^2
Postal density (inhabitants)	12,191 inhabitants per post
Number of postal accounts	1,799 million
Financial inclusion capacity index average	58.46

Figure 2.21 Financial Inclusion Capacity Index for ADB Regional Member Posts



PRC = People's Republic of China.
Source: Global Findex (2014).

We have been able to compute a capacity index for 31 posts out of the 48 ADB members located in Asia and the Pacific (Figure 2.21). Their average score, at 58.46, is almost the same as the world average (59.9). What stands out in this group is its extreme heterogeneity. Eight posts have scores around or below 40, which is extremely low, while six posts have scores above 85, which is very strong. Japan Post is ranked third worldwide and is one of the success stories of postal financial inclusion. Indonesia's performance, with an index of 87.89, shows that there is remarkable potential in a country where the financial inclusion rate stands at only 36%. The People's Republic of China score, at 66.85, would be higher if some data were not missing.

Posts from regional ADB member countries account for 90% of all postal accounts worldwide, led by Postal Savings Bank of China

(PSBC), India Post, and Japan Post. PSBC is the largest financial institution in the world in terms of number of customers, with 490 million account holders.

Key issues

- 38 of the 41 posts in the region for which we have data offer financial services. In terms of business models, 87% of these posts have adopted either BM1 or BM3, i.e. variations of partnership models. Interestingly, almost 1/3 of posts in the region offer account-based services, a ratio that is much higher than the world average.
- One of the region's strengths is its vast postal network, which accounts for 50% of the global network and comprises 330,182 branches. It has a high density in terms of geographic coverage, with one post covering an average of 103 km^2, which is two times better than the world average of one post covering 206 km^2. In particular, posts in South Asia, led by India Post, have a density by area of one post per 29 km^2.
- When it comes to modernization and digitization, the picture is mixed. In South Asia, only 15% of posts are connected to an electronic network. On the other hand, the posts in the Republic of Korea, Thailand, and Kazakhstan have all launched innovative digital financial services on their own or in partnership with other institutions.
- Cash logistics, which are often linked to the geographic conditions (small island states, large archipelagos), is an issue in various countries of the region (Philippines, Solomon Islands, etc.)
- In Central Asia, posts have traditionally focused on transactional services such as remittances, G2P payment and bill payment services. However, the posts of Azerbaijan and Kazakhstan have both established licensed postal banks in the last few years. In particular, the reform carried out in Azerbaijan, with support from the World Bank, has been very successful, with revenues more than tripling since 2008 and break-even being reached in 2015.
- The vast postal network and the experience in providing financial services on a large scale provide a solid platform for posts to foster financial inclusion in the region. In particular, the launch of the India Post payment bank in 2017 will be interesting to monitor, as it has the potential to significantly boost financial inclusion in India. India Post will need to modernize its operations to be able to provide the scale of services that are both affordable for customers and profitable for the post.

- Another interesting story to follow in the coming years will be that of PSBC, which was listed in the Hong Kong stock market in September 2016, raising $7.4 billion in the process. How PSBC balances the requirement to maximize profits with its mission to provide banking services to inhabitants and SMEs of rural areas will be fascinating.

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3

Postal Savings Bank and Macroeconomic Stability in Asia

Anwar Nasution

3.1 Introduction

This chapter suggests modernizing and deepening the financial system through building or rebuilding the postal savings banks (PSBs) in developing Asian countries. The PSB provides a third channel of intermediation between saving and investment in the economy in addition to the existing bank-based system, and nascent financial and capital markets. As in Japan (Cargill and Yoshino 2003), a PSB can, for example, mobilize domestic savings, through obtaining deposits and selling life insurance to the general public and low-income households, promoting financial inclusion. The existence of a well- developed PSB will mobilize domestic savings for financing budget deficit and economic growth. To avoid currency mismatch, the PBS uses domestic savings to absorb government bonds that are in local currency and sold in local markets. This avoids the volatility of currency that happened in Asia in 1997–1998. At the same time, the PSB can be used to achieve two other objectives. First, to provide liquidity for developing bond and capital markets. Second, to widen financial inclusion by providing modern financial products and services to the low-income group.

When promoting the PSB, however, caution must be taken, particularly in countries where central banks adopt financial repression policies with subsidized interest rates and programs of lending. It is also difficult to promote PSBs in countries that adopt low or negative interest rate policies to propel the economy from deflation, and where economic growth is promoted through private sector investment and household consumption on durable goods. The low interest rate directly reduces the net interest income of the PSB, particularly as most of their investment is in sovereign bonds. The low or negative interest rate policy is not only adopted in advanced economies such as that of Japan,

the European Union, Denmark, Sweden, and Switzerland, where there is persistent deflation. Cheap credit policy is also adopted in the People' Republic of China (PRC) as part of the plan to replace an export-led economic development strategy with the expansion of domestic absorption through domestic investment and private consumption expenditure.

In a bank-based system, banks mobilize savings and provide credit to the economy. In a market-based system, economic units raise funds in the capital market by selling bonds and equity shares. The PSB is a narrow bank not a full-fledged bank. It stores financial assets by collecting deposits and selling insurance to its customers. It also plays a part in the payment system through the transfer of money and it also acts as a payment point to many institutions. The PSB also only channels the credit through government programs, banks or capital market. Unlike shadow banks, the PSB do not carry out maturity transformation, credit as well as liquidity of the funds.[1]

The mobilization of domestic savings and the development of an efficient market-based financial system require the preservation of social and political stability, the removal of distorted government policies and improvements in legal and judicial systems. The governments of Malaysia and Indonesia have introduced numerous government programs and offered lucrative economic rents and subsidized credit programs to promote the *pribumi* (native people of the country) in business and modern sectors. The rents include special access to government jobs and procurements as well as for the exploitation of natural resources. Malaysia gives special privileges to *pribumi* in land ownership, education as well as preference to buy shares in the capital market. It turns out that many policies had been used by government leaders as tools for corruption, collusion and nepotism that created distortions, and encouraged flight of both capital and professional human resources. Improvements in the legal and judicial systems protect private property rights and minimize transaction costs, which are the essence of a modern financial system.

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[1] According to Pozsar et al. (2012) and Claessens et al. (2012), shadow banks are financial institutions that conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees. The institutions of shadow banks include finance companies, asset-backed commercial papers conduits, structured investment vehicles, credit hedge funds, money market funds, securities lenders, Limited-purpose finance companies and state-owned or government sponsored enterprises.

The rest of this chapter is divided into five sections. Section 3.1 reviews the need to build a wider and deeper financial market to implement the market-based macroeconomic and financial policies in ASEAN+3 (10 members of Association of Southeast Asian Nations, + People's Republic of China, Japan, and Republic of Korea) countries. Section 3.2 analyzes the macroeconomic policies of emerging Asia, particularly the monetary policies following the Asian financial crisis (AFC). Section 3.3 discusses fiscal reform. Section 3.4 analyzes the structure of the financial system in some emerging countries in Asia. Section 3.5 discusses the twin objectives of the creation of PSBs, namely: (i) to provide financial services that mobilize savings and to sell insurance to households and low-income groups, among others; and (ii) to use domestic savings to buy sovereign bonds that are issued to finance the government's budget deficit and reduce the reliance of budget financing on volatile short-term capital inflows.

3.2 The Need to Build Wider and Deeper Financial Markets

Building a wider and deeper financial market is particularly needed after the AFC in 1997–1998. To stabilize their economies, in terms of monetary policy, many Asian countries moved to a more flexible exchange rate system, ended financial repression and adopted market-based inflation targeting. The execution of market-based monetary policy through open market operations, using overnight interest as an instrument, requires a developed interbank and money market system, a strong banking system, and a disciplined fiscal policy. Monetary and fiscal policies also need support from supply side structural reforms that would improve the business environment to promote economic growth and raise productivity.

Some countries, such as Indonesia, adopted a free capital account. Those countries with capital account control gradually relaxed the system to allow independent movement in capital flows and increase competition in the financial sector. On fiscal policy, many emerging Asian countries adopted strict debt and fiscal rules. Due to the shortfall in government revenue, most of the developing countries financed their budget deficits either through selling sovereign bonds, in both domestic and international financial markets, or seeking foreign aid and loans. Part of the government debt was used to recapitalize the domestic banks that financially collapsed during the AFC. The PRC is the only emerging Asian economy that was able to recapitalize its financially distressed

banking system, and clean up their books from non-performing loans, through depleting its substantial foreign exchange reserves. Due to under-development of the financial market and institutional investors, most of the sovereign bonds were sold in international markets. The objective of selling bonds in the international market is to avoid overheating in the narrow domestic financial market. Liquidity of the domestic bond market depends heavily on volatile short-term capital inflows that are prone to currency and maturity mismatches. Many countries, including Indonesia, ended monetary financing in 1966 to stop inflation.

The central bank's operating target of monetary policy under the inflation targeting is through the control of interest rates. Modeling themselves after the Bundesbank of Germany, many emerging Asian economies, such as Indonesia, granted independence to their central banks. Central banks are mainly focused on systemic stability to preserve the stability of the payment system and monetary policy by stabilizing both the internal and external balances of the economy. The objective of an internal balance policy is to focus on stabilizing the inflation rate. A low inflation rate reduces the regressive inflationary tax. The objective of external balance is to stabilize the external value of the domestic currency and to provide stability to the balance of payments. Economic growth is promoted through a combination of low interest rates, positive real effective exchange rates, pro-growth fiscal policy, and structural reform.

In many emerging Asian countries, the move towards a more market-based monetary policy and well-disciplined fiscal policy were not accompanied by liberal trade and investment policies. In line with the progress of the World Trade Organization and various regional trade arrangements, the Asian countries have simplified and reduced tariff rates and eliminated many non-tariff barriers. Nevertheless, some forms of non-tariff barriers are still intact, such as trade facilitation, custom clearance and technical standards. Similar to financial safety nets, the international trading system is also highly fragmented, inefficient and susceptible to high opportunity costs. Because of this, the composition of international capital inflows to many Asian countries is dominated by volatile short-term capital flows and not more stable long-term private sector investment. The AFC showed that volatile short-term capital flow requires high external reserves that can be used as insurance to stabilize risky capital outflow and financial contagion.

The structural reforms in emerging Asian economies include business licensing systems, public administration, legal and judicial systems, education, labor markets, state-owned enterprises (SOEs). The reforms were made to promote private investment, raise productivity and improve market competition. Reforms in the legal system strengthened and protect private property rights, which is the essence

of the market system. At the same time, the legal system improves enforcement of contract to reduce transaction costs that subsequently increase both efficiency and productivity. Investment in infrastructure, such as toll roads, telecommunications, and electric generating plants that were previously reserved for the public sector are now open to private investment. To speed up the structural reforms, a number of emerging economies in Asia are joining regional trade initiatives to promote globalization. Trade and investment liberalization allows many Asian countries to benefit from global supply chains.

3.3 Macroeconomic Stabilization Policy in Emerging Asia After the Asian Financial Crisis

The emerging countries in Asia were forced to adopt stringent macroeconomic policies during the AFC in 1997 to restore internal and external stability and promote economic growth. The policies consisted of three components: (i) strict monetary policy, (ii) prudent fiscal policy with minimal budget deficit and manageable public debt, and (iii) structural adjustment to improve economic efficiency and productivity (Table 3.1). The first two policies affect the demand side of the economy while structural reform affects the supply side. At the same time, exchange rates and interest rates can be used as tools for supporting economic growth. In Japan, under the present Abe administration, the three pillars of the macroeconomic stabilization framework are called the three arrows economic program.

The emerging economies end the financial repression and rebuild the banking systems that financially collapsed during the AFC. The move towards market-based monetary policy replaced the fixed exchange rate with a more flexible exchange rate system, relaxed capital control, and adopted (soft) inflation targeting. The end of the fixed exchange rate system ended the use of exchange rate targets as a nominal anchor for monetary policy. The operating mechanism of inflation targeting is the interest rate. The central bank sets the short-run policy interest rate to influence economic activities, according to Taylor's rule (Taylor 1993), as follows:

$$\text{Short-term interest rate} = \text{inflation rate} + \text{real equilibrium interest rate} + a(\text{inflation gap}) + b(\text{output gap}) \quad (1)$$

where a and b are the response coefficients for, respectively, inflation and output, and $a + b = 1$. The inflation gap is equal to the actual

inflation rate and the inflation target, and the output gap is equal to the percentage deviation of real or actual GDP from its potential level or full employment output. The inflation rate in Taylor's rule is core inflation, which is measured as the headline consumer price index minus the price of volatile foodstuffs (which are subject to external shocks such as cyclical weather conditions) and state-vended products (such as petroleum products and electricity, whose prices are subsidized in many countries and adjusted based on political considerations). Only the prices of core inflation product are perceived as being directly affected by monetary policy.

By utilizing the Phillips curve and Okun's law (Okun 1981), Taylor's rule says that the monetary policy rate responds to the deviation of the inflation rate from the central target and real output from its potential level. Excessive inflation and capacity utilization are to be countered by higher short-term interest rates. When inflation rises beyond the target level, monetary policy needs to be raised to the real interest rate in order to slow down the economy and reduce inflation pressures. The real interest rate should also be raised when real output rises above its potential and reduced when the real GDP falls below its potential. When the economy is in a steady state, with the inflation rate equal to the target and the output gap close to zero, then the real interest rate (the nominal rate minus the expected rate of inflation) equals the equilibrium real interest rate or the neutral real interest rate.

The primary instruments of the central bank to control liquidity and achieve the inflation target are through selling short-term papers and exchange rates in open market operations. In addition, the central bank also uses macro-prudential policy tools to conduct monetary policy (Figure 3.1). The tools of this macro-prudential policy can be divided into three groups (Claessens 2014). The first group limits the capability of all financial systems, or an individual financial institution, to create credit. The tools include the debt-to-income ratio and the loan-to-value ratio, which are generally used to limit credit to real estates and for car loans. The second group affects the liquidity of the financial system such as the net-open-position and reserve requirement. The net-open-position regulation limits the access of the domestic banking system to international financial markets. The third group affects the capital of the financial institutions such as the capital adequacy ratio and the counter-cyclical buffer.

Under the inflation targeting regime, the monetary authority pays close attention to three variables, namely: (i) the inflationary gap or the deviation of the real inflation rate from its target, (ii) the output gap or the deviation of the actual output from its potential, and (iii) the changes in policy interest rate from one period to the next.

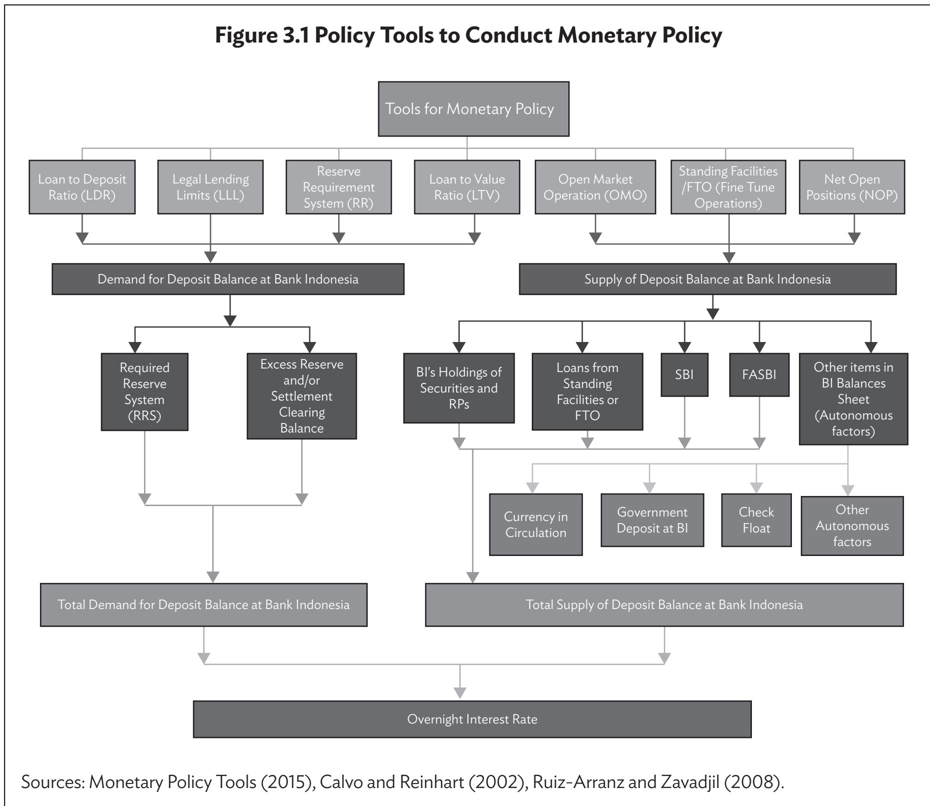
Table 3.1 Elements of Monetary Policy in ASEAN+3 Countries Following the Asian Financial Crisis of 1997

			Goal Autonomy	Target Autonomy		Instrument Autonomy		
Economy	Exchange Rate Arrangement	Year of Adopting Inflation Targeting	Legislated Goal	Target Specification[1]	Government Override	Credit to Government	Government Participation in Policy Making	Bank Restructuring[2]
Brunei Darussalam	Currency board arrangement	–	–	–	–	–	–	–
Cambodia	Managed floating	–	–	–	–	–	–	Yes
China, People's Republic of	Pegged to USD	–	–	–	–	–	–	Yes
Hong Kong, China	Currency board arrangement	–	–	–	–	–	–	–
Indonesia	Independent floating	January 2000	Currency stability	G + CB	No	No	No	Yes
Japan	Independent floating	–	–	–	–	–	–	Yes
Korea, Republic of	Independent floating	Apr 98	Price stability	G + CB	No	Yes	Non-voting	Yes

Lao People's Democratic Republic	Managed floating	–	–	–	–	–	–	Yes
Malaysia	Pegged	–	–	–	–	–	–	Yes
Myanmar	Pegged	–	–	–	–	–	–	Yes
Philippines	Independent floating	December 1989	Price stability	G + CB	No	Yes, limited	Voting member	–
Singapore	Managed floating	–	–	–	–	–	–	–
Thailand	Independent floating	May 2000	Price stability	CB	No	yes	No	Yes
Viet Nam	Pegged	–	–	–	–	–	–	Yes

Notes: [1]G = government; CB = central bank. [2]Finance Minister may delay implementation of decision for two weeks.
Sources: IMF (2009), Ito and Hayashi (2004), Roger (2009).

Figure 3.1 Policy Tools to Conduct Monetary Policy



Sources: Monetary Policy Tools (2015), Calvo and Reinhart (2002), Ruiz-Arranz and Zavadjil (2008).

The single period loss function to the economy (L) can be written as:

$$L = (\pi - \pi^*)^2 + (y - y^*)^2 + \Delta i^2 \qquad (2)$$

where π is the actual inflation rate, π^* is the inflation target, y is the actual output, y^* is the potential output, and Δi is the change in the short-run policy interest rate of the central bank.

Interest rate determination in emerging economies in Asia can be reduced through four mechanisms. First, following Taylor's rule, by reducing the inflation rate and/or employment rate. Second, by accepting more short-term capital inflow that increases the monetary base, appreciating the domestic currency and reducing the domestic interest rate. Third, by improving market competition in the banking sector and reducing the monopsony power of the state-owned banks and by allowing greater penetration of foreign banks in the domestic market.

Fourth, by improving the efficiency of the banking system, particularly in the dominant state-owned banks.

Okun's law is more relevant to developed advanced economies with adequate stock of capital and shortage of labor force. As a result, economic activity is a positive function of the availability of workers or the unemployment rate that can enter the labor market. In contrast, emerging economies have a labor surplus with minimal education and low technical capability but unable to work because of the scarcity of capital.

Orphanides (2007) points out that the design and operational implementation of Taylor's rule is dependent on the reliability of data, particularly, the measures of inflation and economic activity that the policy rule is intended to respond to. The appropriate concept and sources of information to be used in the analysis in many emerging economies in Asia are very crucial as some of the variables are unobservable, such as the real equilibrium interest rate, inflation target, and output gap. It is difficult to estimate the potential output in emerging economies because of the unavailability of data on the labor market, financial market, as well as capital stock and utilization. The marginal productivity of the labor force is close to zero in labor surplus economies such as the PRC, India, Bangladesh, and Indonesia where there are low level of education and minimum technical skills. In addition, both the factor and product markets are segmented because of the combination of poor transportation systems and distorted government regulations. The calculation of price indexes in emerging economies are urban biased as they mainly measure the expenditure needed for optimizing living in those urban areas to maintain a specified level of utility as prices change. In addition, the indexes do not capture non-marketable transactions such as owner-occupied housing and mutual help that are still large in emerging economies. Moreover, the effect of monetary policy on inflation outcomes lasts for much longer in emerging economies.

The sole objective of monetary policy under the exchange rate regime is to maintain a constant nominal exchange rate. To control domestic inflation, the government can maintain the price of imported goods or lower it by appreciating the exchange rate. Domestic monetary policy or domestic credit expansion is subordinated to maintain a fixed nominal exchange rate. The PRC has one of the largest foreign exchange reserves in the world at over $3.2 trillion (November 2016). The country needs the reserves to defend its pegged exchange rate system and to maintain control. The resources are also being used to recapitalize the country's banks and clean up their non-performing assets. Over time, the country has relaxed the fixed exchange rate, liberated its capital account and allowed internationalization of the Renminbi, its national currency.

In theory, a flexible exchange rate requires a smaller amount of foreign exchange reserves as the system reduces the need for market intervention. The flexible exchange rate system also provides a greater degree of monetary policy autonomy, and better protects output from real external shocks, because the exchange rate can adjust and stabilize demand for domestic goods through switching expenditures. The flexible exchange rate is expected to reduce one-way bets against the domestic currency thereby discouraging short-term capital inflows. The need for self-insurance is also reduced as it discourages a buildup of large un-hedged foreign exchange currency positions by reducing the implicit exchange rate guarantees resulting from the pegged system. The flexible exchange rate system also stimulates the development of the foreign exchange market as market participants are encouraged to apply prudent risk management and hedge against potential exchange rate risks.

In theory, the need to build up external reserves was reduced in ASEAN+3 countries after the Chiang Mai Initiative (CMI) agreement in May 2000. The CMI established currency swap facilities between the central banks of ASEAN+3 countries. In addition, there was also a network of bilateral swap arrangements between central banks in this region. In addition to the CMI, other sources of liquidity in Asia, as a measure of their own self-defense and insurance against financial crisis, include facilities from the IMF, the World Bank, Asian Development Bank, and the New Development Banks of Brazil, Russia, India, China, and South Africa (known as BRICS), and also the use of own foreign exchange reserves. The currency swap facilities add up external reserves of the recipient countries.

The members of ASEAN+3 countries are the ten members of ASEAN: Thailand, Malaysia, Singapore, Indonesia, the Philippines, Brunei Darussalam, Viet Nam, Cambodia, Lao People's Democratic Republic, and Myanmar, and three East Asian countries: Japan, the PRC, and the Republic of Korea. A meeting of the 13 ASEAN+3 Finance Ministers CMI in Madrid in 2008 resulted in an agreement to multilateralize the CMI to become the Chiang Mai Initiative Multilateralization (CMIM). At the same time, the ministers agreed to enlarge the size of the facility and increase the portion that was non-linked to the IMF programs. In March 2012, the size of the CMIM was doubled to $240 billion, and the money is to remain at each respective country's central banks. Each member country has access to the amount it has committed times a multiple (5 for poor countries, 2.5 for better ASEAN members, 1 for the Republic of Korea, and 0.5 for the PRC and Japan). The CMIM facility is, however, very small in comparison to the 1997 bailouts of Indonesia ($42.3 billion) and Thailand ($17.2 billion). In addition, the IMF and other international and regional financial institutions have relaxed

their loan conditionality and now offer flexible credit lines to meet the liquidity needs of those countries with good track records and sound macroeconomic policies. In addition to the CMI, the central banks of the ASEAN+3 countries also established their own bilateral swap facilities.

The fragmented international financial safety net, however, is inefficient. Regional swap arrangements, such as the bilateral swap agreements, may be more flexible but are highly selective in terms of its recipients, have higher moral hazard problems and are less effective when crises afflict multiple countries. The fragmentation creates challenges for the coordination of crisis response. In addition, imposing conditionality is more politically sensitive and difficult for neighboring countries. Regional swap arrangements are expensive as the cost of raising capital is greater for regional institutions.

In reality, all emerging countries in Asia have continued to accumulate large international reserves since the AFC (Calvo and Reinhart 2002; Ruiz Arranz and Zavadjil 2008). Large external reserves are difficult to manage and their opportunity costs are expensive. They accumulate external reserves through the surplus in both current and capital accounts. Up to late 2011, the current account of the Asian emerging economies was in surplus due to the rapid growth in their export of primary products as well as manufactured goods. Up to that time, primary products were booming due to high economic growth in this region, particularly in the PRC and India. The rapid industrialization, mechanization, and urbanization in those countries drove up demand as well as prices of primary commodities, which benefited their producers such as Indonesia, Thailand, Brunei Darussalam, Papua New Guinea, and Australia. Countries with a surplus labor force in Asia received remittances from their workers working outside their countries. Labor surplus countries, such as India, Pakistan, Bangladesh, Thailand, Indonesia, and the Philippines were recipients of large remittances from their labor force working overseas. The surplus in the capital account in this region was not only because of the inflow of long term private sector investment, at the same time there was a massive inflow of short- term capital that was encouraged by the high interest rate differentials between Asian countries and the United States, the Eurozone, and Japan, which suppressed the interest rate to boost the economy through quantitative easing of monetary policy.

There are many reasons to accumulate external reserves under the floating exchange rate system. First, to establish an insurance to enable governments avoid extreme fluctuations of external value of their currencies in a relatively shallow foreign exchange market, and thus prevent the adverse impacts on the economy. The foreign exchange market intervention is particularly needed to stabilize the volatile

short-term capital inflows. A less volatile exchange rate minimizes currency risks and provides incentive for overseas borrowings, particularly when international interest rates are lower than domestic rates. Strong financial sector policies with strict implementation of prudential rules and regulations, such as the net open position of the banking system and other macroprudential policies encourage banks and the corporate sector to hedge risks, avoid currency mismatches and address systemic risks in the financial sector. Second, less volatile exchange rates avoid harmful balance sheet effects on economic units, including the banking system. The third reason is the fear of inflation from exchange-rate pass-through under greater exchange rate flexibility, particularly given the limited technical and institutional capacity of the central bank to implement transparent inflation targeting. By lowering the price of imports, an appreciating exchange rate suppresses inflation.

The fourth reason is that exchange rate policy is one of the principal policy instruments to pursue export-led growth as it affects both the international competitiveness of the economy and its efficiency. It is also a very powerful tool for attaining the inflation target of the central bank. There are two ways of measuring exchange rates, namely the nominal exchange rate with trading partners (NEER) and the real effective exchange rate (REER). NEER refers to the nominal price of foreign currency, while REER is the relative price, measured in the same currency, of a bundle of goods in a foreign country compared with the same bundle of goods in the domestic market. On the external front, a rising REER provides financial incentives to help improve the external competitiveness of the domestic economy in international markets, and hence promote exports. This, along with the fiscal discipline and structural reforms that increase productivity, helps improve external competitiveness.

On the domestic front, a rising REER gives an incentive for economic resources to migrate from the less productive non-traded sector of the economy to the more efficient traded sector. Productivity can also be raised through the transfer of technology, economic-wide deregulation and structural reforms. Prior to the AFC, strong domestic currencies in many emerging economies triggered an asset bubble in the non-traded sector of the economy, such as the land-based sector, including the property market and infrastructure projects.

The fifth reason for the accumulation of foreign exchange reserves is to hedge speculation and foreign exchange instability resulting from shortfalls in exports and capital flow reversals. This is particularly important for exporters of primary commodities whose prices are inherently volatile and cyclical. It is also true for the recipients of volatile short-term capital inflows. Nearly 40% of liquidity in the shallow and

narrow capital and bond markets in country like Indonesia is volatile short- term foreign capital. The sixth reason for accumulating foreign exchange reserves in emerging Asia is to maintain adequate fiscal space during a time of crisis. Asian countries are quite reluctant to turn to the IMF for help as they were treated improperly when they sought help during the AFC. This is one of the reasons why nearly all member countries established their own regional financial safety nets, including the Latin American Reserve Fund or *Fondo Alasinoamericano de Reserva* and the European Financial Stability Mechanism.

Depreciation of the exchange rate will raise inflation due to the increase in prices of imported products, including raw materials, components, and spare-parts that are needed in global supply chains. The currency depreciation will also reduce spending power, which causes a negative output gap. The exchange depreciation, however, provides a financial incentive for exports that will add to aggregate demand. During the AFC in 1997, the economic growth of the crisis-hit countries in Asia dropped sharply, inflation rates rose and currencies sharply depreciated. Economic growth and inflation rates quickly recovered in this region because of the rise in their exports due to large devaluation of their currencies.

3.4 Fiscal Policy

The inflation targeting required support from prudent and well-disciplined fiscal policy, healthy banking systems and growth friendly consolidation to promote economic growth. The government budget constraint can be written as follows:

$$G = T + P + A + \Delta M + \Delta D \qquad (3)$$

where G is government expenditure, T is the revenue from tax and non-tax sources, P is the profit from state-owned enterprises, A is the revenue from sales of state assets, including privatization of state-owned enterprises and leasing of state assets, D is the government debt both from domestic and foreign sources, M is the money supply, and Δ is a difference operator.

The emerging economies of Asia have ended the long practice of inflationary finance that funded budget deficits by printing money. To control the growth of government debt at a sustainable level, many emerging economies in Asia adopted the fiscal and debt rules of the Maastricht Treaty of the European Monetary Union of 1 November 1993 that limits the budget deficit to 3% of the annual GDP and the

outstanding public sector debt should not exceed 60% of GDP. These fiscal and debt rules limit the use of fiscal policy as an instrument to promote economic growth and to counter the economic business cycle.

Prior to 1966, sovereign bonds in Indonesia were directly sold to the central bank in the primary market. The practice of monetization of public debt was stopped in 1966 to suppress the inflation rate. During the 32 years of President Suharto's administration, between 1966 and 1998, Indonesia financed its entire budget deficit through long-term concessionary official development aid (ODA) from the consortium of its Western creditors. Following the AFC, ODA dried up and the government shifted its strategy to floating short-term and long-term sovereign papers to domestic and foreign financial markets. The government floated medium term sovereign bonds in 1998 to mainly recapitalize the ailing banks and finance the budget deficit. In the absence of short-term treasury bills, Bank Indonesia in 1984 issued its short-term certificates (SBI, *Sertifikat Bank Indonesia*) to be used as a monetary instrument in open market operations. In the absence of PSBs, most of the sovereign debts and Bank Indonesia certificates were absorbed by volatile short-term capital inflows.

All emerging economies in Asia adopted a mixed economy. In addition to the provision of public goods, the public sector at all levels of governments have SOEs that produce private goods across sectors of the economy, including oil and mining, plantations, electricity, telecommunications, sea, air and land transportation (including city buses and inter-island ferries), shops, and hotels. In addition, the government also own lands and productive forests. Some SOEs were inherited from the colonial period. The SOEs were also used as quasi-fiscal instruments of the government to deliver subsidized products and loans. Only the SOEs of Singapore can compete in international markets. To reduce fiscal costs, zombie SOEs were privatized in many emerging economies in Asia.

To promote economic growth, the emerging economies in Asia adjust the expenditure side of the government budget by cutting consumption and increasing investment, particularly in infrastructure and human resource development. The removal of subsidies to state-vended products and program loans from the state-owned banks reduces fiscal costs. Many emerging economies in Asia adopt a wide range of decentralization programs by giving both greater political power and budget to local governments. To reduce government deficit, many emerging Asian governments overhauled their tax administration without increasing tax burden. Indonesia, for example, has a very low tax ratio of 13% of GDP. The injection of sovereign bonds was utilized for the recapitalization of the financially collapsed banking system in 1997, and it cleaned

up the bank's non-performing assets. The bailout transferred the liabilities from the financially collapsed banks to the treasury and inflated government debt. The insolvency of both the banking system and the corporate sector reduced government tax revenue.

The structural reform since the AFC includes the privatization of the economic sector, including infrastructures that were previously monopolized by the SOEs such as toll roads, telecommunication, and electric generating plants. SOEs are either privatized or corporatized to reduce fiscal burden and increase their contributions to state coffers.

3.5 Development of Financial Systems in Emerging Asia

In general, empirical literature establishes a positive relationship between a well-functioning financial system and economic development that promotes economic growth and reduction of poverty (Cline 2015). Demirguc-Kunt and Levine (2005) identify five functions of the financial sector to increase productive capacity. The first function of the financial system is to produce information about potential investment opportunities. The second function is to mobilize savings to finance the most potential productive investments. The third is to monitor firms and exert corporate governance. The fourth is to promote risk diversification and sharing across economic agents: individuals, firms and countries. The fifth is to facilitate the exchange of goods and services. The financial sector reduces the cost of information collection and increases contract enforcement and transaction to raise productivity and growth.

The AFC and the global financial crisis in 2007–2008 indicate that economic stability alone does not guarantee financial stability. In addition, it also requires effective and prudential rules and regulations as well as an upgrade of the quality of supervision that is also crucial for financial sector development and sophistication. The development of a good financial market also requires a reliable institution with adherence to the internationally accepted financial standards and the creation of a good legal system to protect private property rights and enforce business contract with minimal cost; these are the essence of an efficient market system. To avoid bank runs and capital outflows looking for safe havens, emerging economies need to develop a deposit insurance system. To prepare for unforeseeable financial distress and crisis, they also need a prompt response to troubled institutions, help contain the spread of financial troubles to other financial institutions and economic sectors, and mitigate the impact of the crisis. These emerging Asian countries

also need to further deepen their financial markets and make them more integrated with the rest of the world. This will reduce interest rates, minimize transaction costs and transfer risks as well as modernize the financial sector and enhance its sophistication.

The rapid rate of economic growth in Asia prior to the AFC had been mainly because of a combination of policies to promote export-oriented industrialization and high mobilization of domestic savings, and a repressed financial system. During the 32 years of the President Suharto administration in Indonesia (1966–1998) the banking system was repressed as Bank Indonesia set the uses of bank credit by detailed economic sectors, class of customers, and their lending rates. Bank Indonesia provided liquidity to finance the program loans of the state banks and assumed most of the credit risks. The money and capital markets were narrow and shallow prior to the AFC as there was no incentive for the economic unit to issue equity shares and bonds. Capital of the private corporate sector was supplied by credit programs from state-owned banks with subsidized interest rates and low credit risks. Capital of state- owned enterprises came directly from the government or from credit programs of state-owned banks.

During the era of financial repression, operation of the state-owned banks was not much different from the government treasury. The banks were inefficient and did not channel funds to the most productive investment. Before the AFC, all of the business conglomerates in Asia had their own banks, insurance companies and other financial institutions to mainly serve their business affiliates. Under the repressed system bank supervision was mainly limited to administrative use of the credit. Such a conglomeration created the temptation for banks to evaluate a commercial affiliate's loan application less objectively than that of an unaffiliated firm. The interest compression in Indonesia encouraged capital flight as savers shifted their financial assets to close regional international financial markets in Singapore and Hong Kong, China.

In the early 1990s the government introduced deregulation in infrastructure sectors such as telecommunications, toll roads, and electric generating plants. In reality, this only transfers ownership of the large and capital-intensive infrastructure from the state to the cronies of the political regime. Banking reform and deregulation in the real sector of the economy allowed the banks and the cronies to take out big short-term loans from international financial markets. Under the fixed exchange system adopted at that time, economic agents perceived that it was a risk-free system. Financing of long-term non-traded projects with short-term foreign loans caused volatile currency and maturity mismatches.

Some countries like the PRC strictly closed the capital account of the balance of payments while Malaysia imposed capital control during

the AFC. Under the repressed financial system, the government directly allocated credit and foreign exchange to import the needed machineries and inputs at favorable interest and exchange rates. On average, the GDP of emerging Asia grew 7.3% annually between 1980 and 2010 compared to the world average of 2.9%. The GDP of the PRC grew between 9 to 10% per annum for over 30 years after the opening up of its economy in the 1970s. India introduced economic reforms in the early 1990s.

The reforms introduced after the AFC opened up the economy and integrated domestic markets with the rest of the world. The role of financial institutions rapidly expanded the banking sector as well as in bond and equity markets and helped the countries to tap fresh funds from international markets. After the AFC, Indonesia and other emerging Asian countries became members of the Bank for International Settlements and the Basel Committee on Banking Supervision that set the operating standard, regulation and supervision for the financial sector. In 2010, the emerging economies in Asia agreed to adopt the Basel III accord on capital, leverage, and liquidity for internationally active banks. Japan and this group of countries made a significant contribution to improve the Basel III standards, in particular to accommodating the needs of the inherently risky small and medium enterprises. Modeling after the United Kingdom, countries like Japan, the Republic of Korea, and Indonesia established an independent financial supervisory authority to centrally regulate and supervise all financial institutions. According to Taylor's rule (Taylor, 1999), the central bank adjusted its policy interest rate in response to the deviation of the inflation rate from its target and real output from its potential level or full employment.

The opening up of the economies made meant Asian countries were more integrated with the rest of the world. Whereas in the 1970s and 1980s capital inflows mainly took in the form of official development aid and foreign direct investment, both companies and the public sector are now participating in international financial markets. Table 3.2 shows that Thailand, Malaysia, Singapore, Hong Kong, China, and Republic of Korea are more market-based than other emerging economies in Asia. Indonesia and other emerging Asian countries belong to a bank-based financial system. The competition from foreign-owned institutions is rapidly increasing in the banking sector as well as in the bond and capital markets.

Like in most developing countries in Asia, in terms of assets and branch network, the banking system is the core of the financial system in Indonesia (Table 3.2). The percentage ratio of assets of the banking sector to GDP indicates the use of bank services in transactions to generate GDP. This and the high ratio of money supply to GDP show

the high degree of monetization in the economy, and rapid urbanization that allows specialization, which raises efficiency and productivity. The percentage ratio of assets of the banking sector to GDP in 2013 was the highest in the PRC at 280.5, followed by the Republic of Korea (241.6), Malaysia (207.7), Thailand (203.8), Viet Nam (125.5), Indonesia (94.7), and the Philippines (93.1). Those countries with extensive rice fields and land banks can grow foods for their own consumption. Communities with traditional cultures, such as in the Bali Island of Indonesia and particularly in remote places, still practice non-marketable mutual help. Barter and non-monetary mutual help are still common in remote and isolated places with difficult logistics and transportation such as in some parts of Kalimantan and Papua in Indonesia.

In the past colonial era, the main purpose of the banks and non-bank financial institutions (NBFIs) in this region was to provide short-term financial services for the large business interests of the colonial powers, mainly in trading, mining, and plantations of cash crops. The need for long-term investment to be invested in this region was filled by financial institutions in mother countries in Europe and the United States.

After independence, most of the banks and NBFIs were nationalized by the governments and used as tools to pursue the political, social, and economic interests of the newly independent countries. State-owned financial institutions, therefore, play a dominant role in many emerging Asian countries. The government-owned bank group controls 90% of the financial asset of the banking sector in the PRC. The ratio for Indonesia is 74% followed by Viet Nam (49%), the Republic of Korea (22%), and Thailand (18%).

Market banks are highly concentrated in many countries. The five big banks in Malaysia control 76.3% of the market followed by Viet Nam (54.3%), Thailand (45.8%), the PRC (45.3%), Philippines (44.9%), the Republic of Korea (42.2%) and Indonesia (28.4%). The high concentration was partly because most large business conglomerates have their own banks. Before the AFC, the main role of these banks was to mobilize financing for their own subsidiaries. After the AFC, Indonesia adopted legal lending limits rule limiting credit exposures to internal parties, i.e. the owners of the banks, their management and its employees. In Indonesia, however, there is no stark separation between commercial and investment banks, as in the US (i.e. the Glass–Steagall Act of 1934) or prohibition of proprietary trading by banks like the Volcker rule. Competition from foreign-owned banks is very low in most emerging Asia. The share of foreign-owned institutions in the assets of the banking sector is only 2% in the PRC and, 7% in Indonesia and Thailand. On the other hand, the ratio for the Republic of Korea is 77%, for Malaysia 22%, and for the Philippines 14%.

A combination of underdevelopment in the financial market, the lack of market competition due to the dominant role of the state-owned banks and the high market concentration has made the services of the banks relatively poor, and interest rates are higher in countries with bank-dominated financial system as compared to those in the market-based system. In addition, there was also special treatment for the politically well-connected groups. Under the past administration of President Suharto, only Bank Central Asia was allowed to use the services of the Indonesian telecommunication satellite for commercial purposes. Members of Suharto's family were part owners of the bank. The use of modern electronics in banking, such as automatic teller machines, credit and debit cards, and electronic banking, started only recently. The distorted bank market power also influenced the reaction of the banks in terms of lending and risk taking to monetary policy impulses (Brissimis et al. 2014) and blocked the pass through of central bank policy. This is one of the reasons why currently the difference between lending and deposit rates is the highest in Indonesia among the ASEAN five (Thailand, Malaysia, Singapore, and the Philippines).

Banking intermediation was limited to traditional mobilization of bank deposits and short-term lending for financing trade and working capital. State-owned banks also provide long-term investment program loans with subsidized interest rates and low risks. As noted earlier, during the past financial repression before the AFC, the central bank subsidized lending rates and provided liquidity credit to partly finance the credit programs. This eliminated the incentive for the corporate sector to mobilize funds through issuing bonds and selling equity shares. Non-bank finance was curbed due to the prohibition of activities such as leasing and factoring without a banking license. The number of domestic competitors such as insurance companies and pension funds, and capital and security markets were either limited or non-existent. Because of this, the types of savings and lending instruments were also limited. Cross-border lending from regional financial centers was limited in quantity due to strict capital control. The government heavily controlled policy rates and investment of insurance companies while pension funds were mainly available for civil servants and employees of well-established companies. As pointed out earlier, the government budget deficit prior to the AFC was financed by long-term and low cost ODA.

The distorted financial repression policies had destabilizing effects and encouraged savers to find their way around the interest rate caps with harmful unintended consequences. The AFC in 1997–1998 was mainly a combination of twin banking and currency crises. Both the government budget deficits as well as the current account deficits in

Table 3.2 Size and Composition of Financial System (% of GDP)

Economy	Financial Sector Assets[1]						Market Capitalization[3]			Total Bonds Outstanding[4]								
	Deposit-taking Financial Institutions			Non-bank Financial Institutions[2]						Government			Corporate			Total		
	2000	2005	2010	2000	2005	2010	2000	2005	2010	2000	2005	2010	2000	2005	2010	2000	2005	2010
Bangladesh	48.6	52.0	57.3	0.8	3.8	5.0	2.5	5.9	29.0	...	10.0	8.5	...	0.0	0.0	...	10.0	8.5
PRC	168.8	202.8	229.8	8.8	15.5	21.5	27.1	12.5	45.0	16.6	36.4	39.9	0.3	2.8	10.7	16.9	39.2	50.5
Hong Kong, China	505.5	524.2	703.1	196.4	415.4	509.4	363.9	586.8	1198.0	8.2	9.2	38.8	27.6	38.8	34.2	35.8	48.0	73
India	60.0	78.0	98.0	15.0	25.6	35.2	32.0	69.7	97.9	23.2	33.1	43.3	0.4	1.4	11.1	23.7	34.5	54.4
Indonesia	70.8	38.9	34.4	7.5	10.9	14.1	18.7	28.9	50.6	35.4	17.1	13.1	1.4	2.1	1.8	36.8	19.2	14.9
Kazakhstan	13.9	50.9	70.2	4.6	11.0	17.7	7.3	18.4	65.6	...	...	...	...	...	...	4.2	6.1	11.1
Korea, Republic of	147.9	150.1	169.9	44.1	48.3	71.6	31.2	75.7	98.1	25.7	45.9	47.3	48.8	42.1	63.1	74.4	88.0	110.3
Lao PDR	...	23.4	33.0	...	0.8	1.1	...	...	...	...	...	2.1	...	...	...	...	...	2.1
Malaysia	154.2	178.3	202.3	16.5	19.9	22.5	124.7	133.1	166.5	38.0	44.4	58.2	35.2	33.0	40.4	73.3	77.4	98.6
Nepal	57.0	69.8	84.1	...	10.7	18.3	14.4	16.5	38.9	13.3	14.9	12.2	0.0	0.0	0.0	13.3	14.9	12.2
Pakistan	73.7	86.1	84.6	2.4	12.7	13.2	10.0	42.4	21.0	36.1	31.0	32.4	0.0	0.0	0.0	36.1	31.0	32.4
Philippines	99.2	82.0	84.9	22.4	21.2	21.3	76.8	109.3	104.1	31.1	41.0	31.3	0.2	1.0	4.1	31.3	41.1	35.4
Singapore	243.4	234.7	287.0	36.0	49.4	48.7	239.6	249.3	270.9	26.6	37.4	43.6	20.9	28.8	31.9	47.5	66.2	75.5

Sri Lanka	...	68.1	64.0	...	28.8	22.7	6.8	23.8	22.2	...	...	...	...	...	...	...	...	...
Taipei,China	256.0	309.4	287.2	29.4	67.1	94.8	80.4	133.2	174.9	14.1	26.7	36.5	25.9	32.8	25.9	40.0	59.5	52.4
Thailand	132.3	143.5	150.5	10.7	28.2	40.1	26.0	72.0	82.5	22.8	37.6	54.4	4.5	8.1	12.4	27.4	45.7	66.8
Uzbekistan	39.7	35.4	35.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Average	138.1	136.9	157.4	30.4	48.1	59.8	70.8	105.2	164.4	24.3	29.5	33.0	132.8	14.7	18.1	35.4	41.5	46.5
Median	115.7	82.0	84.9	15.0	20.5	22.0	27.1	69.7	82.5	24.5	33.1	37.6	3.0	2.8	11.1	35.8	40.2	50.5
Eurozone	230.0	275.9	315.9	142.1	190.5	234.7	...	...	...	48.8	45.9	58.7	38.1	35.4	48.3	86.9	81.3	107
Japan	311.3	303.4	323.6	272.0	275.1	232.2	64.1	77.9	37.0	77.5	145.1	213.1	44.6	38.8	38.5	103.6	165.3	198.4
United States	79.6	92.0	106.3	279.3	305.4	304.8	115.9	107.9	91.4	41.3	46.8	76.1	96.8	109.5	95.9	138.0	156.3	172.0

... = data not available

PRC = People's Republic of China, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.

[1]Data for 2000 refer to 2001 for Bangladesh and Nepal, and 2002 for the PRC. Data for 2010 refer to 2009 for the PRC, India, Kazakhstan, The Lao PDR, Nepal, Pakistan, Sri Lanka, and Uzbekistan, and to 2008 for Bangladesh.

[2]Data for 2000 refer top 2001 for Bangladesh and Nepal, and 2001 for the PRC. Data for 2010 refer to 2009 for the PRC: Hong Kong, China: India: Kazakhstan: The Lao PDR: Nepal: Pakistan: Sri Lanka: and Uzbekistan, and to 2008 for Bangladesh.

[3]Market capitalization as a percentage of GDP in local currency units. Data for US to TYSE Euronext (US). 2010 data refers to 2009 for Bangladesh, Kazakhstan, Nepal, Pakistan, and Sri Lanka.

[4]Total bonds data for 2010 refer to 2009 for Bangladesh and Kazakhstan, and 2008 for the Lao PDR.

Sources: ADB Office Regional Economic Integration using data from national sources: *AsianBondsOnline*, ADB: CEIC database, World Federation of Exchanges (2011).

many Asian countries were relatively small at that time. The sudden stop in short-term international capital flows and short-term capital flow reversals in 1997 resulted in widespread bankruptcies that destroyed local credit channels. The financial repression encouraged both unproductive over investment in many economic sectors, the buildup financial risk in the shadow banking sector, and capital outflows through overpricing. The fixed exchange rate system encouraged the banks and the corporate sector to heavily borrow from international financial markets. Except in the occasional currency devaluation, economic agents perceived the fixed exchange rate system as a risk-free system.

In the absence of a bond market, at present, local governments and state-owned enterprises in the PRC borrow heavily from shadow banks to promote growth by financing infrastructure and real estate projects. As the authorities limited their access to bank credit, they turned to the shadow banking system that was perceived as a useful adjunct to banks. Unlike traditional banks, where they issue safe liabilities to fund risky investment projects, shadow banks (Pozsar et al. 2012; Claessens et al. 2012) focused on intermediating credit from savers to borrowers and managing counterparty risks. Unlike the capital market that trades claims such as equity and bonds, shadow banks are more about creating and distributing certain types of assets. Shadow banks conduct maturity, credit, and liquidity transformation without explicit access to the liquidity of the central bank or public sector credit guarantees. As much of lending is collateralized against land, they are now facing a systemic problem because of a combination of slow economic growth and plunging asset prices, including land. The recent scandal of Ponzi-type financial institutions indicates that the PRC needs to develop financial inclusion for low income groups, and small and medium enterprises by establishing a well-regulated modern financial system.

The ratio of bank loans to GDP in 2013 was 146.1% in the PRC, 135% in the Republic of Korea, 122% in Malaysia and Thailand, 96.8% in Viet Nam, and 50.9% in Indonesia. There was also a variation in the development of equity financing amongst the emerging Asian economies. The highest ratio of equity to GDP or market capitalization in 2013 was at 156.2% in Malaysia followed by the Philippines (105.6%), Thailand (104.7%), the Republic of Korea (96.5%), and Indonesia (68%). The bond market is relatively new in emerging Asia and most of them came to being after the AFC.

After being closed in 1966, Indonesia introduced banking sector reform in October 1988 and opened up new entrants to the banking industry with lower capital requirement, easier requirements to open branch offices and foreign exchange licenses. The reform also encouraged the establishment of small local community banks or *Badan*

Perkreditan Rakyat (BPR). The existing traditional local community financial institutions, such as savings and loans institutes and co-operatives were encouraged to change their status to BPR. Like the large banks, BPR is also regulated and supervised by the central bank and *Otoritas Jasa Keuangan* (financial services authority). BPR serves as an important function in local communities by providing bank services to local households and lending to small business in their jurisdictions. Community banks have no wide networks nationwide or internationally except through big commercial banks. Unlike large financial institutions, community banks obtain deposits from local depositors and make loans locally. Unlike large banks that generate revenue from non-interest income sources such as trading, venture capital, investment banking activities, and international transactions, BPR gets most of its revenue from traditional banking activities. Community banks are intertwined closely with the local customers and because of this they know their clients better than the large banks.

Colonial power established the predecessor to the present *Bank Rakyat Indonesia* (BRI) to serve the financial needs of farmers, fishermen, cooperatives, small-scale firms, and businesses, particularly in rural areas. During the colonial era, PSBs and BRI were the formal financial institutions to serve low-income groups and liberalized them from moneylenders. During President Suharto's administration, BRI was assigned by the government to provide subsidized credit to farmers in order to upgrade the production of rice under the successful Bimas program, which allowed Indonesia to reach self-sufficiency in rice starting from 1998. At the same time, it developed an equally successful village unit that operated as a community bank, collecting savings from the rural sector and providing financial services in that area. Today, the government has allowed BRI to move away from its traditional activities to serve the corporate sector, including financing of large modern plantations, paper mills, and real estate in the urban sector.

Continuing the past legacy, every province has its own *Bank Pembangunan Daerah* or regional development bank (RDB). The RDB was established in the 1960 to serve as a development bank, raising long-term savings for financing long-term investment. Typically, the provincial government, district governments and municipalities within the same province jointly own the RDB. In reality, all RDBs act like commercial banks and cashiers for their owners. None of the provinces, districts and municipalities has floated bonds for financing infrastructure projects. The provincial, district and municipality governments deposit their financial assets in their own RDB. Financial transactions of these local governments are also done through these financial institutions. The RDBs recycle the financial transfers received by the local government

from the central authority back to Jakarta to buy government bonds, *Surat Bank Indonesia* (Bank Indonesia Certificate of Deposits) and other commercial papers.

Indonesia adopted the wrong sequence of banking sector reform in 1988. The big bang bank reform was not accompanied by an adjustment in prudential rules and regulations as well as supervision of the risk-based system. Also, there was no deposit insurance prior to the reform. Blanket insurance was established in Indonesia in January 1998 to mitigate bank runs and capital outflow as a part of the flight to safety after the collapse of the banking system after closing 16 insolvent banks in November 1997. The fiscal cost of the blanket guarantee was expensive as it covered both domestic and foreign liabilities of the financially distressed banks. A regular deposit insurance company (LPS, *Lembaga Penjamin Simpanan*) was established in 2004. The LPS was created by the banks and filled with premiums paid by themselves on covered deposits. To recapitalize the financially distressed banks and clean up the books from non-performing assets, the government issued Rp439 trillion (34% of GDP in 1999) in long term bonds between May 1996 and October 2000.

3.6 Developing a Postal Savings Bank

Building or rebuilding postal savings in emerging economies in Asia is much easier and less expensive than building other long-term institutional investors, such as insurance companies and pension funds. Saving through a PSB promotes financial inclusion as uneducated low-income groups do not understand insurance and pension funds, and cannot afford to participate in saving schemes. However, they understand PSBs and can afford to have small savings. Mainly interested in serving medium scale enterprises and the large corporate sector, the commercial banks are located in large towns and cities.

To serve the old colonial administration, all of the past colonial powers created a network of postal offices in Asian countries, from the capital city down to the sub-districts, the lowest level of government units. The Dutch colonial power established the present PT Pos Indonesia on 26 August 1746 in Batavia, now Jakarta. PSBs provided postal, telegraph and telephone services within the colony, with the mother countries and also international market places. The postal service is now well equipped with basic telecommunication and computer systems. A wide network of post offices was available in most Asian countries. During the colonial era and in the early years after independence, the post offices were popular with households, school children, women, and other segments of society, for depositing their savings.

The PSB was destroyed in the emerging economies of Asia by a combination of a series of long periods of wars for independence, regional rebellions, political and social instability as well as a high inflation rate in the 1960s. However, the PSB was never restored after the country gained political stability. After independence, the legal status of the post office in Indonesia was changed many times, from government agent, part of the Ministry of Post and Telecommunications (1950–1965) to state-owned Post and Giro (1965–1995) and today it is an independent entity with limited liability as PT Pos Indonesia (Pos Indonesia). Pos Indonesia currently has approximately 24,000 service points (point of sales) to cover all districts and municipalities, nearly 100% sub-districts (*Kecamatan*) 42% villages and 940 transmigration sites. Of the 3,800 post offices, 3,726 of them have been electronically connected online.

As of today, Pos Indonesia has two subsidiaries, namely PT Logistics Indonesia and PT Pos Property. The first subsidiary utilizes Pos Indonesia's experiences in logistics and its wide network of offices. The second subsidiary transformed its historical colonial buildings, which are often located strategically, into high-end hotels. PT Pos Property, on the other hand, operates as building management for hospital and other real estate related businesses. Three state-owned enterprises, Pos Indonesia, PT Taspen and Bank Mandiri signed an agreement on 29 April 2013 to establish a joint venture bank. PT Taspen's main business operation is in the management of pension funds for civil servants, while PT Bank Mandiri is the largest state-owned commercial bank. Both PT Taspen and Pos Indonesia hold 20.2% each of equity shares in the joint venture bank. The joint venture bank acquired a small bank, Bank Sinar Harapan, which is currently used by Bank Mandiri to serve small and medium enterprises in Bali.

At present, Pos Indonesia neither receives postal deposits nor sells life insurance to the general public. Its activity in the financial sector is limited to the transfer of remittances, agent payments for pensions of civil servants and retired military personnel, and social security transfers for the low-income group. PT Pos Indonesia is a channeling agent for Western Union and Moneygram to transfer remittances of Indonesian workers working overseas. It also serves as the front office for deposit savings and deposit accounts for three banks, namely Bank Mandiri, Bank Tabungan Negara (a state-owned savings bank) and Bank Muamalat Indonesia (an Islamic shariah-based bank). A number of banks channel their credit through Pos Indonesia, namely, Bank Mandiri, Bank Rakyat Indonesia, Bank BTPN, and cooperatives. Credits for pensioners are also channeled through the post office. Pos Indonesia also serves as the frontline office to receive payments for drinking or

pipe water, electricity and telephone, and repayments for credit from a number of banks and credit companies.

Indonesia is a largely cash-based economy as most of the economic transactions are done in cash. Table 3.3 shows the low savings at financial institutions in Indonesia in 2011 as well as the use of the institutions to make payments, borrow credit, and transfer remittances. The number of adults with an account at financial institutions, debit card and digital payments is also small. In addition, a large portion of Indonesia's GDP is non-marketable and the share of non-traded goods in national income is relatively high. The need for credit, in a cash-based system, is comes mainly from family members and friends. According to OJK (*Otoritas Jasa Keuangan,* Financial Services Authority) the national literacy index rose from 21.8% in 2013 to 29.7% in 2016. During the same time, the financial inclusion index increased from 59.7% to 67.8%. The authority promotes digital payments to increase both the national literacy and financial inclusion indexes. The highest financial literacy index in 2016 was in banks (28.94%) followed by pawn shops (17.82%) and insurance (15.76%). The financial inclusion index in health insurance in 2016 was 63.83%, a little bit higher than that of the banking industry (63.63%).

Indonesia and other emerging economies in Asia can learn from the successful PSBs in Europe and Japan. As are Japan, India, and Bangladesh, Indonesia is a highly populated country. The collection costs of the savings, at least on the densely populated islands of Java, Bali and Madura, are small as they are easily accessible with good transportation and telecommunication systems. Over a quarter of the population of Thailand and the Philippines lives in the capital cities. The amount of deposit per depositor may be small but the total deposits become significant as they are collected from a large number of savers. About two thirds of the Indonesian population of 225 million in 2015 live on one of the three islands. To provide guarantees for deposits they can be insured by the deposit insurance company (*Lembaga Penjamin Simpanan*).

Prior to 1 April 2001, the deposits collected by the PSB in Japan were directly transferred to the bank account of the Trust Bureau of the Ministry of Finance to finance the so-called Fiscal Investment and Loan Program or the "second budget" of the government. The terminology is misleading because the PSB only lends money to government financial institutions and not directly to the government budget for financing government spending. Life insurance premiums were transferred to the Postal Life Insurance Reserve Fund. Starting from 1 April 2001, the government gradually ended the financial repression and adopted a market-based policy. The PSB was also gradually privatized and allowed to directly lend in the financial market. The privatized PSB is allowed to set its interest rates on deposits to compete with

those offered by the commercial banks. The privatization of the PSB increased the transparency of the recipients of the Fiscal Investment and Loan Program. The end of financial repression cut the subsidies given to the PSB.

The government of Japan has used the trust funds for two objectives, namely: (i) to support industrial policy; and (ii) to compensate unproductive enterprises or economic sectors left behind in the economic development process, and minimize risks and bankruptcy. Part of the PSB's funds can be used to finance investment of micro-enterprises and in infrastructure to improve the logistics and transportation system. A major component of the PSB's funds is used to absorb Japanese sovereign bonds to minimize reliance on foreign investors that could cause currency risks.

3.7 Final Comments

To maintain both internal and external economic stability, the emerging economies in Asia can modernize and develop their financial systems through building a PSB. PSBs provide a third channel of intermediation between savings and investment in addition to the existing banking system, and nascent financial and capital markets. PSBs can mobilize domestic savings, and, through collecting saving deposits and selling life insurance to the general public, can promote financial inclusion. Interest rates offered by PSBs are usually below those at commercial banks. PSBs mobilize domestic savings to promote the development of financial and capital markets by buying and selling bonds and equity shares issued by the central and local governments, as well as the corporate sector, to finance budget deficits and economic growth. The use of domestic savings to absorb government and private sector papers denominated in local currency and sold in local markets can avoid volatile currency mismatch.

In a bank-based system, banks mobilize savings and provide credit to the economy. In a well- developed financial market, economic units raise funds in the capital market by selling bonds and equity shares. PSBs are narrow banks not full-fledged banks. They store financial assets by collecting deposits and selling insurance policies to their customers. They also play a part in the payment system through the transfer of funds, and act as payment points for many institutions, including banks and social security systems. PSBs also channels credit through government programs, banks or capital markets. Unlike shadow banks, however, PSBs do not conduct maturity transformation, extend credit, or provide liquidity to the funds.

Table 3.3 Financial Inclusion in Indonesia, East Asia and Pacific

Indonesia			
East Asia & Pacific		Lower middle income	
Population, age 15+ (millions)	177.7	GNI per capita ($)	3,580
	Country data	**East Asia & Pacific**	**Lower middle income**
Account (% age 15+)			
all adults	36.1	69.0	42.7
Women	37.5	67.0	36.3
Adults belonging to the poorest 40%	22.2	60.9	33.2
Young adults (% ages 15-24)	35.2	60.7	34.7
Adults living in rural areas	28.7	64.5	40.0
Financial Institution Account (% age 15+)			
All adults	35.9	68.8	41.8
All adults, 2011	19.6	55.1	28.7
Mobile Account (% age 15+)			
All adults	0.4	0.4	2.5
Access to Financial Institution Account (% age 15+)			
Has debit card	25.9	42.9	21.2
Has debit card, 2011	10.5	34.7	10.1
ATM is the main mode of withdrawal (% with an account)	70.9	53.3	42.4
ATM is the main mode of withdrawal (% with an account), 2011	51.1	37.0	28.1
Use of Account in The Past Year (% age 15+)			
Used an account to receive wages	6.6	15.1	5.6
Used an account to receive government transfers	3.0	8.1	3.3
Used a financial institution account to pay utility bills	2.9	11.8	3.1
Other Digital Payments in the Past Year (5 age 15+)			
Used a debit card to make payments	8.5	14.8	9.6
Used a credit card to make payments	1.1	10.8	2.8
Used the internet to pay bills or make purchases	5.1	15.6	2.6

continued on next page

Table 3.3 *continued*

	Country data	East Asia & Pacific	Lower middle income
Domestic Remittances in the Past Year (% age 15+)			
Sent remittances	17.9	16.6	14.2
Sent remittances via a financial institution (% senders)	52.4	36.9	30.9
Sent remittances via a mobile phone (% senders)	3.6	8.7	7.7
Sent remittances via a money transfer operator (% senders)	8.7	18.5	18.3
Received remittances	31.0	20.6	17.8
Received remittances via a financial institution (% recipients)	36.3	29.0	26.0
Received remittances via a mobile phone (% recipients)	0.2	4.9	5.7
Received remittances via a money transfer operator (% recipients)	7.9	15.8	16.6
Savings in the Past Year (% age 15+)			
Saved at a financial institution	26.6	36.5	14.8
Saved at a financial institution, 2011	15.3	28.5	11.1
Saved using a savings club or person outside the family	25.2	6.0	12.4
Saved any money	69.3	71.0	45.6
Saved for old age	27.1	36.5	12.6
Saved for a farm or business	22.6	21.3	11.8
Saved for education or school fees	33.3	30.7	20.0
Credit in the Past year (% age 15+)			
Borrowed from a financial institution	13.1	11.0	7.5
Borrowed from a financial institution, 2011	8.5	8.6	7.3
Borrowed from family or friends	41.5	28.3	33.1
Borrowed from a private informal lender	2.9	2.5	8.5
Borrowed any money	56.5	41.2	47.4
Borrowed for a farm or business	11.7	8.3	9.2
Borrowed for education or school fees	12.2	7.1	10.1
Outstanding mortgage at a financial institution	5.5	8.0	4.7

GNI = gross national income.

Source: http://datatopics.worldbank.org/financialinclusion/country/indonesia

Aside from financing its budget deficit, the government can also use PSB funds to finance its program outside the formal government budget, such as financing small and medium scale enterprises, cooperatives and village-based economic units, as well as other target groups. PSBs promote financial inclusion through deposit mobilization and financing small and medium scale enterprises, and other target groups.

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PART II

Promoting Postal Financial Inclusion

4

Remittances as a Trigger for Postal Financial Inclusion

Hans Boon

Important Terminology and Definitions

Term	Definition
Asia	Since the various international organizations have different definitions of regions, in this document, "Asia" refers to: • the region of Asia and Pacific as defined by the Universal Postal Union, with the inclusion of the Asian CIS countries and Japan; • geographically, this region is the continent of Asia without Israel and the Arab countries in the Middle East, the Asian part of the Russian Federation, and Turkey.
Financial Inclusion	The pursuit of making financial services accessible at affordable costs to all individuals and businesses, irrespective of their net worth or size. Financial inclusion is dedicated to find solutions and remove the constraints that exclude people from participating in the financial sector.
Financial Services	Services provided by banks and non-banking financial institutions, including: money transfers and payment processing, deposits, loans, cards and card payments, leasing, securities, and foreign exchange brokerage, fund management, insurance, etc.
National Postal Operator (NPO)	The incumbent organization or entity managing the delivery of postal services in a specific country via a network of post offices and pursuant to the applicable postal law.
Postal Financial Services	A range of basic financial services accessible at post offices and having their distribution organized by the NPO.

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continued

Term	Definition
Postal Money Order	A service and messaging system provided, operated, and owned by the NPO whereby the sender pays the amount remitted plus a commission at the post office and upon notification the recipient picks up the money at a post office.
Postal Network	The chain of retail outlets used by the NPO.
Postal Service(s)	The organization or system for physical transport and logistics of post or mail items.
Post Office	Retail outlet accessible to the public for services provided by the NPO.
Remittance	The sending of money or money equivalents to a recipient at a (big) distance. It can be a payment for goods/services, or a gift (mostly from one family member to the others).
Un(der)banked Population	Unbanked population: the people who do not have any access to an account for the services of a bank or similar financial institution. Underbanked population: the people who have poor and insufficient access to mainstream financial services normally offered by banks and other financial institutions.

4.1 Introduction

More than 1 billion of the 3.2 billion adult Asians (more than 57% of the world adult population) are served by more than 2 million employees in more than 350,000 post offices and agents across Asia in order to access basic financial services, including picking up remittances (UPU 2014). The majority of those users live in rural communities or peri-urban areas, often at a considerable distance from bank branches. Those users, among many others, consider post offices as an immediate access point to financial services.

The main activity of post offices in Asia has become delivering access to financial services. That fact confirms the impact of the progressive reforms in Asian postal networks. In several Asian states, the market share of distribution of retail financial services has grown and this has often started with remittances. In those markets where post offices play an active role, the cost of remittances is low, and already close to the targets set for the SDG 2030 (IFAD 2017). Post offices active in remittances tend to make the market more competitive, increase transparency, and contribute to lowering costs and decreasing pick-up time.

Post offices are seeking a new place in the market where cashless and digital (financial) services rapidly grow in increasingly diverse

ecosystems. This adds to the challenges for postal operators. Mobile money agent networks can quickly expand but provide access to a very narrow and limited range of financial services. Commercial banks tend to close rural branches and focus on expanding via ATMs, agency banking, self-service terminals and other channels.

Furthermore, in several Asian markets, microfinance outlets, rural cooperative or agricultural banks plus savings and loan associations have widespread networks. Post offices in Asia appear to be able to fulfill a very special place in the financial service ecosystem (Scher and Yoshino 2004). Post offices can be particularly useful for segments of the population underserved by financial institutions: from elderly people to women (Ansón 2016), from young to rural households.

Postal networks are instrumental in achieving equal access to formal financial services for all (Scher and Yoshino 2004). A post office is often considered a trusted and convenient place, especially with staff able to explain and provide financial services to everybody, and also a place where cash is always available.

The familiar, social atmosphere in post offices is attractive for parts of the poor rural population that can be hesitant to enter bank branches. Post offices can provide a "one stop shop" for a range of basic financial services, and also in cross-selling packages with other social and digital services such as e-commerce and e-government.

Post offices also differ from mobile money agents who often only have small amounts of cash on hand, and provide cash-in and cash-out mobile money only. Development agencies and financial regulators could be more interested in supporting post offices that offer greater value with broader and deeper access to financial services, especially when coupled with financial education.

However, postal reforms in Asia are in many cases incomplete. More is needed to truly reform post offices for the digital financial service era. Improvements in the technical conditions of post offices (ITU and UPU 2010), such as power supply, broadband connectivity, information and communication technology (ICT) equipment, have been shown to be critical but they are not enough.

Recent progress in Asia, as seen in, for example, the People's Republic of China, India, Indonesia, and Japan, confirm again that reforms also need to encompass institutional changes. While some national postal operators (NPOs) pursue mainly organic growth with in-house technology, many others are transforming into group or network companies, and are building multiple partnerships with private enterprises and financial institutions. The post offices or retail networks of these NPOs are on the way to becoming "supermarkets" or "convenience shops" for remittances, financial inclusion, and other e-services.

To accomplish true financial inclusion, postal operators pursuing such development also need extensive training and capacity building, especially in marketing and financial management. Regulators face challenges in bridging the gap in which many NPOs struggle, namely the gap between regulators that consider financial services via the post office an essential part of the postal services and the financial regulators themselves. Regulatory coordination is needed. The potential of post offices as a financial access infrastructure component lies in closing gaps in access, and in increasing competitiveness for the underserved population.

This chapter is focused on the opportunities for the post office retail networks of Asian NPOs to be distribution channels for remittances and other financial services. It intends to provide the reader with concise insight into today's role of post offices in the Asian remittance market, what they contribute to financial inclusion, and what can be done to leverage the existing, most often publicly owned assets and resources, to enhance competitiveness and to advance inclusion.

4.2 The Remittance Market in Asia

In 2016, the inbound flow of remittances to and within Asia was around $250 billion (IFAD 2017) (55% of all remittances globally), which continued the trend of growth versus the previous years. The expectations for 2017–2020 are that this flow will be stable or feature some moderate growth. The growth can be correlated with the continuous migration (Woetzel 2016) within Asia and from Asia to Europe and North America, as well as with the gradual process of improving the statistical recording of money flows, i.e., moving unregistered and/or informal money flows toward recorded flows.

Nearly 80 million Asian migrants live outside their native country—mostly in other Asian countries, but also to a large extent in Europe and North America. To this number, we must add the 10 million refugees who left their homes and joined the migrant flow (Ratha, Plaza, and Dervisevic 2015). Migrant remittances play a critical function in the lives of many of these families and have significant economic influence in Asia. World Bank reports point out that, in 2015 and 2016, the remittance flow in Asia (and in all developing countries) was bigger than official development assistance (Ratha et al. 2016). At the same time, remittance flows are more stable than private capital flows and foreign direct investments. In many Asian countries, remittance flows have significant value, both in currency units and as a percentage of GDP.

The main recipient countries in currency units and in % of GDP are listed in Table 4.1.

Table 4.1 Ranking of Remittance Recipient Countries (as a % of GDP and in $ million)

No.	Country	% of GDP (2016)	No.	Country	$ Million
1	Nepal	32.2%	1	India	62,745
2	Tajikistan	28.8%	2	People's Republic of China	61,000
3	Tonga	27%	3	Philippines	29,878
4	Kyrgyz Republic	25.7%	4	Pakistan	19,847
5	Samoa	17.2%	5	Bangladesh	13,680
6	Marshall Islands	13.7%	6	Viet Nam	13,383
7	Tuvalu	10.6%	7	Indonesia	9,234
8	Kiribati	11%	8	Sri Lanka	7,252
9	Philippines	9.8%	9	Republic of Korea	6,454
10	Viet Nam	6.7%	10	Nepal	6,276

Source: World Bank. Migration and Remittances Data. http://www.worldbank.org/en/topic/migrationremittancesdiasporaissues/brief/migration-remittances-data.

Table 4.1 shows that remittances are a significant element of economic development in Asia, and that large differences exist between Asian countries in terms of economic significance and size of the flows. This means that there is no basis for a standard approach in all countries.

The average cost of sending remittances to and within Asia was relatively high: on average 8.6% in 2011–2015 (Ratha, Plaza, and Dervisevic 2015), but in 2016 and the first quarter of 2017 it was 6.9%, which is a continuation of the trend of decreasing cost. The substantial differences across the regions also decreased, but are still visible. A reduction in cost is still needed on the sending side, and also in receiving in the last mile, where improvement is needed both in terms of time and cost to pick up the money.

Reduction of the average cost to 3% by 2030 is expected to lead to an additional $14 billion per annum (per annum) remaining in the hands of the recipient families (IFAD 2017).

There are nearly 500,000 (sub-)branches (EFMA 2016) of banks and microfinance institutions (MFIs) in Asia, but the vast majority of them are in urban centers (in most Asian countries, more than half of the branches are in the three biggest cities in the country), while most of the population lives in rural areas. This implies considerable additional costs for the recipient families in travel expenses, time spent, and risk involved when they pick up their remittances.

This means that in 2016 the total cost for receiving remittances in Asia was at least $18 billion (IFAD 2017), not including the additional burden on rural recipients in travel expenses, loss of productive time and risk. Mobile money and digital financial services may eventually have a significant impact on the remittance flows, but the current share of mobile money transfers in migrant remittances as well as in local payments is still small, in general it is less than 5%, and varies across the countries (IFAD 2017). In Asia, the weighted average (by population per country) value for universal financial access (i.e., the percentage of adults who have transaction accounts) is 59% (Hunter, dela Cruz, and Dole 2016). Financial inclusion is relatively low in rural Asia in particular.

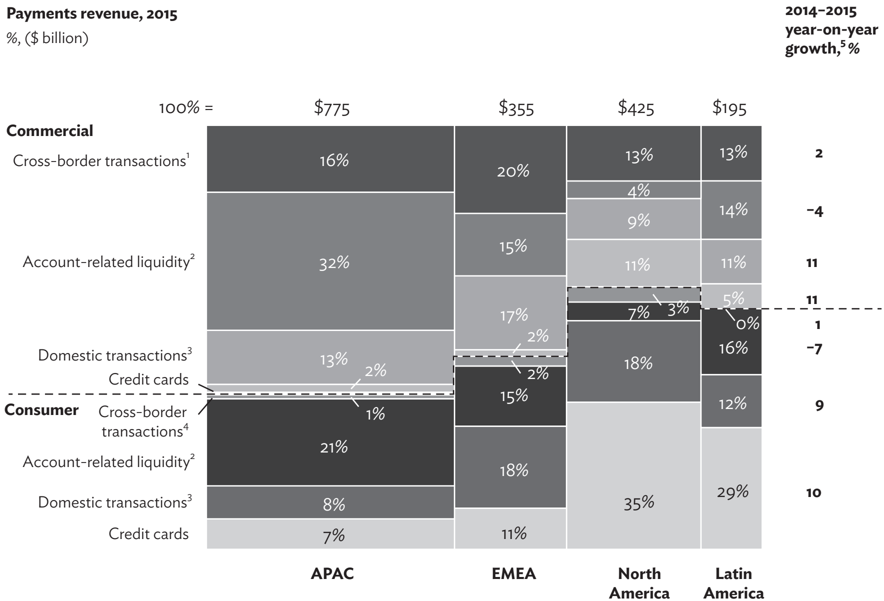
Although the figures of remittance flows are impressively large, others looking from a different angle consider the flows to be small. There are two additional dimensions to be taken into consideration. First, the remittance flows are an aggregate of large volumes of small money transfers; the amount of a typical international remittance is around $200 (IFAD 2017). Second, the flow into a country is not one stream, but is dispersed over many corridors. There are thousands of corridors.

These dimensions produce deep implications for the business models of marketing and operating remittances to many, relatively small, migrant communities abroad (Woetzel et al. 2016).

The business case for marketing and operating remittances in smaller corridors is often not attractive; risk and costs can be high. Moreover, marketing to senders in each different corridor presents daunting challenges, which frequently stretch beyond the interest and capabilities of banks and money transfer operators.

Remittances are part of the payments ecosystem, which includes many more, and larger payment flows, which were estimated at $775 trillion in 2015 for the Asia and Pacific region (McKinsey&Company 2016). Revenues from migrant remittances and other consumer cross-border payments (e.g., e-commerce) represent about 1% of total revenues in the payment landscape (see Figure 4.1, McKinsey's global payments map 2016 and revenue break-down of the payments business of banks in Asia Pacific; 1% stems from consumer cross-border payments [= remittance services]). From that perspective, remittance business appears to be relatively marginal and contributes to the explanation why some large commercial banks and also postal banks may not consider this as a top priority for business development. A similar position can be discerned in some NPOs in industrialized economies, which are focused on high volume parcel and postal operations. From their business perspective, migrant remittances at post offices can be perceived as relatively complex and costly. Hence, building a successful case for delivering migrant remittances at the last mile presents challenges in

Figure 4.1 McKinsey's Global Payments Map 2016



APAC = Asia Pacific, EMEA = Europe, Middle East, and Africa.
[1] Trade finance and cross-border payment services
[2] Net interest income on current accounts and overdrafts
[3] Fee revenue on domestic payments transactions and account maintenance (excluding credit cards)
[4] Remittance services
[5] At fixed 2015 USD exchange rates, for the entire time series

Source: McKinsey Global Payments Map.

marketing and operations, both for financial institutions and NPOs. This also explains why the delivery of remittances is frequently not a stand-alone project but part of an approach to providing a broad package of financial services to families.

Migrant recipients or families could reap several important benefits when the financial access infrastructure is improved and expanded deep into rural areas. Then migrant families can benefit from the lower cost of receiving remittances, reduced risk in picking up the cash, and less time and money spent on travel. The same infrastructure could then be used to broaden and deepen access to financial and other digitized services.

Achieving that means that more payout locations would need to be maintained in each country, and those locations would need to offer more universality in their services. All this can contribute to increase

Table 4.2 Ranking of Remittance Recipient Countries in Terms of Average Cost of Remittances (in % and in currency value of 1% of the remittance cost)

No.	Country	Average Cost of Remittances (in %)	No.	Country	Value (in $ million of 1% of remittance cost)
1	Korea, Republic of	19.24%	1	India	627
2	Papua New Guinea	17.33%	2	People's Republic of China	610
3	Vanuatu	15.75%	3	Philippines	299
4	Solomon Islands	15.40%	4	Pakistan	198
5	Lao People's Democratic Republic	13.10%	5	Bangladesh	137
6	Cambodia	12.21%	6	Viet Nam	134
7	Samoa	10.47%	7	Indonesia	92
8	People's Republic of China	10.37%	8	Sri Lanka	73
9	Thailand	8.28%	9	Republic of Korea	65
10	Viet Nam	7.78%	10	Nepal	63

Source: World Bank. Remittance Prices Worldwide. remittanceprices.worldbank.org/en

competition and lowering the average costs to 3% by 2030, as stated in the UN Sustainable Development Goal 10.c (IFAD 2017).

Table 4.2 shows the countries with the highest average cost of remittances, and the countries with the biggest currency value of every 100 basis points (1%) of the average cost.

For the improvement of financial inclusion, one major challenge in creating more payout locations is not just having more physical locations, but ensuring sufficient and secure cash available at those places. This also requires secure cash logistics.

The implementation of the SDGs would imply that at least $10.6 billion more per year, in today's terms, would arrive in the hands of recipients in Asia. The net present value, between 2017 and 2030, of these benefits for Asian migrant families can be estimated at more than $100 billion.

In this context, the investment thesis of leveraging the dense postal networks in Asia, which have outlets in both urban and rural areas, could be assessed, with the objective of significantly increasing the available pay-out locations and enhancing competitiveness. The expected impact could trigger a substantial reduction in the cost of sending money. This impact of reducing the cost of sending money, with billions of dollars

per year supporting poverty reduction and rural development, could justify the case for governments and international financial institutions to invest in the development of postal networks.

4.3 Financial Inclusion in Asia

Access to financial services and usage of accounts remains relatively low and widely varies across the different regions in Asia. Depending on the source and definitions rates for financial inclusion vary, but the World Bank's UFA reports that 59% of adults in Asia have transaction accounts (weighted by each country's population) (Ratha et al. 2016).

Data, also published by, e.g., UNCDF and CGAP, show that several hundreds of millions of adults in Asia are still unbanked. One of the main reasons is the relatively weak infrastructure for basic financial services, which covers mostly the big cities and highly urbanized areas, with a strong emphasis on ATMs and an increase in self-service kiosks. Interoperability between the ATM and terminal networks continues to cause challenges. However, small towns and rural areas often lack the basic infrastructural components to make access to financial services attractive.

Moreover, the rural outlets often do not provide access to a complete package of basic financial services, lack interoperability and are often not yet offering digital financial services. Interestingly, the progress in advancing financial inclusion is driven mainly by MFIs aiming at upscaling, and commercial banks downscaling their branch networks and looking for other distribution channels. The available data clearly indicate that the financial access infrastructure still needs substantial growth in rural Asia, considerable improvements in payment systems and interoperability, and significant efforts in financial education.

In this context the existing postal networks in Asia could obviously be leveraged to be part of the process of advancing financial inclusion (Berthaud 2014).

The overall aim of the UN Sustainable Development Goal 8.10 (IFAD 2017) is to strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all before 2030, while the World Bank Group has set as a target that adults globally have access to a transaction account or electronic instrument to store money, send and receive payments as the basic building block to manage their financial lives by 2020, named Universal Financial Access, or UFA2020.

It appears to be worth to considering an active role for post offices in Asia in complementing other existing (agent) networks, which have

the potential to facilitate access, and broaden and deepen the usage of financial services. The existing post offices are already an entry point for more than a billion adult Asians, and the existing infrastructure clearly has the potential to foster an increase in using financial services for several more hundreds of millions of the underbanked by providing them with access to standard or basic financial transactions.

4.4 The Postal Networks in Asia in the Context of Financial Services

There appear to be three major factors that influence or indicate the potential of NPOs to develop and implement projects to improve financial inclusion:

- the relative **density** of postal network (per area, per population, coverage of urban and rural areas),
- the progress in **diversification** of services (income not only from postal, but also from retail and financial services), and
- the **portfolio** of products offered via the postal networks.

These three factors will be discussed in the following three sections of this chapter.

4.4.1 Size, Coverage, and Density of the Postal Networks

The postal networks in Asia have more than 350,000 post offices (UPU 2014), which is a substantial quantity, even compared to the nearly 500,000 bank branches.

If all those outlets could provide remittance delivery, then the potential market share of the postal networks (assuming equal efficiency of the locations) would be:

$$350{,}000/(350{,}000 + 500{,}000) = 0.41 = 41\%.$$

This would translate into a distribution potential of more than $100 billion in remittances processed or delivered via the post offices, if all postal networks were able to fully leverage their marketing capability.

The actual market shares, however, are much lower and differ country by country. This could be partly explained by the fact that post offices mainly serve for smaller remittances, and mainly in rural areas where about 40% of the remittance flows have their final destination (IFAD 2017). Postal networks, e.g., in Indonesia, that feature a relatively higher market share (up to 20%) of their serviceable national markets

are able to do this because they provide a range of remittance services, often a combination of their own or white labeled solutions, mobile services and one or more money transfer operators (MTO), plus a link to other retail financial services such as payments, savings and loans.

However, postal networks with low or marginal market shares, such as in the Kyrgyz Republic, Nepal, Tajikistan, and Myanmar, are among the most constrained in offering remittances. Quite a number of them provide only hundreds or thousands of traditional postal money orders per year in a few corridors. In some other cases, e.g., the Lao People's Democratic Republic, only a small number of post offices are exclusively involved as an agent for one MTO. In other cases, e.g., the Philippines, compliance with regulatory requirements is a major obstacle for the post offices to deliver money. About half of the Asian post offices lack adequate technology, power supply or connectivity, which hinders their operational ability to capture their full potential in the delivery of remittances.

The cost of remittances is on average 8.6% (IFAD 2017), but comes as close as 2% where post offices actively compete in the market, e.g., in corridors from Kazakhstan and the Asian part of the Russian Federation to Central Asia. While postal networks in Europe, Middle East, and Canada offer a relatively low-cost service to remittance senders in Asia, clearly not all do. The cost of sending money from, e.g., a European post office to an Asian post office via money transfer systems owned by the NPOs can be slightly lower than the cost of sending the same money at a post office in cash via an MTO. That shows that the low price of postal money orders (even when volumes are relatively low) helps create competitive pressure on the prices offered by MTOs. However, this seems increasingly surpassed now by the competitive pressure of the choice of instrument or channel to send money (internet, mobile, call center, agent, or post office). In particular, instant transfers sent from cards or accounts in the first mile to cash out points in the last mile feature lower costs. Here, a price differentiation emerges, driving senders to the most efficient channel.

Within Asia, the cost of sending money via post offices to other post offices differs from region to region. In several cases, mainly in Central and South Asia, pricing is similar to sending from Europe, at around 7% for South Asia and less than 4% for Central Asia (IFAD 2017). In contrast, the costs in East Asia are still high, often above 10% and, as expected, the few Oceanian nations experience some of the highest prices, in the range between 13% and 18%.

Postal networks are unevenly spread across the continent, as you can see in the summary breakdown by regions and countries in Appendix 4.1. The table includes information on the size and density of postal and bank networks, as well as the penetration of ATMs and POS devices in Asia.

Table 4.3 Density of Postal and Bank Networks in Asia by Population Served

	Number Per 100,000 Adults—Total	Located in Three Main Urban Centers	Located in Rural Areas
Post Offices	4.62	0.92	3.70
Bank Branches	12.10	9.68	2.42
Total	16.72	10.60	6.12

Sources: International Monetary Fund, Financial Access Survey 2015. www.imf.org/en/data and Universal Postal Union Postal Statistics 2015. http://www.upu.int/en/resources/postal-statistics/query-the-database.html

The biggest advantage of postal networks is that, in most cases, more than 80% of post offices are located outside the three main urban centers of the respective Asian countries. Table 4.3 indicates the density of postal networks compared to that of bank branches, which are often the main network for cash-out of the inbound remittance flow, but are mostly located in highly urbanized areas. In rural areas, post offices outnumber significantly bank (sub-)branches.

The actual presence and density of post offices varies greatly across Asia. It is therefore essential to assess in each Asian country the actual density of postal networks, and compare this with the density and rural presence of banks, MFIs, agents, and ATMs. In fact, there are very rare cases where national postal networks are comparatively very small and of low density. In general, Asian postal networks are of a very relevant size and density to contribute to delivering remittances and access to financial services, but they are not used optimally.

Cash-out of remittances is not in all cases a privilege of bank branches and post offices. It depends on the regulatory framework of the financial regulators (central banks). The emergence of agent networks, especially mobile money agent networks, impact the relative dependence on bank branches and post offices. Alternative channels, such as bank agents, mobile money agents, ATMs or other outlets, have a limited presence in rural areas. Network management, especially cash or liquidity management, remains a challenge in optimizing the usage of these alternative channels.

The total number of post offices in Asia shows a trend of relative stability to moderate growth over the last 5 years (UPU 2014). A more in-depth look per country would point to some cases where postal networks have grown and other cases where the networks have shrunk. Postal networks grow mainly through new postal agents or franchisers being involved in payments and remittances. This is an interesting

practice that could provide useful lessons for other NPOs struggling with the features of loss-making post offices.

Asian postal networks are facing the challenge of sustaining their business continuity. In general, postal networks are in possession of a very significant portfolio of real estate.

The main post office buildings in urban centers are typically in prime locations.

In many cases, NPOs need to assess, upgrade and optimize the usage of their buildings. If square feet or meters of the buildings are not utilized to generate business income, this leads to maintenance and depreciation costs, which may not be proportional to the revenue of the NPO. Sometimes postal operators seek to apply the approach of disposing of assets and reducing the postal network, but that approach is often rejected from a social and political perspective. In general, NPOs decide to improve the utilization of their assets by expanding and diversifying their product portfolio and implementing an e-platform for delivery of a wide range of digital services, or to let space to other business, including agents of financial institutions.

The major collision of strategies with respect to the physical networks of post offices is “shrink, cut and close” versus “digitize, diversify and partner”.

The second option means to rapidly increase the usage of the post offices as existing assets for competitive delivery of diversified financial services (Boon 2016). The postal operators could benefit in multiple ways: because their assets become more productive, better used, and generate more value, they become more valuable, while at the same time this diversification of services is instrumental in improving financial inclusion, lowering the cost of remittances and increasing the usage of cashless or digital payments through competitiveness.

4.4.2 Progress in Strategic Diversification of the National Postal Operators

In the context of this chapter, the option to reposition the post offices for a broad diversified range of services and through different channels has been considered.

Some postal operators progressed by diversification into financial services and gained a market share in the remittance market, while others have not diversified and remain heavily dependent on the traditional postal and courier services.

The NPOs that are at an earlier stage of diversification toward financial services currently face the need to reduce the number of

Table 4.4 Top 10 and Bottom 10 National Postal Operators by Level of Diversification of Their Revenue Streams

	Top 10	% of Diversification		Bottom 10	% of Diversification
1	Uzbekistan	93%	1	Afghanistan	1%
2	Kyrgyz Republic	91%	2	Hong Kong, China	7%
3	People's Republic of China	87%	3	Thailand	8%
4	Turkmenistan	84%	4	Lao People's Democratic Republic	11%
5	Kazakhstan	80%	5	Philippines	12%
6	Macao, China	79%	6	Iran	13%
7	Viet Nam	75%	7	Nepal	13%
8	Maldives	70%	8	Cambodia	15%
9	Tonga	68%	9	Sri Lanka	16%
10	Bhutan	66%	10	Malaysia	16%

Source: Universal Postal Union Postal Statistics 2015. http://www.upu.int/en/resources/postal-statistics/query-the-database.html

employees who are mainly involved in mail processing (e.g., stamps, pick-up of mail items, PO boxes) because of the shrinking postal service business.

Diversification of the business of post offices progresses steadily, and mainly toward the delivery of financial services. It is important for each postal operator, seeking ways to sustain its business continuity, to have revenues not only from traditional postal and courier services, but also from financial and other demand-driven retail services.

For a detailed breakdown of data by regions and countries, see Appendix 4.2.

Table 4.4 lists the top 10 countries and the bottom 10 countries in terms of revenue diversification.

Diversification is of utmost importance for NPOs with large proprietary retail networks, because it contributes extensively in decreasing the dependency on stamps sales for the often declining traditional mail business, and supports the new role of postal networks in facilitating universal financial access and other retail operations. Traditional postal services remain a social responsibility and a statutory obligation, but do not depend on large and owned post office networks.

4.4.3 Portfolio of Remittance Products Offered Via the Postal Networks

Post offices in almost all Asian states provide international postal money orders as a remittance service to send or receive money from abroad (UPU 2014). Postal money orders are a service that traces back to the beginning of the nineteenth century, when money orders were launched as a more rapid and secure service than sending money in an envelope via the postal service. In the 1970s, postal money orders were the most frequently used form of remittance. Their market share then was estimated at more than 35%. The role and market share of the traditional postal money orders started to dwindle with the advent of specialized remittances service providers with more advanced payment technologies actively marketing their services.

The paper-based, manually operated process services offered originally have been replaced in many or most Asian countries with electronic data communications between post offices. Software developed by the Universal Postal Union (UPU) supports NPOs in upgrading their services. The technology concept is, in most cases, the UPU's International Financial System.

In 2016, UPU launched Postransfer as the trademark of the new generation of postal money orders. The overall business conditions, including pricing, are set by each postal operator in agreement with the postal operator at the other side of the same corridor, and in compliance with tariffs and regulations set by the competent (postal) authorities. Postal operators that have adapted the technology find more success than those that continue to offer traditional services.

NPOs in other Asian countries are planning to launch such operations. The expansion is very fast, and involves postal networks that were, until recently, inactive in remittance delivery. Several business models have emerged, but mainly the mobile network operator (MNO)-led approach appears to move most swiftly now. It is often based on existing business relations between the postal network and MNOs in the sale of airtime and SIM cards, and MNOs linked with international remittance service providers. WorldRemit and TransferTo are amongst the examples that have expand across Asia and are linked with postal networks.

Innovative business concepts emerged in this field, e.g., in the corridor between Singapore and Indonesia, where the sender can use a smartphone with mobile wallet to transfer money home, where it can be picked up at the post office. Another example is Kazakhstan where a postal-branded mobile money solution has been launched and it is

interoperable with existing payments systems, channels, and devices in the country. The model provides access to mobile money linked with a prepaid debit card, facilitating a broad range of payment solutions (in the retail space and for transfers to and from bank accounts), plus access to a potential range of financial services (savings, loans, insurance) and other electronic services such as e-commerce, e-government, and e-learning. This more advanced approach has the added potential to create more value for clients of the postal network.

Western Union is the largest MTO, operating in postal networks across Asia.

The flow of remittances sent via Western Union is by far the largest remittance flow channeled via Asian postal networks.

The arrangements for delivery of remittances can differ country by country. In several cases, Western Union is the only MTO operating exclusively through selected post offices, next to postal money orders and mobile money payments. This limits competition and the full usage of the postal network.

Recently, however, in an increasing number of NPOs in Asia, post offices have delivered Western Union remittances together with remittances of other MTOs. Postal networks provide services for both MoneyGram and Western Union, which support increased competition. The actual flow of remittances of MoneyGram via postal networks is relatively smaller but likely to continue to grow.

RIA, the world's third largest MTO recently entered into business with the two biggest Asian postal operators, adding further competitiveness and customer choice to the migrant families who depend on receiving money from abroad. Those postal operators also provide other money transfer services. This is expected to add to competitiveness and improved services at lower cost to the rural migrant families.

The agreements with MTOs, Western Union, MoneyGram International, and RIA provide the involved Asian postal networks with the capacity to deliver money sent from practically anywhere in the world, and in many cases from post offices elsewhere that are also providing agency services for these MTOs.

In addition to the MTOs operating globally, postal networks can expand or have expanded their remittance services through agreements with smaller MTOs (mostly dedicated to specific sub-regions), further enhancing competitiveness.

In some countries, besides cash, remittances can also be received on accounts held at financial institutions (postbanks) linked to the postal network. Depending on the sender's country, the cost of sending can vary between low (less than 2%) to relatively high (greater than 20%). The option is still less popular for migrant families in urgent need of

cash for daily subsistence, mainly because payments are not instant, taking as long as 3–5 working days, on average, and also because financial institutions have requirements for opening and maintaining customer accounts that are often impossible for migrants to fulfill. Solutions for instant payments, i.e., transfers that are credited within seconds to the beneficiary account, enjoy increased popularity in Asia.

Many Asian postal networks active in remittance delivery also provide access to a broader range of financial services. The range of financial services differs widely from a limited range of basic financial transactions (e.g., bill payments) to full-fledged retail financial services.

More than 1 billion adult Asians hold accounts for savings or payments via postal networks, mostly with licensed financial institutions; these accountholders use post offices to access one or more financial services. Postal networks play therefore a vital role in financial inclusion, especially in rural areas and for lower-income segments throughout the entire region. Product linkages and cross-marketing between remittance recipients and other financial services are not yet frequently seen at post offices in Asia.

There is a long tradition of providing financial services via postal networks (Scher and Yoshino 2004) and under different institutional models and regulatory frameworks. In spite of the magnificent figures in terms of rural outreach of postal networks, many remain un(der) utilized. NPOs face challenges in improving or expanding their portfolio of services, and they face new challenges with the advent of digital financial services. Overall, Asia has advanced in financial inclusion, but the rates of rural financial inclusion are still low and provide extensive opportunities for postal networks (Ansón et al. 2013) to leverage the connections among their post offices.

4.5 Developing and Funding Projects for Expanding Financial Services at Post Offices

As seen from the earlier sections, postal networks can clearly benefit from diversification of their portfolio of services and increased and improved offering of financial services.

However, retail or consumer financial services and small-value cashless payments are specific in terms of business development, capacity building, technology implementation, and staff training.

The way financial services are provided or distributed today differs significantly from the way postal and courier services are delivered. This means that staff and managers need to have the necessary level of competence and professional qualifications in order to be able to organize and

execute the delivery of financial services. The physical infrastructure also needs to be relevant not only in terms of territorial coverage, but also in terms of ICT equipment and connectivity (ITU and UPU 2010).

All these factors call for specific approaches in terms of project development, funding, and implementation. Very often, NPOs alone do not have the expertise or the financial capacity to develop and implement such projects within a relatively short time.

The first step needed would to assess the current status in terms of overall market volume and market share of the NPO, the legal and regulatory framework, the financial state, the physical network, staffing, etc.; a feasibility analysis. A business plan or a roadmap with specific project objectives could then be developed and, on the basis of this, the specifics of the project(s), e.g., to build a partnership, to launch new digital financial services, or new concepts for remittances.

From the elaboration of the business case for the project, the expected results, benefits, required investment, and the cash flow projections, the needs for funding and financing can be determined. Then, the owner of the NPO can take further decisions. The options for the NPO to fund the program from its own revenues or reserves is often not feasible, nor is it feasible to directly fund the program from the State Treasury. Some NPOs with a corporate structure and a good track record evidenced in audited financial statements might be able to attract finance from the capital market or banks. This is however not the case for NPOs that are at an early stage of transformation.

It would depend on the structure and conditions of envisaged partnerships with, e.g., MTOs, Payment Service Providers, banks, and other private sector parties, whether it would be possible to raise a significant part of the cost of the project from contributions of participating private sector entities rather than receiving only fees per transaction. The preparation of such types of partnership however requires more than an agency agreement.

If the financial condition of an NPO is not sufficient, or if the economic conditions of a country are for some reasons not attractive enough to foreign private investors, then the option for its government is to consider seeking assistance from international financial institutions. There are countries with low GDP per capita, low Human Development Index and low Ease of Doing Business Index (see Appendix 4.3) whose governments still work well with international financial institutions.

Most often, postal operators aiming to increase remittance delivery and advance postal financial inclusion may need support in the following.

- **Regulatory framework**: enabling the NPO to operate in a fair level playing field with its competitors and partners.

- **Business development**: increasing the number of contract parties using the post offices for e.g., remittances and payments collection, or distribution, or agency services for other financial products. They would also need to include a pro-active branding, marketing approach; advertising and promoting new services as well as an extensive component in financial education, helping the unbanked to become familiar with basic financial services and to understand the benefits and conditions.
- **Staff training and HR development** (including building managerial and organizational capacity): ensuring that the limited number of client service officers are well trained to meet regulatory requirements, and serve with a friendly, customer-centric approach. Also, the managers of the NPO often need to be trained and prepared to follow the regulations, and to organize the employees properly, in order to ensure that the new portfolio of services is properly delivered to customers. The NPO and its partners may need to recruit more management, specialists, and other staff. This means anticipating business growth and being structured in a way that synergies are maximized.
- **Installing technology and redesign of post office buildings** as new financial services supermarkets. The implementation should start with a few locations as prototypes for testing and training, and subsequent roll out to reach all planned locations within a planned period of time.

  The entire technical configuration needs to be designed in view of interoperability, omni channeling and cross channeling. Emphasis is given to the postal network as the front office delivering a broad array of services and for multiple partners. In terms of back office, the concept aims at a light hub or gateway that can switch messages and information to the back offices of the partner institutions managing the financial services.

  Part of the business process re-engineering involves the formation of a vehicle fleet capable of delivering and picking up cash, valuable goods, and other items to support financial inclusion in the rural areas.
- **Financial management:** with specific emphasis on cash and liquidity management, logistics, risk management, financial accounting, and more advanced management information systems.
- **Evaluation** of the implementation, measuring client experience, market performance, and financial performance as a basis for decisions regarding the next steps.

4.6 Conclusions

1. Migrant remittances can be collected at most of the 350,000 post offices in Asia. The remittance business is developing rapidly, mainly due to technology transformation, and some postal networks are emerging as champions (e.g., Indonesia, Kazakhstan), with a significant market share and an array of remittance services delivered in rural areas at low cost.
2. Although a rapidly growing portion of remittances is sent cashless, an estimated 95% of the remittances in Asia are received in cash. Thanks to NPOs, their vast network of more than 350,000 post offices have the obvious potential to contribute to the improvement of payout location coverage in rural Asia.
3. Best practices in several Asian countries indicate that post offices can play a relevant role in terms of access to (digital) financial services in rural communities, and that there remains substantial potential to leverage postal networks in other Asian countries to not only improve rural delivery of remittances but also to provide access to a broad array of financial and payment services to poorly and partially served rural population and smallholders.
4. Proximity, branding based on trust and instant cash availability are among the key success factors. In some markets, postal networks have managed to evolve as niche players enhancing competitiveness through low cost, digitization, and good quality.
5. Sending via cashless instruments (online, card, mobile) is expected to substantially increase in the medium term, and it can be offered at a lower cost than sending cash. In parallel, the number of rural recipients able to receive cashless remittances will tend to grow in the medium term, and a challenge for post offices is to provide access to (the opening of) universal bank accounts. Such transferable deposit accounts are critical for linkages with savings accounts and other financial products. Most postal networks in Asia have recorded substantial progress in digitized diversification, but they need to further develop in order to become more competitive in rural markets. Progress in digitization is mainly achieved through partnerships, e.g., with payment service processors, technology solution providers, and mobile money operators.
6. Practically, all postal networks active in remittance delivery also provide access to a broader range of financial services. The

post offices or retail networks of these NPOs are on their way to becoming a supermarket or chain of convenience stores for remittances, financial inclusion, and other e-services through diversification of the financial products offered. To complete this evolution, postal operators require extensive training and capacity building, especially in marketing management and financial management, and they need to forge a culture of partnership. Given an obsolete business model derived from a former monopoly, many postal operators still find it challenging to transform. Only by making a paradigm shift and change in corporate culture will they be able to become fully competitive in the financial services market. Expanding the product range of financial services is in most cases achieved through arrangements with licensed financial institutions, including (postal) banks, insurance companies, and MFIs. The nature and scope of the arrangements can vary from agency agreements to brand partnerships or joint ventures. NPOs can also leverage their rural presence and their social mission to not only extend the financial services of providers with limited outreach, but also to allow smallholders to avail themselves of government payments and other payment facilities along agricultural value chains.

7. Postal networks with a broad range of remittance products, which add digital and innovative solutions, are more likely to ensure business continuity in the medium term. NPOs that stick to the provision of a limited range of remittances, with few links to other financial services, may eventually find their approach less sustainable and less relevant for rural development.
8. A "one-stop shop" approach is thought to respond better to the needs of the underbanked and low-income populations, it is economically more viable for the NPO, and can substantially contribute to widening and deepening financial inclusion. Given the rural presence and the confidence they have among their rural customers, NPOs could further develop the linkages between remittances and savings accounts. They could focus their financial services that target certain specific groups such as youth, women, and rural households, in order to promote financial inclusion and support productive investments.
9. The potential of Asian postal networks is still underutilized. Recent lessons confirm again that reforms cannot be limited to the needed improved technical conditions, such as power supply, broadband connectivity, and ICT equipment. Reforms need to encompass institutional reform, promote closer relations with the national regulators, and align the operations

within the formal financial sector. Reforms should enable NPOs to enter into partnerships with selected, responsible financial institutions, include mutual commitments towards co-operation, and with a focus on expanding rural outreach.

10. It also becomes evident that the wider socio-economic benefits of modernized postal networks in financial inclusion are significant, especially in the field of lowering cost of sending remittances, increasing the efficiency of payments systems and their transition towards cashless money, mobilizing small savings for productive economic development, facilitating small trade and reducing poverty. The significant developmental impact of leveraging existing postal network would call for the case to invest in the modernization of the postal networks.

Appendix 4.1 Key Remittance Data

Country	Remittances in $ Million	Remittances in % of GDP	Average Cost of Remittances	Post Offices per 100,000 Adults	Bank Branches per 100,000 Adults	ATM per 100,000 Adults	POS per 100,000 Adults	Transaction Accounts per 1,000 Adults	Universal Financial Access in % of Adult Population
South Asia									
Afghanistan	312	1.60%	7.58%	1.40	2.3	0.96	2.4	204.7	10%
Bangladesh	13,680	7.90%	4.06%		8.4	6.79	26.7	873.2	31%
Bhutan	21	1%		39.73	15.4	26.82			34%
India	62,745	3.30%	6.74%		13.5	19.71	120.7	1531.7	53%
Iran	1,355	0.31%		19.99	31	66.80			92%
Maldives	4	0.10%		47.84	12.1	27.97			
Nepal	6,276	31.80%	3.97%	3.42	8.9	8.96			34%
Pakistan	19,847	7.10%	5.30%	5.96	10	8.79	33.5	451.2	13%
Sri Lanka	7,252	8.50%	5.54%	21.10	18.6	17.16	256.4	1616.5	83%
East Asia									
People's Republic of China	61,000	0.60%	10.37%	3.91	8.4	76.37	2010.8	6493.4	79%
Democratic People's Republic of Korea									
Hong Kong, China	387	0.10%		1.70	22.3	49.75			96%
Mongolia	263	2.20%		12.83	70.4	72.75			92%
Japan	3,670	0.10%		19.30	34.1	127.64			97%

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Appendix 4.1 *continued*

Country	Remittances in $ Million	Remittances in % of GDP	Average Cost of Remittances	Post Offices per 100,000 Adults	Bank Branches per 100,000 Adults	ATM per 100,000 Adults	POS per 100,000 Adults	Transaction Accounts per 1,000 Adults	Universal Financial Access in % of Adult Population
Macao, China	57	0.10%		2.34	38.9	254.13			
Republic of Korea	6,454	0.50%	19.24%	6.92	16.9	278.73			94%
Southeast Asia									
Brunei Darussalam				5.73	20.3	77.14			
Cambodia	323	2.20%	12.21%	0.76	6.1	13.29	90.5		22%
Indonesia	9,234	1.10%	6.86%	16.51	17.8	53.31	539.7	1106.5	36%
Lao People's Democratic Republic	95	0.80%	13.10%	8.42	2.9	23.17			
Malaysia	1,586	0.60%	7.16%	3.36	10.7	51.12	1234.3	6026.9	81%
Myanmar	3,312	5.00%	7.39%	2.43	3.3	1.90			23%
Philippines	29,878	9.80%	5.88%	1.29	8.8	25.27	222.1	1199.3	31%
Singapore				1.40	9.3	59.98	3850.5	7355.4	96%
Thailand	6,025	1.50%	8.28%	6.87	12.6	113.54	640.1	3270.8	78%
Timor-Leste	65	4.40%			5	6.69			
Viet Nam	13,383	6.70%	7.78%	12.08	3.8	24.01	316.7	995.4	31%
Central Asia									
Kazakhstan	308	0.10%	1.55%	17.71	3	71.14	605.6		54%
Kyrgyz Republic	1,997	25.70%	2.07%	16.08	8.3	30.25			18%

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Appendix 4.1 *continued*

Country	Remittances in $ Million	Remittances in % of GDP	Average Cost of Remittances	Post Offices per 100,000 Adults	Bank Branches per 100,000 Adults	ATM per 100,000 Adults	POS per 100,000 Adults	Transaction Accounts per 1,000 Adults	Universal Financial Access in % of Adult Population
Tajikistan	1,778	28.80%	2.52%	14.49	6.5	10.40			11%
Turkmenistan	9	0.05%		3.40					2%
Uzbekistan	2,263	4.60%	1.86%	10.13	37.2	10.48			41%
The Pacific									
Fiji	255	5.70%	9.85%		12.3	45.93			
Kiribati	16	11%	11.45%	23.38	5.7	14.25			
Marshall Islands	27	13.70%			20.6	5.90			
Micronesia	24	7.40%			14.7	14.69			
Nauru									
Palau	2	0.80%				47.12			
Papua New Guinea	11	0.1%	17.33%		2.8	7.87			
Samoa	132	17.20%	10.47%		21.5	41.26			
Solomon Islands	20	1.60%	15.40%		4	11.61			
Tonga	119	27.00%	9.90%	6.57	29.8	28.30			
Tuvalu	4	10.60%	11.86%						
Vanuatu	24	2.90%	15.75%		21.4	39.89			

Sources: International Monetary Fund Financial Access Survey 2016 (http://ufa.worldbank.org/), World Bank, Remittances and Migration Data 2016. (http://www.worldbank.org/en/topic/migrationremittancesdiasporaissues/brief/migration-remittances-data.), and Universal Postal Union Postal Statistics 2015 (http://www.upu.int/en/resources/postal-statistics/query-the-database.html)

Appendix 4.2 Key Performance Indicators for Postal Operators in Asia

Country	Number of Post Offices	Number of FTEs	Diversification (% of Revenue from Non-Letter and Non-Courier Business)	Revenues in USD	Revenues per 1 FTE
South Asia					
Afghanistan	465	1115	1%	2,545,886	2,283
Bangladesh					
Bhutan	298	309	66%	1,824,552	5,905
India	154,882	372,000	51%	2,372,986,000	6,256
Iran	16,551	13,857	13%	246,509,527	17,790
Maldives	188	156	70%	2,179,393	13,970
Nepal	993	20,010	13%	2,777,312	139
Pakistan	12,035	47,348		92,226,539	1,948
Sri Lanka	4,692	24,428	16%	46,450,437	1,902
East Asia					
People's Republic of China	53,646	938,494	87%	68,701,128,917	73,204
Hong Kong, China	122	7021	7%	689,380,975	98,188
Mongolia	389	904	54%	4,994,827	5,525
Japan	24,452	395,125		15,716,596,443	39,776
Macao, China	14	464	79%	63,784,839	137,467
Republic of Korea	3,524	43,060			
Southeast Asia					
Brunei Darussalam	25	374			
Cambodia	122	569	15%		
Indonesia	42,656	29,307	41%	331,113,707	11,298
Lao People's Democratic Republic	591	591	11%	4,050,922	6,854
Malaysia	1,041	18,744	16%		
Myanmar	1,384	4,072	16%	6,906,766	1,696
Philippines	1,326	8,179	12%	70,536,224	8,624
Singapore	81	4,682		594,370,249	126,948

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Appendix 4.2 *continued*

Country	Number of Post Offices	Number of FTEs	Diversification (% of Revenue from Non-Letter and Non-Courier Business)	Revenues in USD	Revenues per 1 FTE
Thailand	4682	23703	8%	620,293,840	26,169
Timor-Leste					
Viet Nam	11,505	38,952	75%	329,028,682	8,447
Central Asia					
Kazakhstan	3,252	22,703	80%		
Kyrgyz Republic	921	3,880	91%	7,215,417	1,860
Tajikistan	1,207	969			
Turkmenistan	180		84%	7,317,439	
Uzbekistan	2,987	14,286	93%	60,353,492	4,225
The Pacific					
Fiji					
Kiribati	25	40	62%	205,787	5,145
Marshall Islands					
Micronesia					
Nauru					
Palau					
Papua New Guinea					
Samoa					
Solomon Islands					
Tonga	7	12	68%	247,056	20,588
Tuvalu					
Vanuatu					

Source: Universal Postal Union Postal Statistics 2015. http://www.upu.int/en/resources/postal-statistics/query-the-database.html

Appendix 4.3 Key Socio-economic Indicators Relevant to Project Development for Financial Inclusion in Asia

Country	Area km^2	Population Millions	GDP per Capita in $/Ranking	Literacy	Urbanization	UN Human Development Index/ranking	Ease of Doing Business Index (WB)	Mobile Phone Accounts per 100 Persons	Internet Users in % of Population
South Asia									
Afghanistan	652,230	33,332,025	2000/206	38.20%	26.0%	0.479/169	183rd	61	8.30%
Bangladesh	148,460	156,186,882	3900/177	61.50%	34.30%	0.579/139	176th	79	14.40%
Bhutan	38,394	750,125	8100/150	64.90%	38.60%	0.607/132	73rd	91	39.80%
India	3.287,263	1,266,883,598	6700/159	71.20%	32.70%	0.624/131	130th	81	26.00%
Iran	1,648,195	82,801,633	18100/93	86.80%	73.40%	0.774/69	120th	91	44.10%
Maldives	298	392,960	15300/106	99.30%	45.50%	0.701/105	135th	188	54.50%
Nepal	147,181	29,033,914	2500/200	63.90%	18.60%	0.558/144	107th	87	42.30%
Pakistan	796,095	201,995,540	5100/171	57.90%	38.80%	0.550/147	144th	63	18.00%
Sri Lanka	65,610	22,235,000	11200/134	92.60%	18.40%	0.766/73	110th	111	30.00%
East Asia									
People's Republic of China	9,596,960	1,373,541,278	15400/104	96.40%	55.60%	0.738/90	78th	95	50.30%
Republic of Korea	120,538	25,115,311	1800/211	100%	60.90%			13	
Hong Kong, China	1,108	7,167,403	58100/17		100%	0.917/12	4th	234	85.00%
Mongolia	1,564,116	3,031,330	12200/123	98.40%	72.00%	0.735/92	64th	103	21.40%
Japan	377,915	126,702,133	38900/41		93.50%	0.903/17	34th	125	93.30%

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Appendix 4.3 *continued*

Country	Area km^2	Population Millions	GDP per Capita in $/Ranking	Literacy	Urbanization	UN Human Development Index/ranking	Ease of Doing Business Index (WB)	Mobile Phone Accounts per 100 Persons	Internet Users in % of Population
Macao, China	28	597,425	96100/3	96.20%	100%			320	77.60%
Republic of Korea	99,720	50,924,172	37900/45		82.50%	0.901/18	5th	120	89.90%
Southeast Asia									
Brunei Darussalam	5,765	436 620	79700/8	96.00%	77.20%	0.865/30	72nd	108	71.20%
Cambodia	181,035	15,957,223	3700/180	77.20%	20.70%	0.563/143	131st	133	19.00%
Indonesia	1,904,569	258,316,051	11700/130	93.90%	53.70%	0.689/113	91st	132	22.00%
Lao People's Democratic Republic	236,800	7,019,073	5700/165	79.90%	38.60%	0.586/138	139th	54	18.20%
Malaysia	329,847	30,949,962	27200/70	94.60%	74.70%	0.789/59	23rd	145	71.10%
Myanmar	676,578	56,890,418	6000/162	93.10%	34.10%	0.556/145	170th	74	21.80%
Philippines	300,000	102,624,209	7700/154	96.30%	44.40%	0.682/116	99th	119	40.70%
Singapore	697	5,781,728	87100/5	98.60%	100%	0.925/5	2nd	145	82.10%
Thailand	513,120	68,200,824	16800/100	96.70%	50.40%	0.740/87	46th	125	39.30%
Timor-Leste	14,874	1,261,072	4200/176	67.50%	32.80%	0.606/133	175th	112	13.40%
Viet Nam	331,210	95,261,021	6400/161	94.50%	33.60%	0.683/115	82nd	129	52.70%
Central Asia									
Kazakhstan	2,724,900	18,360,353	25700/74	99.80%	53.20%	0.794/56	35th	173	72.90%

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Appendix 4.3 *continued*

Country	Area km²	Population Millions	GDP per Capita in $/Ranking	Literacy	Urbanization	UN Human Development Index/ranking	Ease of Doing Business Index (WB)	Mobile Phone Accounts per 100 Persons	Internet Users in % of Population
Kyrgyz Republic	199,951	5,727,553	3500/182	99.50%	35.70%	0.664/120	75th	134	30.20%
Tajikistan	144,100	8,330,946	3000/193	99.80%	26.80%	0.627/129	128th	104	19.00%
Turkmenistan	488,100	5,291,317	17300/96	99.70%	50.00%	0.692/111		150	15.00%
Uzbekistan	447,400	29,473,614	6500/160	99.60%	36.40%	0.701/105	87th	75	42.80%
The Pacific									
Fiji	18,274	915,303	9400/142		53.70%	0.736/91	97th	106	46.30%
Kiribati	811	106,925	1800/212		44.30%	0.588/137	152nd	39	13.00%
Marshall Islands	181	73,376	3300/188		72.70%		143rd	21	19.30%
Micronesia	702	104,719	3000/192		22.40%	0.638/127	151st	30	31.50%
Nauru	21	9,591	14800/112		100%			73	53.50%
Palau	459	21 347	15300/105	99.50%	87.10%	0.788/60	136th	112	36.00%
Papua New Guinea	462,840	6,791,317	3500/184	64.20%	13.00%	0.516/154	119th	53	7.90%
Samoa	2,831	198,926	5400/166	99.00%	19.10%	0.704/104	89th	57	25.40%
Solomon Islands	28,896	635,027	2000/205	84.10%	22.30%	0.515/156	104th	68	10.00%
Tonga	747	106,513	5300/168	99.40%	23.70%	0.721/101	85th	66	45.00%
Tuvalu	26	10,959	3500/183		59.70%			37	42.70%
Vanuatu	12,189	277,554	2600/195	85.20%	26.10%	0.597/134	83rd	64	22.40%

Sources: UN Human Development Reports 2016. http://hdr.undp.org/ and World Bank. Ease of Doing Business Index. http://www.doingbusiness.org/rankings

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5

Regulation to Foster Postal Financial Inclusion

Luisa Anderloni and Odile Pilley

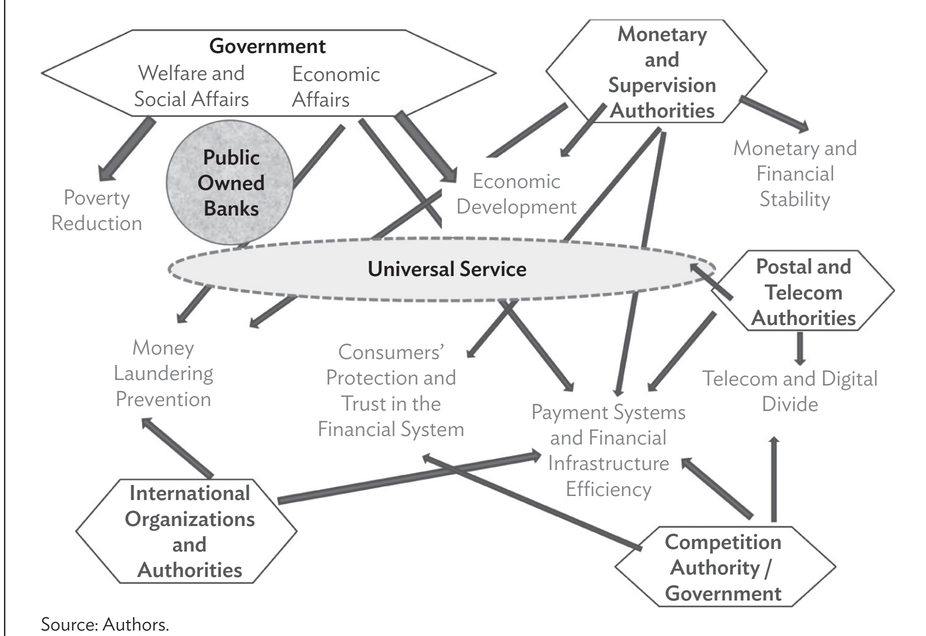
5.1 Introduction

Apart from the European Commission studies and the work carried out by the European Regulators Group for Postal Service at European Union (EU) level, little comparative work has been carried out recently on the legal and regulatory framework underpinning postal financial services, and still less on how effective this framework is in fostering financial inclusion. The complexity of the issue is illustrated in Figure 5.1, which is more likely to apply to developed market economies. In less developed countries, the various policy, supervisory, and regulatory functions are likely to be concentrated in fewer bodies.

In order to understand how a legal and regulatory framework can impact the role of the post office (post) in promoting financial inclusion, four case studies were conducted. They relate to developing countries whose organizational and regulatory frameworks are significantly different, despite a number of common country features, as follows.

- The contribution of the posts of Morocco, Algeria, and Tunisia to financial inclusion is significant. Initially, they had strong similarities due to the French influence. Since the beginning of the millennium, each country has adopted different approaches to modernize their postal infrastructure, as well as to tackle financial inclusion.
- Viet Nam has the fastest growing economy in Southeast Asia. Its postal organization was also originally influenced by the French model. Unlike the three Maghreb countries in which posts and postal financial institutions are in state hands, financial service activities were transferred under an exclusive distribution agreement to a private bank of which the post is a small shareholder.

Figure 5.1 Financial Inclusion: Who May be in Charge and Why



Source: Authors.

The rest of the chapter is organized as follows. Section 5.2 presents the main trends behind the governance of the postal sector and its financial services subset, and shows how idiosyncratic the legislative and regulatory framework of different countries can be, even when common principles and directives apply, as in the case in the EU. Section 5.3 introduces the evolutionary paradigms behind regulation–deregulation of posts and their financial services offer. Section 5.4 presents the four case studies, including a comparative analysis of the Vietnamese and Moroccan postbanks. Section 5.5 draws the relevant conclusions.[1]

5.2 Evolving Legal and Regulatory Framework of Postal and Financial Services, and Trends Behind Financial Inclusion Policies

The underlying paradigms behind the role of postal financial services in financial inclusion and their governance can be described through three

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[1] However, conclusions are tentative at this stage since this research is not based on fieldwork as it should ideally be. Furthermore, the quality of the conclusions is affected by the dearth of data in the public domain.

different periods. Up to the 1980s the state itself, directly or through its institutions, was responsible for the provision of postal financial services. Then, the whole market approach—deregulation, privatization, and globalization—with its universal service corollary for infrastructures became dominant in the western world and parts of the developing world. This implied the creation of a regulatory function to facilitate the entry of competitors while ensuring a universal service that had to be delivered by post offices, rather than, as previously, simply assumed to be public because it was delivered by a public institution. From 2000 onwards, the pendulum swung somewhat, with a return to public policies; a swing accentuated by the 2008 financial crisis. Financial inclusion emerged as a policy to combat poverty and became a major tool for the accomplishment of the UN Sustainable Development Goals.

From ideologically based on a top down approach, development policies have become more experimental, to deal both with the speed of innovation in the digital economy and the resulting uncertainties. In the new pragmatic approach, recognition is given to increased interdependence. Great care is taken to find the right trade-off between preserving macro-economic fundamentals and implementing social policies, including financial inclusion, especially as growth has been shown to be linked with increased inequality. Sovereign rights (security, customs, crime prevention, protection of confidentiality) are enshrined in public policies. Experiments and existing measures are evaluated on a case-by-case basis. Empowerment, peer learning and post-evaluation are the rules of the game. Benchmark practices are determined ex-post, and no longer in accordance with their conformity with the Washington consensus. A new thinking has grown as regards trade-offs between the objectives of core safety and soundness of banking supervision and those of financial inclusion, financial integrity and consumer protection.

In the first stage of the post-Washington consensus era, microcredit was seen as the panacea for financial inclusion, as exemplified by the UN 2005 year of microcredit. In a second stage, more attention was given to other dimensions such as access to both payments and accounts as gateways to a comprehensive range of financial services, either targeted specifically at the un(der)banked, or standardized for the whole population. Simultaneously, increased access to mobile telephony and internet connectivity enabled the development of new non-bank intermediated models (B–B, C–B and B–C). New payment systems appeared, the best known being M-Pesa in Kenya. Its mobile payment model is similar to that of 19th century money orders, which were modernized through electronic data interchange in the 1990s by Western Union. As a result, transfers by migrants to their home country exploded and added to more than aid and foreign direct investment. The success of

M-Pesa is partly due to the pragmatism of the central bank that, while monitoring developments closely, chose a dominant telecom operator as the consortium leader and decided to treat it as an electronic purse rather than a payment system. The orthodoxy then was for a bank to lead the consortium and for all telecom operators to be involved, certainly not a dominant one on the basis of exclusivity. This different approach was instrumental in producing critical positive network externalities and effects.

Gradually central banks and the Bank for International Settlements, which had focused their attention exclusively on banks and had often been skeptical or even opposed to the very existence of non-bank financial institutions, and in particular posts in view of their extensive outreach, started thinking of including them in their scope with a view to financial stability. The same logic was applied to supervision. This was resisted by non-bank financial institutions that saw this as a defensive measure by the banking sector to destroy any model other than the banking one.

As a matter of fact, numerous experiments, such as in Brazil, showed that a more universal reach by postal financial services could be a springboard for bank penetration of lower income markets.

Historical regional differences persist. Latin American and Caribbean posts did not offer accounts after the 1920s economic crisis, and neither did Canada. Central banks there are clearly in charge. In Brazil for example, the post is a bank agent. In Asia also, the banking regulatory model has most often been adopted. The new specialist payment bank of India post falls under central bank supervision. In the EU, postal financial services are regulated and supervised by financial service authorities. The picture regarding financial services is less clear in African countries (Arab and sub-Saharan) where public service obligations often include account management and benefits payments, and the postal regulatory scope can extend to postal financial services (UPU 2012).

The different directions taken by the postal financial services in Europe are particularly interesting. In the advanced and highly connected economies of northern Europe, such as those of Scandinavia and the Netherlands, the very success of posts in financial inclusion and overall competitiveness of the banking industry resulted in universal cover. Postal financial services converted to the banking model and merged into banking groups, no longer distributing through the postal network. On the other hand, the Italian, Swiss and French postal financial institutions evolved towards a banking model while retaining strong characteristics of the traditional postal model (network ubiquity and types of product) and a public service dimension. At times of crisis, those posts were highly trusted and proved to be a safe haven both in Europe and in Asia, particularly Japan. In the middle ground, European posts

formed joint ventures with financial institutions such as the Belgian Post with Fortis. After a withdrawal from financial services in the early 2000s, the postal financial services arms are being redeveloped, either through joint venture or exclusive distribution agreements (Austria, Romania, the Czech Republic), or more recently through greenfield operations (Portugal).

The regulation of postal financial services naturally adapted to these trends. It evolved both with the legal status of posts (administrations, state owned entities, and corporations, whether state- or privately owned) and with the organizational structure of posts, starting with the separation of the original monolith into legal entities dealing each with its own market (telecom, post and sometimes financial services). Financial services themselves can be delivered through a postal entity, or through a unit, structurally separated or not, with no bank license, part bank license or full bank license. Reporting lines, as already mentioned, became increasingly complex, especially with the development of new services and approaches through IT connectivity, and the increased requirements put onto financial institutions to prevent another systemic crisis. Since regulation, competition and regulatory policies are only recent developments in developing countries; field case studies are practically the only tools that can be used under such circumstances.

To a lesser extent, this is also the case in developed economies. Even where postal and financial regulation abide by a common legal and regulatory framework in terms of principles and rules, such as in the EU through the postal and financial services directives, the organizational and regulatory frameworks differ. Switzerland, although not an EU member, is subject to most of its legislation under bilateral agreements. In all three countries, postal financial systems fall under banking regulation and competition. Each country is sovereign in deciding which public services, if any, may be entrusted with the postal operator or its financial services arm, and there is a resulting trade-off between competition/liberalization and the delivery of public services. In European parlance, these are renamed services of general economic interest, of which universal services are a subset.

The French and Swiss posts are 100% state-owned institutions. The Italian Post was sold in part in 2015 to comply with EU debt reduction requirements, but the state has remained the majority shareholder.

The banking subsidiary of the French Post has gradually gained full banking status over a decade. Now it can even offer loans to local authorities and corporations. The Swiss subsidiary is a financial institution without a credit license. The capital, assets and liabilities of the Italian Bancoposta, not a credit institution, were ring-fenced as late as 2014. A risk assessment framework and an internal capital adequacy assessment

process, taking into account the specific features of Bancoposta, were set up to replicate bank reserving and reporting requirements. Current account deposits can be invested in Italian bonds only.

Both the French and Italian posts have specific public service obligations as regards financial inclusion, the French post through special savings products enabling receipt, bill payment and cash-in and cash-out. Those *livrets A* that are in competition must be offered through the postal network, abiding by stricter rules than those distributed by banks. Subsidies for compensation of the service net cost are paid, in part only, by the state. The Swiss Postfinance is entrusted with a universal service obligation to open and manage giro payment accounts, but is not entitled to state subsidies. Bancoposta has not been entrusted with a service of general interest for access to accounts, but it has played a de facto major role in financial inclusion though offering competitive payment accounts and devising an innovative pre-payment card that has a dual purpose: it provides additional security for account holders, and enables access to payments and financial services to the unbanked. Whereas the Swiss and French postal regulators have strong implementation powers, control of the Italian post is more in the hands of the supervisory ministry.

This idiosyncrasy of postal systems is reflected in the status of the European Regulators Group for Postal Services, which has only an advisory function, especially as regards consolidating the internal market. On the other hand, in view of the deeper integration of the electronic and telecommunication single market, the Body of European Regulators for Electronic Communication (BEREC), is a full European body and has direct links with other European institutions that must take into account its recommendations.

5.3 Case Studies: The Role of Legislative and Regulatory Frameworks in Delivering Postal Financial Inclusion

5.3.1 Context of the Four Countries Studied

As shown in Table 5.1, the four countries studied are all developing and middle income. Viet Nam is a recent entrant to the middle-income club. Viet Nam and Morocco have been growing at a fast rate. As an oil producer, Algeria is the only country in the upper middle-income range. However, developments have slowed in Algeria due to the fall in oil prices and in Tunisia due to the Arab Spring. Whereas the economy

Table 5.1 Economic and Social Indicators of the Countries Studied

	Morocco	Tunisia	Algeria	Viet Nam
Population (millions—2016)	35.28	11.4	40.61	92.70
Surface area (km^2) (thousands)	446.6	163.6	2,381.7	331.0
GNI (current US$ billion)	102.15	42.12	173.45	190.50
GNI per capita (PPP)	7,699	11,100	14,300	5,722
Income disparity (income share held by lowest 20%)	NA	6.7[a]	NA	6.6
ICT index[b]				
Individuals using internet per 100 inhabitants	57	49	38	53
Mobile subscription per 100 inhabitants	127	130	113	130
Active broadband subscription per 100 inhabitants	39	62	40	39
ICT index ranking	96	95	112	105
Multidimensional poverty index[c]	0.067	0.004	0.006	0.029
• *% vulnerable to poverty*	12.1	3.3	4.8	3.3
• *% in severe poverty*	4.6	0.1	0.2	1.2
• *% destitute*	8.1	0.3	0.3	0.9
Workers' remittances: inflows ($ million)[d]				
2015	6,904	1,971	5,897	13,000
As share of GDP (2015)	6.9%	4.6%	3.2%	6.7%
Measures of financial inclusion[e]				
Account at a financial institution (% age 15+)	NA	27.40	50.50	31.00
Has debit card (% age 15+)	NA	12.30	21.60	26.50
Borrowed from a financial institution (% age 15+)	NA	8.00	2.16	18.45
Borrowed from family or friends (% age 15+)	NA	16.12	13.17	29.88
Global Postal Ranking (170 ranked countries)	61	60	107	57
Global postal ranking by value	44.88	45.97	26.66	47.84
Regional index[f]	(27.50)	(27.50)	(27.50)	(38.90)

GNI = gross national income.

a. 2010 data.

b. ITU 2016 Report.

c. The lower the figure, the lower the poverty level.

d. Source: World Bank, data calculation based on data from IMF Balance of Payment Statistics database and data releases from central banks, national statistical agencies and World Bank country desks, last updated April 2017.

e. Source: Global Findex (Global Financial Inclusion databank).

f. Sources: Integrated Index for Postal Development (2IPD); 2016 Results Universal Postal Union. 2IDP =100 maximum postal development – 0 = lower postal development.

shows signs of recovery in Tunisia, it has stalled in Algeria, with rising inflation, budget and trade deficits, a fragile banking system, unsustainable subsidies and paralyzing bureaucracy. Poverty levels are higher in Morocco. There is a scarcity of data in the public domain for the Arab countries. A major exception is the annual report of the Algerian postal and telecommunication regulator that gives a full picture of the postal supply side and of the actions undertaken.

The remittance inflows of workers are particularly high in Morocco and Viet Nam. However, patterns of financial exclusion differ. Fewer inhabitants have an account in Viet Nam but they make the most use of loans and ATMs. By contrast, Algeria leads as regards the proportion of the mature population holding accounts but lags substantially behind in credit. The similarities between the four countries are particularly striking as regards ICT features. In one aspect, Tunisia stands out: high ownership of mobile broadband subscriptions. However, this does not yet translate into substantial use of mobile banking in any of the countries concerned.

The Maghreb posts are well positioned in financial services delivery. However, the region as a whole is not very integrated and has been going through major crises, with the possible exception of Morocco. Vietnam Post, which has a ranking similar to the Tunisian and Moroccan posts, does not particularly stand out in its very dynamic ASEAN region. Tunisia Post, as an indication of its resilience, comes out 60th in the Integrated Index for Postal Development global ranking, behind only the United Arab Emirates in the Arab region. It is particularly well connected with the rest of the world. The post office network is rather dense for developing countries, particularly in Tunisia, but not so much so in Morocco. Home delivery is the norm, but in Morocco and Viet Nam 20% to 30% of the population have to collect postal items from post office branches. Use of PO boxes is made only in Algeria and Morocco and is limited. Postal revenues per inhabitant vary between $11 for Tunisia, $9 for Algeria, and $3 for Viet Nam and Morocco. As in the rest of the world, letter volumes are falling, which raises questions as to the appropriateness of waiving the monopoly in the liberalization context.

As acknowledged by the World Bank (Rocha et al. 2011), Maghrebi Post are the primary providers of savings and payment services for low income people, and the post office branch network is the most extensive delivery channel for financial services. Two thirds of their revenue comes from financial services, unlike Viet Nam where it represent only 15% of revenue. Public banks are particularly dominant in Algeria and Viet Nam, and a bit less in Tunisia. The Moroccan banking market is more open and competitive.

5.3.2 Morocco

5.3.2.1 Legal and regulatory framework

From its inception in 1998, the Moroccan Post, Barid Al-Maghrib, tried to reconcile its public service obligations—ubiquity, uniform pricing and accessibility—with commercial considerations. From a public enterprise, it became a state-owned joint stock company in 2010. The limited company status facilitated diversification into new fields. It retained the entirety of its public service missions, including postal money orders and

the opening and management of savings and check accounts. Additional public services missions are integrated into 5-year business plans.

The post is supervised by the Ministry of Industry, Commerce and New Technology, which is also in charge of competition and consumer protection. Barid Al-Maghrib still has a monopoly on mail and, in theory, on parcels. In the competitive field, those courier and express operators who are identified by Barid Al-Maghrib's registered staff, government inspectors and customs officers as operating illegally are fined and can be subject to criminal sanctions in the case of repetition of the offence.

The powerful Board of Directors of Barid Al-Maghrib is chaired by the Prime Minister and comprises all the relevant ministers—Home Affairs, Infrastructure and Transport, Economy and Finance, Governance, Defense—as well as the Managing Director of Caisse Dépôt and Gestion (CDG), an institution comparable to the French Caisse des Dépôts et Consignations. It is to be noted that Barid Al-Maghrib does not benefit from any operational subsidies.

A financial subsidiary was created in 2007 that obtained a banking license (excluding credit) three years later. Al Barid Bank (ABB) is regulated by the Central Bank.

Barid al-Maghrib simultaneously developed a platform "Barid e-Sign" to act as a trusted third party provider (electronic signature). This activity is regulated by the communications regulator, whose scope has not been extended to postal services.

In the context of the EU neighborhood policy, Morocco obtained in 2008 "advanced status", which means it will be able to avail itself of all the prerogatives of EU Member States, except being party to political decisions. A road map has been designed aimed at implementing gradually the *acquis communautaire* and ultimately integrating into the Single Market. The postal sector is a priority because of its role in economic and social cohesion and its potential for economic growth. To this effect, the supervisory ministry has committed itself to gradual market opening. A current review funded by the European Commission aims at defining the scope of the universal postal service and advising on the separation of the supervisory, regulatory and operational functions, essentially through the creation of an independent regulator.

5.3.2.2 Strategy to Foster Financial Inclusion

Partly under the impetus of the World Bank and IMF,[2] Morocco took major steps towards the modernization of the Moroccan financial system and the financial inclusion of a larger share of population.

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[2] This stimulus is witnessed by various references made by the Moroccan Central Bank (Bank Al Maghrib) in its annual reports.

A major milestone was the adoption of the new banking law in 2006, updating that of 1993. It was further updated in 2014.[3] The 1993 Banking Act established the Central Bank of Morocco (Bank Al-Maghrib, BAM), creating a unified and strengthened regulatory framework for all credit institutions. Further amendments to the Bank's statutes clarified its role in monetary policy and granted it greater autonomy. BAM's independence in terms of monetary policy was reinforced by the 2006 banking law that also provided a legal basis for its supervision of the payment system and established the bank as a public legal entity,[4] controlled by the account commissioner, the government commissioner, and the government audit office. Other measures dealt with the protection of clients of credit institutions and the treatment of credit institutions in distress. This reinforced the people's trust in the financial system.

BAM committed itself firmly to promoting financial inclusion in Morocco as requested by the IMF and the World Bank in their Financial Sector Assessment Program through a multi-year strategic plan shared with the Ministry of Economy and Finance, of which ABB became the main implementing tool, with the percentage of banked citizens jumping from 35% to 67%. On inception, Barid al Maghrib already had 4.4 million customers with deposit and savings accounts.

A number of complementary reforms have underpinned this progress, including (i) the development of banking products for low-income households, and (ii) the banking law framework for new non-bank payment services to expand the use of transaction accounts.

On inception, the banking licence of ABB was limited by client segments to those with a monthly income lower than MAD3,000 ($257), a requirement that was gradually relaxed. Presently, about 50% of customers belong to the low-income category. In view of the restriction on credit provision, ABB has been offering loans in partnership with other specialized credit providers. This will last until it reaches the required internal credit risk analysis expertise level.

The establishment of the postal bank required other legislative and regulatory changes, including a change in the legal status of the post office from a publicly owned enterprise to a limited company. The post office had to go through several internal reforms to meet all the requirements of the banking law. The central bank had to approve a business plan with a special focus on low-income clients and the development of financial services specifically designated for these segments of the population. The establishment of ABB also required important

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[3] See Loi no. 103.2, 24 November 2014, published on 22 January 2015.

[4] Under the control of the account commissioner, the government commissioner, and the government audit office.

financial support, both directly from the Government and the Moroccan posts, with an investment of €20 million. The CDG acquired the postal network while the buildings remained post property. Great efforts were devoted to human resources development and IT innovation. Goals and assessment measures were introduced at the regional, office and individual level.

The establishment of ABB also allowed Barid Al-Maghrib to address some common problems of postal networks: it strengthened its management by hiring new management teams from retail banking and the private sector, granting them salaries comparable to those in the private sector. This allowed the creation of a new work culture defined as “*half-way between the private sector and the traditional public service cultures*”. Hiring 16 bank managers with strong expertise, rather than using a consultancy firm, allowed ABB to make considerable savings. Moreover, ABB introduced a postal university with the purpose of training postal employees in banking techniques so they could also develop as financial advisors. A voluntary retirement scheme was introduced for the staff members who were no longer meeting quality service requirements.

A major issue that had to be addressed was the inadequate infrastructure. ABB had to connect its post offices for the adoption of its multi-channel delivery strategy (post branches, ATMs, electronic payment, and mobile banking). The staff working in the posts were ABB staff, formerly from Barid Al Maghrib. They also delivered postal services. The post therefore had to pay a fee to ABB for each non-financial transaction. This complicated agreement was necessary because the banking regulations allowed only bank staff to deliver financial services.

In order to serve an even larger share of the population, ABB set up a separate entity—Barid Cash—and opened new Barid Cash points, which are small branches dedicated solely to money transfers. They typically have one or two agents, and are open longer hours than posts, from 8.00 to 20.00, including Saturdays. Barid Cash is fully owned by ABB but follows the private labour code, which allows for more flexible opening hours. Legal constraints limit the expansion of the Barid Cash network; agents may be only moral persons or established registered businesses.[5] This is is to prevent fraud and reinforce trust in ABB and the banking system.

Finally, it is worth mentioning that in Morocco, since 1999, under law no.18.97, updated in 2004, 2007, and the latest in 2013 with law

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[5] These requirements prevented ABB from make agreements with retailers as the strategy initially planned.

no. 41.12, microfinance has benefited from a clear institutional framework: microcredit financial institutions (MFIs) are not allowed to collect deposits, but they are permitted to grant credits and offer insurance as agents and/or on behalf of licensed insurance companies. MFIs are subject to central bank regulation.

Last but not least, Barid Al Maghrib has just announced the creation of its own mobile virtual network and is developing its Islamic banking offer.

5.3.2.3 The Financial Services Offer

Due to its mission to serve middle- and low-income individuals, ABB has developed a simple and transparent low-priced range. ABB's offer combines ABB own services, such as savings and money transfers, with credit products and insurance provided through partnerships with specialist institutions. Its products are tailored to underbanked segments of the population.

The postal bank has a dedicated website[6] for young people from 18 to 25 years old, in which it offers *Hssab JEUNES* (bank account for young people) at only DH4.90 monthly. ABB also provides *Carte MINHATY*, the prepaid card launched by ABB for all students receiving a government scholarship.

ABB has a special program for pensioners with the objective of banking 350,000 individuals by enabling retirement and other social security benefits payments.

ABB continued to focus on the post's well-rooted remittance market by creating its own payment infrastructure, and today it has almost 80% of the domestic transfer market. International remittances account for 5% of Moroccan gross domestic product. ABB concluded distribution agreements with remittance providers, mainly Western Union. From 2015, Barid Al Maghrib has been marketing and delivering insurance through an exclusive partnership with the leading company, Wafa Assurance. The postal bank is fully responsible for the commercial aspects, and the insurance company supports the bank by providing training to the ABB staff. Demand for assurance products has increased over time, especially after the establishment in 2010 of the postal bank. Figure 5.2 shows the trends in development.

The same partnership model has been adopted for credit products. ABB partnered with the leading Sofac for the delivery of consumer credit and with Wafa Immobilier for mortgages.

BAM's policy to develop financial inclusion has been particularly successful and Morocco has become the leader in the Arab countries.

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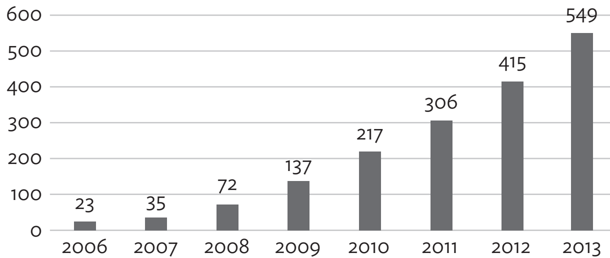
[6] www.albaridbankjeunes.ma

Figure 5.2 Number of Policies (thousands) in Force Through the Partnership between Barid Al-Maghrib-ABB and Wafa Assurance



Source: Al Barid Bank.

The percentage of the population banked jumped from 34% before the advent of ABB in 2010 to 71% in 2017. ABB itself increased its customer number from 5 million in 2011 to almost 6.5 million by the end of 2017, which represents 26% of the banked population. Political will and intergovernmental coordination as well as gradual and timely capacity building, the whole underpinned by pragmatism, are the hallmarks of the Moroccan experience. Regulatory expertise has been developed progressively with constant regard for development of trust and consumer protection while preserving macroeconomic fundamentals. No unnecessary energy has been wasted setting up a dedicated regulatory institution at too early a stage. The delay in postal liberalization has been put to good effect through strengthening the incumbent, which had simultaneously to meet strenuous objectives without state aid. Stock has been taken in the reorganization of ABB that the delivery of retail financial services was core to the sustainability of the post and its network. Last but not least, CDG and ABB joined forces rather than opposing each other.

5.3.3 Tunisia

5.3.3.1 Legal and Regulatory Framework

The governance of the postal sector has remained unchanged since the transformation of the Office National des Postes, the former administration, known as “Tunisian Post”, into a public enterprise and the

simultaneous publication of the postal law (Code des Postes) in 1998, untouched since then and now outdated. As a matter of fact, the decrees relative to the specifications of the postal operator and pricing methodologies never came out. In principle, letters under 1 kg and parcels under 2 kg fall under monopoly. Operators de facto compete with the Tunisian Post as forward agents not submitted to any authorization by the Transport Ministry. Control by the supervisory ministry, the Ministry of Technology and Communication, is not exercised. To add to the problem, there is simultaneous involvement of several authorities. Litigation processes are never ending. Pricing is fixed on a social basis and the Tunisian Post receives a substantial annual state subsidy from the Communications Development Fund.

The Tunisian Post, as already mentioned, leads among the Arab and African countries in international postal connections.

Through its financial service unit, it has offered check and savings accounts since its creation in 1918. It is licensed for treasury and currency exchange. In the last decade, it has been an early innovator in digitization of payments.

The reform process, which was well underway, stalled after the Arab Spring. Work has started again to develop a modern legal and regulatory framework with the participation of the postal incumbent and other postal operators, partly through a twinning arrangement with the French post. This involves gradual opening to competition, definition of the scope of universal service and other public services, costing and pricing methodologies, new postal laws, license or authorization system, setting up of an independent regulator and a litigation structure, and, last but not least, a reduction of bureaucracy to what is strictly necessary.

5.3.3.2 Strategy to Foster Financial Inclusion

The Tunisian Post together with, but to a much lesser degree, microfinance institutions, has played a major role in financial inclusion. The network is particularly dense and reaches out deeply into rural areas where banks are not present. The transformation of the operator started in 1999, with service portfolio diversification as a core objective. The strategic repositioning was focused on the payment needs of certain low-income segments—rural, young, pensioners, students, and non-resident Tunisians. It focused on innovative payment services, such as digitization of money transfers and mobile banking.

Over one third of citizens save with the post through time-deposit, a market which has now matured, and 18% have a check account. It is not authorized to offer credit. As a result of delays in re-structuring and changes in governance, Tunisia, unlike Morocco, did not obtain EU

"advanced status" within the neighborhood policy. However, as already pointed out, despite the lack of IT and human capacity investment in the last few years, the post, which continues to be subsidized, has proved remarkably resilient.

In Spring 2017, the central bank turned down Tunisia Post's request for a banking license. The reason given was that the post does not meet limited company status. Revenues are still coming in from the two main products, check and savings accounts, of which a significant proportion remains inactive.

At country level, microcredit and financial stability are now seen as fundamental tools to foster economic growth, self-employment and employment. Because of the progress achieved, access to accounts and payments is less of a priority. Other top priorities are youth employment and formalization of enterprises, for which access to financial services is also indispensable. The 2016–2020 Tunisian financial inclusion strategy[7] on top of banking system modernization includes: (i) financial resilience and facilitation of business, (ii) legal infrastructure and fiscal incentives, and (iii) specific measures to financially include or better serve vulnerable people and small enterprises.

Besides the setting up of a new authority for microfinance regulation and supervision, together with a Central Microcredit Bureau, the following steps are worth mentioning:

- reinforcement and empowerment of the role of the central bank in refinancing banking institutions and in prudential supervision over banks;[8]
- set-up of an observatory of financial inclusion;[9]
- new rules and regulations concerning banks and financial institutions.[10]

The Tunisian Post's plan of action is "*to promote the postal sector according to an ambition vision that makes the Tunisian Post an efficient actor in economic and social inclusion, and a locomotive of public electronic services, e-commerce, digital services and logistic service*". The financial service strategy includes: (i) modernizing the financial postal activity through structural reforms and strengthening its role in financial inclusion, and (ii) promoting and diversifying financial services for the un(der)banked.

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[7] No. 108, no. 116

[8] See Banking Law no. 35-2016.

[9] See art. 93, Banking law no. 35-2016.

[10] See law no. 48-2016 concerning banks and financial institutions.

5.3.3.3 The Financial Services Offer

Despite all its difficulties, including heavy bureaucracy, funding uncertainties, and lack of a clear legal and regulatory framework, the post continues to lead in innovative payments. It is now developing mobile payments through an agreement with the three mobile operators and has developed its ATM network for integrated channel payment delivery. It serves the migrant Tunisian market through its currency exchange service, including transfers and nascent e-commerce. It positions itself strongly in effective public service delivery, starting with e-pensions.

However, its forays outside the payment and account market—long-standing exclusive agreements for investment life assurance (complementary to pension and saving planning for children's academic studies) and recent alliances with small MFIs—have not been conclusive and remain marginal. Nevertheless, it is particularly well positioned to develop its electronic commerce and e-government offer. It remains to be seen whether it will focus on these two activities, as indicated in its strategic plan, or develop a full financial services offer with gradual entry into the credit market through distribution agreements.

Work is underway to develop a modern legal and regulatory framework with the participation of the postal incumbent and other actors, partly through a twinning arrangement with the French post. This involves gradual formal opening to competition, definition of the scope of universal service and other public services, costing and pricing methodologies, new postal law, specification or authorization systems, setting up of an independent regulator and a litigation structure, and, last but not least, simplification of its arcane administrative procedures.

The resilience of the Tunisian Post, which is the most internationally connected post in the Arab countries, shows its strength as an institution. As a technology innovator in payments, it has major potential in electronic commerce. However, the lack of a clear regulatory and legislative framework is a major threat that has to be dealt with rapidly and effectively. It has already cost Tunisian post, at least for the time being, the right to be a banking establishment.

5.3.4 Algeria

5.3.4.1 Supervision and Regulation

In accordance with its non-aligned tradition, Algeria has adopted a unique legislative and regulatory approach. In January 2000, a deep review of the postal and telecommunication sector was initiated[11]. The main goals of

[11] Until then the sector was directly managed by the government according to order no. 75-89, 30 December 1975.

the reform were: (i) to promote a stronger development of both postal and telecommunication sectors as strategic economic sectors able to generate financial revenues; (ii) to open the market to competition and to attract private investments; and (iii) to improve the quality of services. It resulted in the creation of the Post and Telecommunications Regulatory Authority (ARPT) according to law no. 2000-03 of 5 August 2000 in which the universal scope was defined. Algeria Post, formerly a Department of the Ministry of Post and Telecommunications, was split from the telecommunications arm and set up as a state-owned enterprise the following year of application of the executive decree of 14 January 2002.

The present supervisory Ministry, the Ministry of Posts, Information Technologies and Communication, is responsible for drawing up the regulations, fixing tariffs of the post's reserved and universal services, and defining the features of the universal service.

The aims of the ARPT, which is financed mainly through operators' contributions, are as follows.

- To ensure fair competition.
- To issue the necessary registrations and authorizations to providers, and ensure the rights and obligations conferred upon them. Domestic express operators have simply to register whereas international express operators are subject to authorizations and receive specifications.
- To ensure that the designated operator meets its obligations as the universal service provider by means of quality of service testing, monitoring of separate accounts and pricing, and consequently the net cost of the universal service and the related entitlement to State compensation. ARPT exercises its enforcement powers. It has developed a thorough knowledge of the postal supply market.

Algeria Post's main functions are to guarantee the implementation of the national postal and postal financial services policy, to operate the postal service and to manage the savings service (deposit and savings). It is a government tool for financial inclusion.

The reserved area applies limited to letters under 50 g, which represents 95% of the total letter volume. Algerian Post's postal business is heavily concentrated on the universal and reserved service with diversification only in the competitive express market. Letter volumes have been nearly halved in the last ten years. Besides letters and parcels, the universal postal service includes pension and benefits payments. Guaranteeing the safety of deposits is equally a public service mission. As already indicated, financial services are vital to Algerian Post since they generate over two thirds of its revenue, and this contribution is

growing constantly. Algerian Post has been for long an active part of the national payment and clearing system. The right to an account and the various bank scandals have reinforced the citizens' trust in posts.

However, on several occasions, despite the Government announcing its intention to transform postal financial services into a bank, the status quo has prevailed.

5.3.4.2 Other Institutions with a Financial Inclusion Mission

The state's choice has been to entrust financial inclusion missions to specific institutions.

The Caisse Nationale d'Epargne et de Prévoyance (CNEP), also entrusted with financial inclusion objectives, has evolved differently. Since 1964, savings collected by post branches have been transferred to it. Gradually, besides collecting savings through posts, it opened its own branches. In 1971, it received the mission of providing mortgages targeted at savings book holders. Since then the activity of deposit collection has grown quickly. The government entrusted it with new tasks, while post branches continued to collect deposit both through current accounts and time deposits. In 1997, CNEP obtained banking status and can now provide all kind of banking activity. Its main activity is presently to promote and fund access to home property by depositors. It has now 7 million savings accounts and is one of the largest financial services institutions in charge of providing credit for the housing and infrastructure market.

In order to compensate Algerian shortcomings in microcredit, in 2004 the State created the National Agency Management of Microcredit—ANGEM—as a public structure for promoting the economic inclusion of people without access to banking services.[12] It is part of the Ministry of National Solidarity, Family and Women Conditions.

5.3.4.3 Postal Financial Services Offer

The postal financial services offer is not comprehensive. It consists of payment services (check accounts, money orders and "giro" payments) including, recently, electronic debit and credit cards providing higher security standards, as well as recharge of mobile cards and utilities settlement. As for deposits there are both postal current accounts (the traditional ones and the on-line ones via the network "Baridi") and the CNEP products: savings book for home financing and popular savings

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12 See Presidential Decree 22 January 2004, no. 0413 and various subsequent executive decrees. The main needs were: (i) granting loans in a decentralized way; (ii) simplification of eligibility conditions; (iii) the adaptation of procedures and implementing rules to the objective conditions of the poor; (iv) the fluidity of approval and actual

books. The number of deposit accounts grew from 6.5 million in 2003 to 19 million in 2016. Investment, insurance and loans are not distributed by the Algerian Post. A law due to be signed by the end of 2017 gives new impetus to electronic commerce while ensuring the necessary protection to consumers. La Poste is putting 5 million electronic cards on the market for this purpose.

In a country that has been plagued with banking scandals, the post to which financial services obligations are entrusted has proved to be a safe haven for deposits and a major conduit for access to accounts. It has positioned itself immediately behind Japan in this field. The legal and regulatory framework was redesigned in the early 2000s with the setting up of a postal and telecom regulator. The latter oversees the completion of the post's obligations, establishing the net cost of public service for compensation by the state. Things have little evolved since with hardly any diversification outside reserved and universal service business in contrast with the public mortgage institution that became a full-fledged bank. The next major move is for the post to become a leading electronic commerce supplier.

5.3.5 Viet Nam

Viet Nam has been the second fastest growing economy since 1990 and is expected to continue growing at 7% a year for the next decade. Its success as a transition economy is outstanding. No doubt this is due to its openness—it has been a member of the WTO since 2007—its flexibility and its clear-minded direction with a strong focus on education. Weaknesses include its bloated state-owned enterprise sector and incomplete domestic supply chain (Economist 2016).

5.3.5.1 Supervision and Regulation

As regards postal affairs, the Ministry of Information and Communication (MIC) is the policy-making and regulatory body. It regulates charges and tariffs of universal postal services and reserved services. It sets standards and supervises the quality of services. It grants, extends and revokes licences for postal operations. It regulates and manages safety, security and competition and resolves disputes in the postal field.

Vietnam Post (VNPost) is a State-owned enterprise in charge of providing the universal postal service and other public services

granting credit mechanisms, in order to encourage involvement and participation of the poor; (v) the sustainability of the system through the establishment of appropriate operating rules; and (vi) the possibility of meeting high demand, especially from housewives, productive families, craftsmen and small farmers and breeders.

entrusted by the state. It also distributes retail financial services. It was set up in 2007 under the Vietnam Post and Telecommunication holding. It has been a full enterprise in its own right since 2013 under the control of the supervisory ministry. Postal operators in the competitive field are authorized and those in the universal service field licensed. The universal service includes letters under 2 kg and press distribution. The reserved service comprises domestic letters under VND8,000. This service can be licensed. Tariffs for the universal and postal services are fixed by the MIC in consultation with the Ministry of Finance. From 2014 onward it has been expected to be self-financing. In 2012, it held about 38% of the letter/parcel/logistics market followed by DHL and TNT. Vietnam Postal Savings Company (VSPC) was created as a subsidiary of VNPost to provide postal savings. VNPost did not have a banking license. Officially it was under the supervision of the Ministry of Posts, which consulted with the central bank and the ministry of finance. De facto, the ownership and regulatory functions were held initially by VNPost. It developed rapidly by offering savings products and transferring the funds to enable state infrastructure investments. Postal payment services were subsequently transferred to the VSPC to consolidate all financial services under one roof (World Bank 2005).

In 2011, an exclusive 50-year distribution agreement was signed with LienViet Bank, an IT innovative medium-size joint stock bank founded in 2008, and regulated as such, by the financial services authorities. Its three institutional founders were Him Lam Corp (real estate developer), Saigon Trading Group (Satra) and Southern Airport Services Company. VNPost transferred its portfolio to its partner and thus acquired a 12% stake. The name of the bank was changed to Lien Viet Postbank (LVPB). LVPB's mission is "*to offer customers and society a wide range of products and services with excellent quality, to create maximum benefit for the bank and the society*". Its vision is "*to become a leading retail bank in Vietnam. A bank for everyone*". Its strategy is "*to be a retail and universal bank*". The purpose of the agreement is for LVPB to take advantage of the postal network and for VNPost to access banking and IT skills while improving its profitability (chronic losses before 2014). The integration of the ATM systems created the largest network in Viet Nam.[13]

5.3.5.2 Financial Inclusion Strategy

Viet Nam has achieved remarkable progress since the start of its transition from a centrally planned economy. The Vietnamese financial system concentrated on banks is large for a low–middle-income country in terms of assets and loans to SMEs, but non-banking financial

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[13] http://www.lienvietpostbank.com.vn/en/about/introduction/content/about-us-111111

institutions are small or marginal in comparison. State presence in the sector is significant and involves both direct and indirect ownership links. There is also a high degree of cross-ownership between banks and between banks and enterprises, which gives rise to conflicts of interest and presents systemic risks. The reform program 2011–2015 included three components: banking restructuring, state-owned enterprise restructuring and public investment reform. In the following phase, the ownership and supervisory functions are being separated, independent and professional boards set up and risk management reinforced.

Viet Nam's approach to financial inclusion has relied on the interventions of policy banks and a few state-owned commercial banks, the Vietnam Bank for Social Policies (VBSP), and to a lesser extent the Vietnam Development Bank (VDB), but also the Vietnam Bank for Agriculture and Rural Development (VBARD) in the microcredit field. Price controls have been a prevailing feature and budgetary support to the VBSP (and the VDB) has enabled them to offer under-market interest rate products to its low-income clients in line with its mandate. In rural areas, VBARD dominates the provision of credit (World Bank 2014). To these must be added the 1,130 member-based People Credit Funds (PCFs), 2 licensed MFIs and 50 semi-formal MFIs. As a result, Viet Nam has indeed one of the most extensive microcredit systems in the world. However, subsidized credit delivery instead of providing other services results in a growing burden and an uneven playing field (ADB 2014).

A microfinance strategy was formulated with the Asian Development Bank assistance to build a safe and sustainable microfinance system to serve the poor, low-income households, and small and medium-sized enterprises. It aims at (i) establishing the necessary legal, regulatory, policy and supervisory frameworks, (ii) strengthening regulatory and supervisory capacity, (iii) improving the operational capacity of MFIs, including the VBSP, and (iv) establishing a financial infrastructure. In the second stage of the microfinance strategy (2016–2020), attention will be given to the legal framework to allow a diversification of MFIs and an expansion of services and products, including micro-insurance. In view of the growing demand for insurance services suitable and accessible to the low-income sector, the insurance supervisory authority formulated a framework to set up the necessary regulatory framework in 2015.

As the region integrates further through the establishment of the ASEAN Community, it is transitioning fast towards a digital economy. During the 2000–2005 ICT master plan, advances in connectivity, particularly mobile, enhanced and extended communication and trade

networks, powering regional economic growth. In a move parallel to the EU single digital market, the next development of the ICT master plan, particularly relevant to the postal sector and financial inclusion, is to focus on embedding ICT and fostering, through empowered and connected citizens and stakeholders, economy-wide growth and innovation. The emphasis is on information security to counteract cyber threats and build a trusted digital ecosystem.

5.3.5.3 Lien Viet Postbank and Vietnam Bank for Social Policies

Lien Viet Postbank

When the decision was made for the post to form an alliance with a private bank, no specific financial inclusion mission was entrusted with LVPB. This mission is specifically attributed to the policy bank, VSPC.

LVPB went from strength to strength since forming its alliance with VNPost and remains the leading private joint stock commercial bank in Viet Nam in terms of reach. This could not have been achieved without the bank's huge investment in expanding the network, including postal transaction offices (latest report 2015). As a result, profits had been declining, but there was a major U-turn in 2016. In addition to the VNPB's own network (61 branches and 70 transaction offices), 1,081 posts have been connected with a right to access another 10,000 commune level posts and enlarging transactions to full banking facilities. By 2020, it aims to have a retail presence in all 63 provinces and 713 districts. The number of retail customers trebled in 2015, contributing a considerable proportion of the total profit of business units.

LVPB, with its postal savings subsidiary, is a middle-size bank. In 2016, it ranked 10th among private commercial banks, with total assets reaching $6.45 billion. In 2015, savings from individual and corporate savings accounted for 82% of capital mobilization, indicating capital sustainability, liquidity improvement and financial autonomy reinforcement. Figure 5.3 shows the increase on LVPB's deposits and loans from 2008 to 2015.

LVPB provides a wide range of financial services beyond payments and savings: investments, and short and medium-term loans, as well as insurance products[14] split into three areas: postal transaction office

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[14] The Governor of the State Bank of Vietnam promulgated Circular No. 43/2015/TT-NHNN dated 31 December 2015 regarding regulation on the organization and operation of postal transaction offices under Lien Viet Post Joint Stock Commercial Bank. Postal transaction offices are therefore allowed to offer almost all banking services and products such as savings products; domestic collection and payment services; cash remittance; payment in foreign currency; and insurance products.

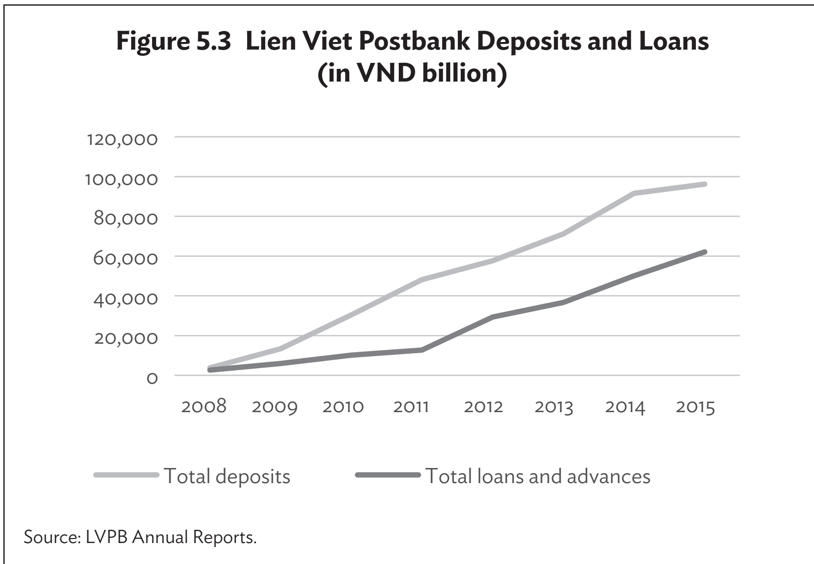

Figure 5.3 Lien Viet Postbank Deposits and Loans (in VND billion)

Source: LVPB Annual Reports.

banking,[15] personal banking, and corporate banking with a very complete range of services. It has been a leader in its field, especially in e-banking, but also in credit cards (with Mastercard) and the innovative mobile wallet, Vi-Viet, enabling e-commerce transactions and financial planning for women. It is now entering the consumer loan market through targeting civil servants, a high credit scoring segment. In addition, it implements various programs funded by the World Bank and other agencies, where it proves to be more competitive, such as the Japan International Cooperation Agency Agricultural Financing Program III (whose target is both individual households or businesses in agricultural and rural areas committed to environment protection), Small and Medium Enterprises Finance Program low interest loans and agricultural loans (with the aim to provide low cost medium and long-term loans for small and medium enterprises).

On 31 December 2015, the Governor of the Central Bank promulgated a regulation on the organization and operation of postal transactions offices under the LVPB. Accordingly, postal transaction offices are allowed to offer most financial services: savings products, domestic bill collection and payment services, payment in foreign currencies, cash remittances, insurance agency, among others.

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[15] Offerings at Postal Transaction Office Banking include: personal postal savings account; term postal savings; accumulating postal savings; remittance via postal transaction offices and banking transaction offices; collection and payment services via post offices; pension loans; and consumer loans.

Vietnam Bank for Social Policies

The VBSP was established in 2002[16] with the mission of providing credit for the poor and other policy beneficiaries. It resulted from the re-organization of the Bank for the Poor, itself derived from the former "Fund for the Poor".[17] VSPC is a non-profit state-owned institution with a compulsory reserve ratio of 0% and solvency guaranteed by the government. It is in charge of providing policy credit to the poor and other policy beneficiaries and also collecting savings. The provision rate is equal to 0.02% of annual outstanding loans with recourse to government if insufficient.

Two main lending methods are used, either direct disbursement and collection of principal to/from the borrowers, or coordination with mass organizations (Women Union, Farmer Association, Veteran Association, and Youth Union). The latter act as channels for the delivery of loans. They create savings and credit groups, provide certification for poor households and support borrowers in the loan refund process. Borrowing interest rates vary from 0% to 9.6%, depending on specific beneficiaries of lending programs. The deposit interest rates vary according to terms from 6.04% to 6.5%.

The supervisory board comprises the Deputy Governor of the Central Bank, ministers, promoting banks, representatives of promoting banks and the four mass organizations. It is assisted by a multi-disciplinary consultant team involving the main stakeholders. The organization management is predicated on the involvement of all the governance layers at national, district and local levels.

Active international cooperation and communication has helped attract external support, not only for credit funding for more target groups, but also for added services and technical assistance.

Human capacity building is crucial to VBSP's success. Training for loan and saving mobilization is organized at different levels and aimed both at leaders and members of savings and credit groups.

The development strategy of the VBSP (2011–2020) is based on increasing outstanding loans by 10% a year and keeping non-performing loans under 3% of the total loan portfolio. Since two thirds of the rural population is still disconnected from formal banking services, which is partly due to the cost of operating bank branches in remote areas where

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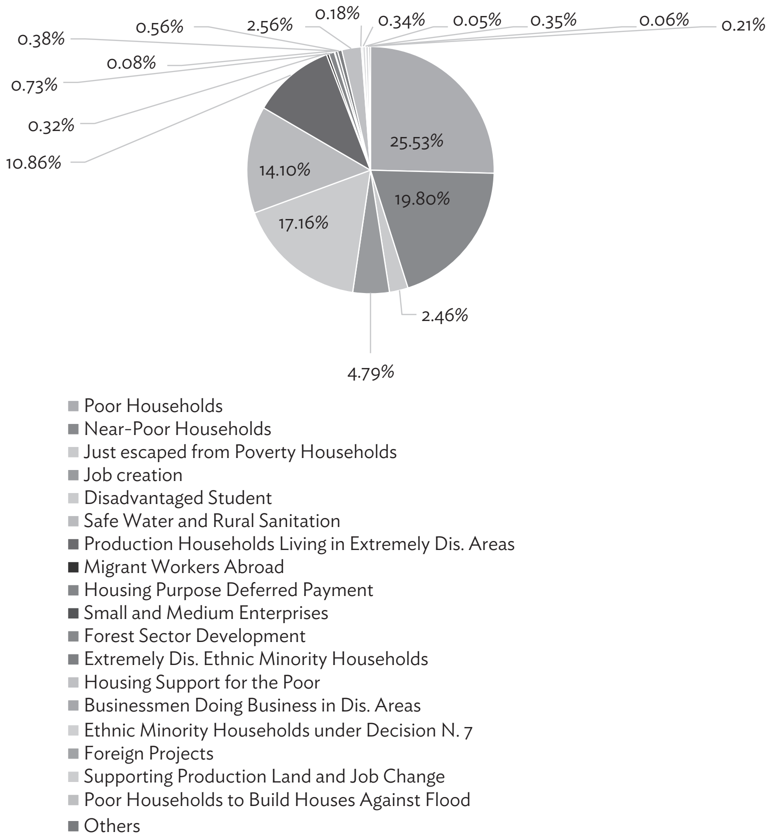
[16] See Premier's Decision No. 131/2002QD-TTg dated 4 October 2002 and the Government's Decree No. 78/ND-CP dated 4 October 2002.

[17] The network consists of 63 provincial and municipal branches; 629 district transaction offices; 10,932 mobile transaction points with local authorities/wards; and 90,000 savings and credit groups.

Figure 5.4 Outstanding Loans by Beneficiary, Vietnam Bank for Social Policies



Source: VBSP (2015).

small frequent transactions are the norm, the Vi-Viet e-wallet was launched in June 2017 for deployment over three years.

About 6.9 million active borrowers were served at the end of 2016, nearly 80% of whom live in rural, remote, and mountainous areas (Figure 5.4). In December 2016, liabilities reached $7.1 billion including mobilization and borrowings at market rate (49.4%), borrowings from commercial banks mandated by the government (27.1%), and central bank funding (17.1%). Client deposits represented 7% of funding.

The loan/liability ratio was 92% in 2015, which is a feature characteristic of microfinance. Subsidies from state budget to cover for the losses due to capped interest and operational costs amounted to 6.6% of income.

New products, recently launched, include consumer loans for government officers, public servants and armed forces, and pension loans delivered at post transaction offices. The former provide for a cautious entry into the riskier consumer credit market. Loan application documents can be submitted at postal transaction offices, no collateral is required and, as a result, the loan application processing time is reduced. The latter is the successful and innovative loan product for pensioners in the Vietnamese market delivered through post office transaction points. It has a term of up to 36 months, and the credit risk is covered by a reputable insurance company.[18]

The Viet Nam approach has been balanced and gradual. Financial and digital inclusion have become priorities relatively recently. The dedicated public banks with a financial inclusion remit were maintained with progressive reduction in subsidies and introduction of market rates. On the other hand, the radical step was taken to transfer the postal financial services activities to an IT innovative private bank that, through the profits it generated, could afford to automate the postal network, thus pushing the boundaries of the banked population. The regulation that allowed the postal network to sell the whole range of products was particularly timely. After the crisis, great care was given to the objectives of core safety and soundness for financial supervision. Competition prevails in the market.

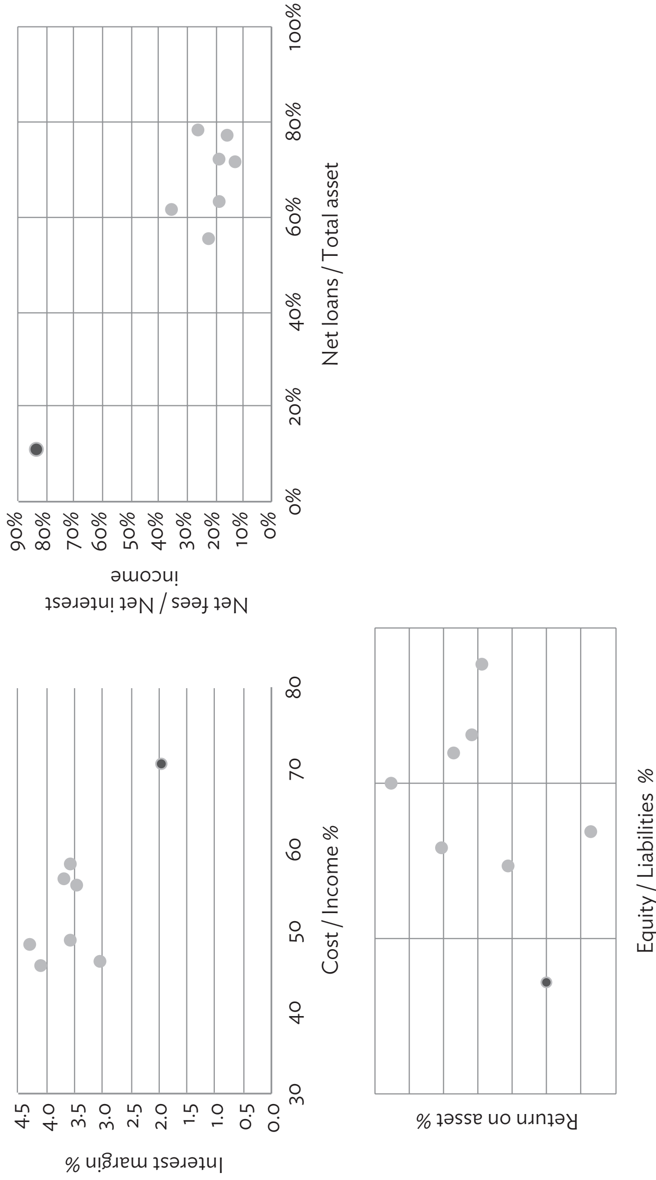
5.3.4.4 Morocco and Viet Nam Postal Banks Comparative Economic Performance

In Morocco, ABB's ratios are clearly distinct from other commercial banks. As can be expected from a bank targeted at low-income customers with a public service mission, the cost/income ratio is far higher; the interest margin and return on equity are significantly lower. The area of specialization of the postal bank is shown by two simple indicators: net loans to customers compared to total assets and the incidence of net fees and commissions over net interest income. The postal bank is also less capitalized compared to other commercial banks with a higher leverage use (Figure 5.5).

In Viet Nam the situation of the "postal bank" LVPB is quite different. As far as the structure of profit and loss account is concerned, the

[18] As of 31 December 2015, after eight months of implementation, the disbursement volume of pension loans reached VND2,200 billion and the number of new customers rapidly increased to nearly 47,000 people.

Figure 5.5 ABB in the Moroccan Market



Source: Orbis Bank Focus data.

performance is similar to those of other commercial banks, both in term of cost/income ratio and of net interest margin. Also, the asset structure is similar to other commercial banks, while net fees and commissions are negative, because commissions paid to other services providers are higher than those applied to customers in some segments. Finally, financial performance, in terms of both return on asset and return on equity, is not far from the average of comparable banks, slightly on the lower levels (Figure 5.6).

These results are not surprising in view of the obligation of ABB to serve, as a priority, the poorer section of the population and the freedom from such obligations for LVPB.

5.4 Conclusion

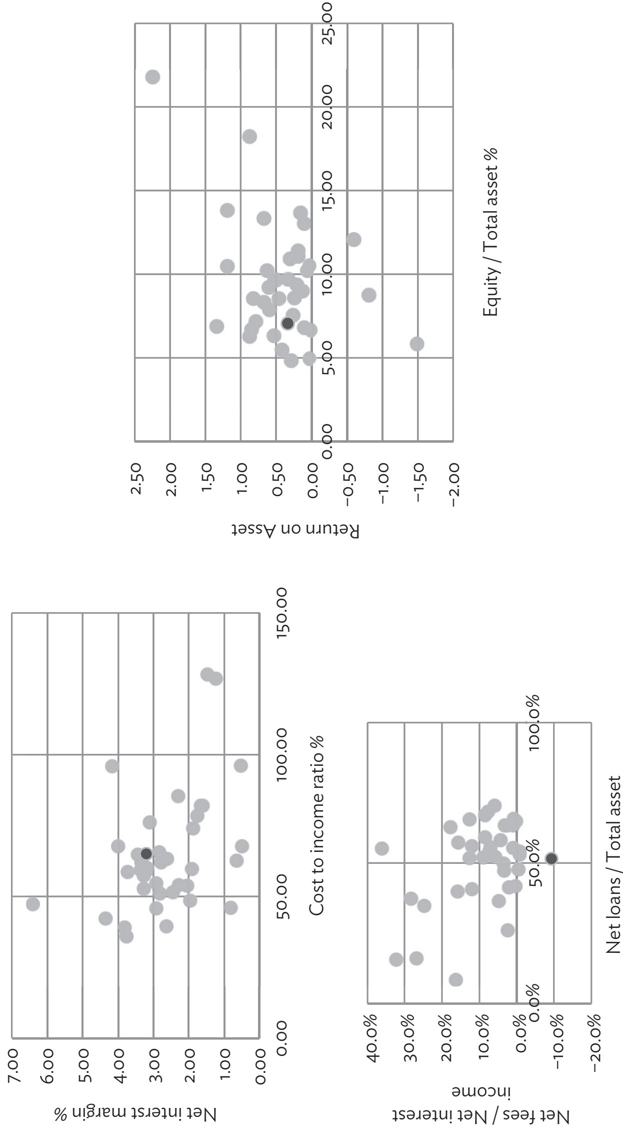
The four analyses, with their limitations, especially in relation to the opacity of data and the desk research nature of the project, relate to four developing countries endowed originally with a relatively dense postal network, quasi-universal delivery service and benefitting from the trust of the citizens, especially those on low-income.

In each country the postal network has been seen as an asset for financial inclusion and not a liability. Governments have been committed to financial inclusion although it has translated into very different policies and the use of different tools. Each post is fully state owned with Viet Nam the exception, being a post bank that is private.

The policies adopted clearly show that politics trumps economics. Reforms, to be successful, have to fit into the distinctive political economies and priorities and, throughout the evolution process, involve the whole political spectrum of measures: state interventionist, pro-market or pro-private (Figure 5.7).

In Viet Nam, the focus of financial inclusion policy has been on microcredit, with reliance on the intervention of policy banks, mainly, but not only, VBSP. On the other hand, in Maghreb countries, posts have had a long experience in delivering payments and managing accounts (savings and deposits). The financial inclusion policy has been based de facto onto access to accounts and payments through post institutions that were debarred from offering credit. Only recently has microfinance become a top priority. Morocco has a clear institutional microfinance framework. MFIs, although they can act as insurance agents, cannot offer deposits. The emphasis of the new Tunisian 2016–2020 financial inclusion strategy is on developing microfinance. As for Algeria, it chose to create, in 2004, a national agency as a public structure to promote the economic inclusion of unbanked citizens.

Figure 5.6 LVPB Financial Performance



Source: Orbis Bank Focus data.

Figure 5.7 Range of Public Interventions to Enable Inclusive Financial Market Development Through Posts

Source: UNCDF (2015).

In organizational terms, postal financial services fall under a division within the post in Algeria and Tunisia that are state-owned enterprises and do not fall officially under the central bank supervision. This is probably one of the reasons for the Tunisian central bank turning down the request of Tunisia Post to set up a Postbank. Algeria has kept to the status quo, after several forays to obtain a banking license. Gradually,

the Moroccan postal financial services evolved towards a postal bank under banking supervision. It is owned by the post group, which is itself state owned with joint stock status. ABB is now developing its credit scoring and management skills through alliances in order to obtain a credit license. The Moroccan banking market is competitive and much less dominated by state-owned banks than in the other three countries.

Vietnam Post, a state-owned enterprise, chose, in a radical way, to transfer out its savings and payment portfolio to a private bank with which it formed a long-term alliance and took a minority share. It also liberalized its postal market. The Algerian Post decided in the first decade of this century to liberalize its postal market. It reserved letters under 50g, and set up a postal regulator (ARPT).

Money transfers, account management and benefits/pension payments are included in the Algerian postal universal service scope. ABB, through the Moroccan post, was also entrusted with the delivery of financial services at equal prices throughout the territory to the underbanked. Algerian Post receives compensation for the net cost of the universal service whereas the Moroccan Post/ABB do not receive any government subsidy, although a major government investment was made on creation of the bank. The Tunisian postal legislative and regulatory framework is out of kilter with market developments, which has not prevented the heavily subsidized Tunisian post from becoming one of the most innovative and best-connected posts in the developing world. After a five-year stalemate, this is now proving a major hurdle. The supervisory ministry does not exercise its theoretical powers, unlike Morocco where supervisory functions are shared with the powerful political Board of Directors. Both Tunisia and Morocco are now studying how to move towards the *acquis communautaire* within the EU neighborhood status in order to integrate the single European market. In the first stage this implies defining the universal postal service, setting up a regulator and abiding by EU banking legislation, to which Morocco is very close. Both the Vietnamese supervisory ministry and the Algerian regulator are active in licensing and authorizing postal operators.

The share of postal financial services in the income of Maghrebi posts, which have been contributing so much to financial inclusion, now reaches two thirds of their turnover. With the fall in the number of letters distributed in the (former) monopoly, this shows how the postal infrastructure is particularly suited not only to the delivery of financial services, but also electronic commerce and e-government. Morocco took this into account when the financial services partner, CDG, acquired the postal network. In Algeria and Tunisia, the bulk of the financial services offer is concentrated on accounts and payments. ABB has diversified

significantly through successful alliances with specialist financial services providers. LVPB has developed a nearly complete financial services offer, which, up to now, has not made a major contribution to financial inclusion, although through automation its offer has recently been expanded.

Postal financial services institutions have led in developing technology-enabled services especially suited to low income non-banked citizens through integrated multiple channel delivery. First Tunisia, then Morocco and Viet Nam have been developing their mobile banking offer. A problem is that the delivery of payment services is not particularly profitable. For these posts, internet connectivity has not been a threat but an opportunity for connecting people and businesses through multiple channel integrated delivery.

In Viet Nam, it is mainly the social policy bank, VBSP, not the post or LVSP, that has been entrusted with including financially the poorest and most excluded through capped interest rate targeting programs. The population served has decreased from 9 to 7 million in the last ten years, possibly as a reflection of the actual overall poverty reduction. What is interesting is that the proportion of programs funded at market rate now reaches nearly 50%, in line with the policy of making VBSP completely self-funded by 2020. In the meantime, LVPB made major investments in the automation of the postal network and is now able to leverage the network competitively to reach out to less-well-off citizens and small enterprises. In future it might play a major role in pushing the financially underserved frontier with a comprehensive range of services. It will also be interesting to see the extent of co-opetition. Both VBSP and LVPB co-operate on the same programs, such as the new mobile banking initiative. This is Vietnamese pragmatism at work and perhaps accounts for Viet Nam's success; appropriate use of both state interventionist (capped interest) and pro-private tools (private status of LVPN) and well-timed sequencing of measures such as the regulatory rules for delivery through posts.

This raises the issue of the sequencing and synchronization of legislative and regulatory development. In more than one way, Morocco provides an excellent example. It gradually modernized its post, synchronizing changes in legislation, governance, strategy and operations. At each stage, the coordination between the various stakeholders was assured not least through the involvement of the relevant ministries and their full adhesion to the poverty reduction, financial and digital inclusion goals. Great care was given both to human capacity building and redesigning supply chains to maximize efficiency and reduce costs. Not being entitled to subsidies, it introduced, at an early stage, a cost plus pricing structure and ring-fenced financial services assets and liabilities.

The post and the CDG joined forces and ABB itself placed the deposits collected, obtaining better returns than when the funds were transferred to the treasury. The reporting system became more complex, first only to one ministry and the board, then increasing to the central bank and the communication regulator, but avoiding the complication and costs involved with an independent regulatory function at this stage. It took extensive advice from partners all over the world.

The lack of cooperation between the Maghrebi posts and postal financial services sectors is a great miss. This is in sharp contrast with the ASEAN Community. In its second stage (2015–2020), the key objectives of the ASEAN ICT Masterplan focused on enabling the transformation to the digital economy and developing the human capacity necessary for this transition, facilitating the emergence of a single integrated market that is attractive to investment, talent and participation, and building a digital environment that is safe and trusted. The vision is to propel ASEAN towards a digitally enabled economy and to enable an innovative and integrated ASEAN Community. The issue of the digital divide is addressed. UNCDF and AFI (Alliance for Financial Inclusion) have just entered into a partnership to advance financial inclusion in ASEAN through peer learning and better data.

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PART III

The Impact of Postal Financial Inclusion

6

Brazil: Postal Services for Financial Inclusion, Trade, and SME Development

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6.1 Introduction

This chapter examines the role of Brazil's postal network on the implementation of inclusion policies aimed at increasing access to trade-related services for relatively poor municipalities in the rural and peri-urban areas of Brazil. After mapping the level of exclusion from essential services necessary to participate in the trading system—such as financial and logistics services—two major inclusion policies, delivered by the postal sector, in finance and trade are described and evaluated. This exercise reveals how the postal sector can respond to the integration needs of the population and firms located in the periphery. The economic impacts of these policies are estimated through a variety of econometric models and prompts: (i) the local development effects of access to finance; (ii) the opportunities of entering export markets for micro-, small- and medium-size enterprises (MSMEs) through access to a simplified postal export system—more particularly, in communities with lower levels of income per capita, lower numbers of firms and lower access to services. The chapter concludes by highlighting the close link between access to finance and participation in export markets.

Posts have facilitated trade and international exchanges for many centuries, supplying essential communication and logistic services to businesses and states of all types.[1] With the surge of new information and communication technologies, the role and relevance of the postal services in the twenty-first century is uncertain. Could access to physical

[1] The terms post, postal services, post offices, the postal network and the postal sector are equivalent in this chapter, except when indicated otherwise.

retail networks ease the provision of basic services for the poor and help them integrate into the international trading system? Moreover, what is the economic impact of supplying a wider range of postal services to rural and peri-urban populations in emerging and developing countries? Can the observations drawn from Latin America, particularly from the Brazil study, be applied to other developing or emerging countries?

Whatever form future mail communications take, posts are characterized by two main potential assets for their development. The first is by ubiquitous physical networks in all industrialized countries and in many developing and emerging nations—connecting over 660,000 post offices world-wide. The second is that they have people's trust in the performance of their services, albeit this second characteristic may hold less true in many Latin America countries that did not pursue clear sectoral policies in the late twentieth century and de facto left postal exchanges to fully deregulated markets. As a consequence, a process of destructive competition—a somewhat counterintuitive phenomenon for economists—is observed in the region.

Compared to peers in other regions this destructive competition resulted in a smaller number of postal exchanges as well as a lower quality of service negatively affecting the public trust.

Brazil's postal services on the other hand faced different developments. Although not the only exception in Latin America with a harmonious development of postal services, Brazil is increasingly cited as a best practice case and referred to in reforms of postal services in other developing and emerging countries. Thus, this chapter measures the Brazilian postal sector's contribution to better access of essential services for the development of trade, namely access to finance and logistics. It also estimates the sectors' economic impact in terms of local economic development.

In Brazil, postal and delivery services enterprises are key trade facilitators. The country provides non-discriminatory access to simplified customs and trade procedures to all postal and express carriers, having heavily invested in, and enhanced, delivery and logistics networks over the last 20 years. The Government of Brazil as well as the postal incumbent were also instrumental in enhancing the postal sector through regular investment and offering universal access to postal, express and basic financial services through the national network of 6,000 post offices (approximately one third of which are under franchising agreements with private agents).

This chapter evaluates recent policies aimed at including more exporters in the trading system, particularly MSMEs. It also assesses the extent to which universal access, provided by the Brazilian postal

incumbent, and has made a difference, particularly in terms of trade inclusion, to provide a first export opportunity to many small firms located in relatively poorer municipalities, where the density of firms is lower and the access to a wide range of services limited. Moreover, the chapter highlights the postal networks inclusion power in access to basic finance—payments and financial transactions essential to smooth handling of trade transactions and to deliver the second largest anti-poverty program in Brazil, that is, the payment of pension benefits.

By examining these initiatives it is possible to test whether there is a need to balance greater economic and geographic concentration, resulting from economic development and trade openness, with more integration of the periphery and the less well-off parts of society. Econometric results regarding the impacts of these initiatives are very much consistent with what was expected in terms of poverty alleviation. After showing that the rural and peri-urban poor suffered from a lack of access to services prior to the introduction of the above-mentioned policies, the great untapped demand for financial and logistics services of these segments of the population was highlighted. The extended use of these services reveals the needs of marginalized populations and enterprises in terms of access to essential services for trade. Moreover, the provision of services through the Brazilian postal sector triggered important economic impacts on local development, particularly in relatively deprived communities. These impacts ranged from facilitating first time entry into export markets to creating new micro and small enterprises that would have otherwise not existed or traded.

Section 6.2 maps financial and trade exclusion in rural and peri-urban areas of Brazil. Section 6.3 describes two historical inclusion policies that resulted in pro-active and extensive use of the postal network toward achieving greater economic integration. Section 6.4 tests the impact of the postal networks on the delivery of inclusion policies, in terms of improved access to services, increased use of services and local development effects. Section 6.5 concludes.

6.2 Mapping Financial and Trade Exclusion in Brazil: a Quantitative and Geographical Assessment

Relatively high levels of income inequality have historically characterized Brazil. Inequality is often linked to a lack of access to basic infrastructure and services, which finance and trade heavily depend on.

This section provides some measurement of exclusion from access to finance and trade infrastructure in Brazil prior to a number of pro-inclusion reforms initiated over the last decade.

In the early years of the 2000s, many instances of exclusion from basic finance and international trade infrastructure were evident. Much of the population did not have open banking access, even in the light of accelerating economic developments. Over 40% of municipalities were without a bank branch, particularly in rural and peri-urban areas. Relative to peer countries, Brazil had only a small number of enterprises—and barely any MSMEs—involved with export markets. High levels of income inequality were persistent over time.

In terms of exclusion from financial infrastructure, the map of the Brazilian municipalities (Figure 6.1) identifies locations without bank branches in 2002. Regional disparities in terms of geographic access to finance were wide ranging from 8,100 inhabitants per bank branch in the south to 20,100 inhabitants per bank branch in the north (Tables 6.1 to 6.3). For instance, the cost for a pensioner to collect his pension benefit from a city far from where he resided equated to roughly $30, or approximately 40% of the benefit and two-day's travel.

By relating financial infrastructure exclusion to population or wealth, the picture became clear. Financial institutions—not surprisingly—were disproportionally concentrated among high population and wealth areas (Tables 6.1 to 6.3). In some cities, such as Autazes in the north, distances to reach a bank could easily exceed 100 kilometers, translating into a 14-hour boat ride to cover part of the 140 kilometers before reaching the first available bank. Financial access figures by region— credit per GDP, deposit per GDP—reflect this situation (Table 6.3).

Figure 6.2 highlights municipalities not exclusively using conventional export procedures, thus: excluded from international export trade without a single firm participating in the export markets and MSMEs in need of alternative simplified export procedures to start exporting.

A depiction of the concentration of exporters in the south and south-eastern regions is also presented.

Trade and financial exclusion are closely related. In 2002, there were 2,302 municipalities without a single bank branch. Out of these, 2,101 municipalities were not exporting at all, that is only 9% had at least one exporter. This situation differed considerably from municipalities with bank branches—45% of which had at least one firm exporting.

Although other quantitative indicators were lacking, it is safe to assume that exclusion from finance and trade infrastructure was likely correlated with a greater share of the informal sector in the local

Figure 6.1 Brazilian Municipalities With No Bank Branch in 2002 (Grey Areas)

Source: Authors' calculation; data from the Brazilian Central Bank.

economy, a lower level of financial literacy and a lack of access to new information and communication technologies (ICTs) in many small cities and rural locations in the early part of the 2000s.

Access to finance and trade infrastructure services was thus systematically uneven between the economic centers and the periphery—the most and the least populated cities, the richest and the poorest communities, and the rural and the peri-urban areas. Nevertheless, there was a remarkable exception to this systematic concentration of services. It

Table 6.1 Socio-Demographic Regional Differences (2005 Values)

Region million	Population	GDP (in BRL)	GDP Per Capita (in BRL)	Industry Share (%)	Agri-cultural Share (%)	Service Share (%)	Number of Firms
Central/ west	13,014.333	190.000	14,599.29	14.35	36.31	49.34	43,419
Northeast	51,016.525	280.000	5,488.42	13.02	20.38	66.60	952,466
North	14,698.878	107.000	7,279.47	13.57	30.04	56.38	214,720
Southeast	78,444.032	1,210.000	15,425.01	20.21	20.77	59.02	3,041.597
South	26,973.511	356.000	13,198.13	19.18	28.27	52.55	1,416.670
Total	**184,147.279**	**2,143.000**	**11,637**	—	—	—	**6,059.651**

BRL = Brazilian lira.

Source: Authors' calculation; data from IBGE.

Table 6.2 Exporting Activity Regional Differences (2005 Values)

Region	Exported Value (in $ Million FOB)	Total Ex-porters	DSE Exported Value (in $)	EF Exported Value (in BRL)	EF Number of Export-ers	EF Value Per Exporter
Central/ west	4 922	828	1,666.735	796.579	76	10,481.31
Northeast	10,520	1,380	6,824.055	1,459.181	223	6,543.41
North	7,192	840	8,956.397	13,200.000	25	528,000.00
Southeast	68,890	10,565	160,400.000	24,700.000	1,780	13,876.40
South	26,770	5,902	42,997.365	3,047.839	347	8,783.40
Total	**118,294**	**19,515**	**220,844.552**	**43,203.599**	**2,451**	**17,626.93**

BRL = Brazilian lira, DSE = Declaração Simplificada de Exportação, EF = Exporta Fácil.

Source: Authors' calculation; data from IBGE and Ministry of Economic Development.

Table 6.3 Financial Access Regional Differences (2006 Values)

Region	Banco Postal agencies	Bank agencies	Banking corre-spondents	Credits per GDP (%)	Deposits per GDP (%)
Central/west	537	1 253	3 366	129.30	20.23
Northeast	1 687	2 539	8 914	41.25	15.32
North	481	693	1 204	37.48	14.80
Southeast	1 855	9 624	18 744	78.99	23.10
South	1 007	3 575	7 178	118.53	20.92
Total	**5 567**	**17 684**	**39 406**	**...**	**...**

Note: Credits and deposits refer to both public and private.

Source: Authors' calculation; data from IBGE.

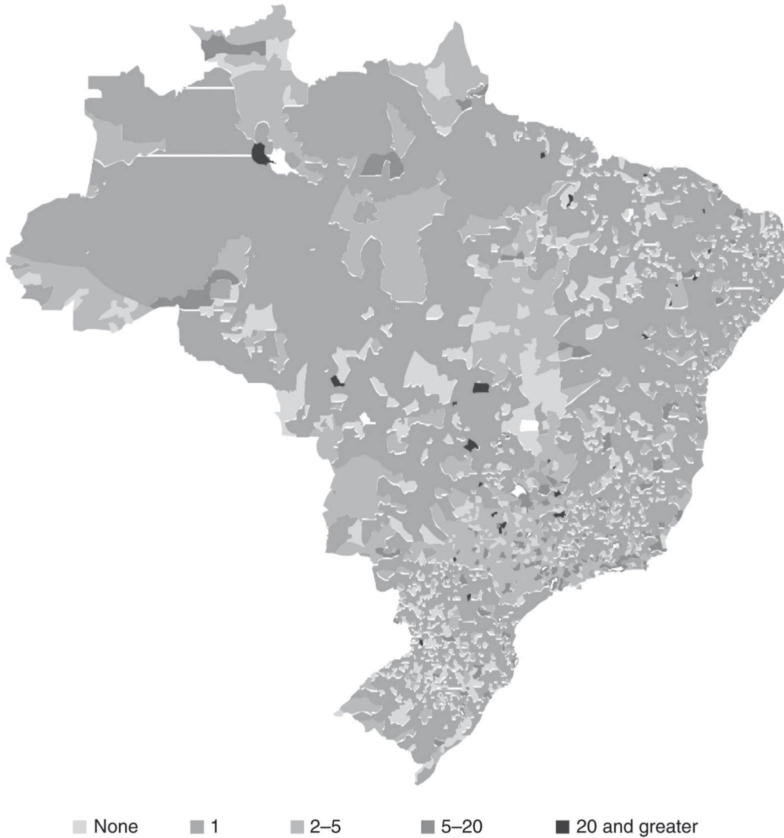
Figure 6.2 Need for Simplified Export Processes (2005)

Note: RE is the abbreviation for Registry of Exports, where exports following the usual export procedures are registered in Brazil. DSE is related to simplified export declarations for exports following the simplified procedure. EF is the abbreviation for "Exporta Fácil", the Brazilian postal incumbent's program for simplified export, also using DSE regulations.

Source: Authors' calculations; data from Correios (ECT) and Ministry of Development, Industry and Foreign Trade.

is interesting to note that the Brazilian postal network—a finance- and trade-related network—displayed a different pattern in terms of general access to services. The postal network was made up of more than 5,500 offices and 2,000 franchised points of sale, accessible in almost every municipality (Figure 6.3). For decades, an ambitious universalization

Figure 6.3 Geographical Distribution of Correios Post Offices (2005)



Source: Authors' calculations; data from Correios (ECT).

policy had been undertaken providing access to postal infrastructure services. Moreover, Correios— the Brazilian Post—had been ranked at the top of the most-trusted institutions or companies in Brazil several times. In fact, only the family and firemen closely followed, while banks and telecommunications companies held distant rankings. This trust made the postal network an ideal hub for distributing financial and trade facilitation services to the entire population, and by so doing served poverty alleviation policies.

6.3 Inclusion Policies in Brazil During the Early Part of the 2000s: Increasing Access to Finance and Trade

6.3.1 Infrastructure Through Postal and Delivery Networks

This section describes how the Government of Brazil closely associated and guided its postal network in adopting pro-inclusion policies over the last decade. In so doing, it had a pivotal impact on Correios, making it one of the most innovative postal networks in the world. Two such pro-inclusion policies are introduced below. The first deals with improving access to basic finance, and the second with trade facilitation for MSMEs. In each case, the general policy is presented prior to specifying the role played by Correios in this context. The possible impacts on poverty alleviation are highlighted.

6.3.1.1 Access to Finance: General Policy and the Role of the Post

It was not until the 1990s that the development of other forms of financial institutions, especially microfinance institutions and credit cooperatives, started to increase in addition to traditional banking in Brazil. At that time, the Government of Brazil strengthened its innovative approach for supplying financial services and incrementing access to finance through a system of correspondent banks (considered a form of microfinance institution).

Banking correspondents acting as agents for banks are ultimately responsible for financial transactions vis à vis its customers. The rationale behind this form of banking uses the large capillary of networks (typically lottery kiosks, post offices, pharmacies, supermarkets and other retailers) to achieve a universal provision of financial services. The interest to financial institutions of operating through such large retail networks was related to sharing fixed costs, benefiting from economies of scale and reaching more customers.

In this framework, Banco Postal (BP)—a special postal financial service provided by the Brazilian Post, through its agent Empresa de Correios e Telégrafos (ECT)—acts as a correspondent for a private bank, namely Bradesco (the principal). BP was founded in 2001 as a result of a governmental auction won by Bradesco, who bid BRL200 million to operate until 2009 in the ECT agencies. The general principles of BP were established by the Brazil Ministry of Communication and reflected

the institution's social inclusion objectives. These objectives stipulated that priority be given to municipalities without a bank in order to provide them with their first access to financial services. Indeed, the establishment of BP agencies was designed to achieve specific timetable objectives—to serve at least 1,000 municipalities by the end of 2002 and to reach all of Brazil's financially unattended municipalities by the end of 2003. In order to achieve this goal, Correios had to first resolve important connectivity problems. Points of sale (POSs) terminals and V-Sat antennas, sometimes relying on solar energy, had to be set up and installed in many locations. As continuous communication between Correios and Bradesco data centers was paramount, numerous postal employees were trained to ensure this new service. Finally, Bradesco organized a fail-safe and timely manner in which to transport cash to thousands of new POSs.

Each BP agency provided a range of payment, savings and lending services (including microcredit), although the partner bank remained responsible for approving any transaction. Banco Postal offered simplified bank accounts with easy and affordable fee structures. Unlike private banks, it did not require a substantial deposit to open an account. These features contributed to making deposits attractive for low-income people with relatively low levels of financial literacy. A wider access to finance can be better leveraged in terms of poverty reduction when a specific offer toward lower-income groups is designed. More precisely, in the case of the simplified account "Conta Fácil", as long as deposited money remained in the account for more than thirty days, it earned interest so as to automatically convert stable deposits into savings. The monthly fee in this account was lower than that of the Bradesco fee with only a minimum amount of BRL5required.[2] Loans and micro credits were first granted in 2002 and 2003 respectively. As credit risks were completely assumed by Bradesco, BP's employees were not responsible for ensuring lower-income groups paid back loans.

6.3.1.2 Access to Trade: General Policy and Role of the Post

For its size, Brazil's share of total global trade is low (1.14% in 2007). Moreover, most of its exports are concentrated in hands of large exporting firms. In 1999, MSMEs only contributed 2.3% to total exports. This can partially be explained by increased delays and costs created by an export-specific bureaucracy that were unbearable to smaller firms which exported objects of low value.

To offset this, in 1999, the Government of Brazil instituted new procedures enabling the export of low-valued objects without going

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[2] http://www.febraban-star.org.br/documentos/pdfs/Banco_Postal.pdf

through normal formalities thereby reducing the number of export procedures from twenty-three to only three. In the same year, different government ministries teamed up to create a new legislation introducing a simplified export form called “Declaração Simplificada de Exportação” (DSE),[3] which applied to the export of objects whose value was less than $10,000 (this limit was raised to $20,000 in 2006, and to $50,000 in 2008). This form presented a number of advantages, greatly simplifying export procedures. As with the product features of BP described above, simplicity was a key factor in increasing the possible leverage of the initiative on relatively poor entrepreneurs. The usage of the DSE was open to all logistics intermediaries—among them postal operators and other express operators falling into the postal sector—as defined by the Brazilian Ministry of Communication.

Exporta Fácil was launched by Correios in November 2000 after the introduction of DSE in 1999. However, the service was not intended to simply take advantage of this simplified export form. Correios’ goal was to provide universal and easy access to export markets by making the service available in more than 8,000 Brazilian post offices (in almost every municipality), theoretically permitting the inclusion of remote towns and villages that would, without the capillarity of the designated postal operator’s network, have been geographically excluded from accessing a carrier to export. Exporta Fácil relied on Correios’ traditional international package services and permitted shipments of up to 30 kilograms through the EMS (express mail services) system and of 20 kilograms through standard package sending to upward of 200 countries.

6.4 From Exclusion to Integration In Finance and Trade: Testing

6.4.1 The Impact of the Post in Delivering Pro-Inclusion Policies

This section evaluates the extent to which the postal network was efficient in delivering pro-inclusion policies outlined in section 6.3, in response to the lack of initial access to basic finance and trade infrastructure described in section 6.2. A common database was built to analyze the economic impacts of both policies at the municipality level.

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[3] The legislative act is referred to as the Instrução Normativa SRF no. 155, de 22 de dezembro de 1999 http://www.receita. fazenda.gov.br/Legislacao/Ins/Ant2001/1999/in15599.htm

Financial inclusion through BP was evaluated in terms of access, use and impact on local economic development. The trade facilitation program, Exporta Fácil, was analyzed over a time period to better identify its users' characteristics and whether it enabled small firms to enter export markets. This empirical evaluation assess whether the outcomes of these initiatives were supportive of poverty alleviation goals.

6.4.1.1 Empirical Approach for Evaluating Two Pro-Inclusion Policies Through the Postal Network: Data

Both evaluations are mainly based on municipality-level data covering the period 1999 to 2007. This data, being at the most disaggregated level, permitted researchers to exploit the huge variations in the size and income of Brazil's municipalities—defined as the smallest political administrative unit after a state and, although the number of municipalities changed only slightly during the period, a total of 5,561 municipalities remained static throughout the time frame. Cognizant of the fact that there was considerable heterogeneity within municipalities, especially for the big cities where disparities between slums and rich neighborhoods made it dubious to consider them as uniform areas, a solution was used to reduce the potential statistical bias arising from this lack of information—the availability of within-municipality inequality measures (Gini indices).

6.4.1.2 Access To Basic Finance: Testing the Impact of the Post in Delivering Inclusion and Local Economic Development

First, municipalities were divided by semi-deciles of their GDP per capita and population in order to provide a concise picture of BP's location and use, and to compare it with that of bank agencies and correspondents (Boldron et al. 2006). Second, in order to examine whether financial intermediation through BP exerted a causal impact on local development, the opening of a BP agency in a municipality in 2002 was considered a "treatment" for the municipality, and also used propensity score matching methods to estimate the impact of such an opening on the post-intervention economic state of the municipality (Ansón and Bosch Gual 2008).

Evaluating and Comparing Access Provided by Different Channels

The first BP branch was opened in March 2002 and, by the end of 2006, a total of 5,567 BP agencies were in operation after a progressive opening of POSs.

A method of analyzing the distribution of financial intermediaries is by grouping municipalities according to their population or their wealth. It can be inferred from Tables 6.4 to 6.7 (Appendix 6.1) that BP agencies, other correspondents and traditional bank agencies all presented different network topographies. Municipalities with higher overall GDP per capita and population tended to have a denser network of financial intermediaries. However, a comparison of these networks at different levels of income and population revealed that they complemented each other in some cases and overlapped in others, possibly creating some competitive pressure.

Bank agencies tend to cluster in wealthier and densely populated areas as a result of their rational and profit-maximizing behavior. Such a clear concentration does not appear in the case of BP agencies because their introduction was proportional to the more evenly distributed postal network. Consequently, the distribution of BP agencies was quite constant across different levels of wealth and population. Other correspondents seem to have behaved similarly to bank agencies, locating in wealthier and densely populated areas, and in all probability where the density of other networks, such as supermarkets or pharmacies, was also higher.

In 2002, 20% of municipalities with the lowest number of inhabitants, representing less than 2% of Brazil's total population, corresponded to very different percentages of each network's outlets—8.55% of all BP agencies or 1.78% of all bank agencies and 0.5% of all correspondents (Table 6.4). In 2006, BP agencies stood at 13.41% but only accounted for 1.53% of all bank branches and approximately 1% of all correspondents in these same municipalities. It was also found that in only 60% of the largest municipalities was the average number of correspondents greater than that of BP agencies (Table 6.5). For bank agencies, it was only from the median municipality that their average number became larger than that of BP agencies.

A similar, though less striking, phenomenon was seen with the same analysis of income level of municipalities (Tables 6.6 and 6.7). The average number of BP agencies increased with wealth, but not as dramatically for traditional bank agencies. The biggest difference in BP distribution occurred between the lowest and the highest semi-decile; the poorest 5% of municipalities had, on average, roughly 2.8 times fewer agencies than the richest 5%. On the other hand, the distribution in the bank agency network according to level of income was even more skewed—the difference in the average number of agencies between the richest and poorest municipalities was a factor of about 60. Approximately 32% of the banking network was concentrated in the 278

richest municipalities., and 58% of their network was concentrated in the 278 most populated municipalities.

To sum up, in 2002, there was less than one bank agency in 35% of the poorest municipalities and in 55% of the least populated municipalities. This result improved four years later, when "only" 30% of the poorest and 33% of the least populated municipalities had less than one traditional bank branch on average.

The fact that BP agencies were homogeneously distributed throughout the territory, regardless of the municipalities' level of economic development and population, also reflects the institution's desire for social and financial inclusion.

Evaluating Use by Previously Excluded Customers

The three main components of financial services provided by BP are savings, credit and payment services. Savings accounts are important for they help buffer emergencies to which poorer segments of the population are more vulnerable (World Savings Bank and European Savings Bank Group 2004). Access to credit for segments of the population with more modest incomes is often viewed as a way to enhance small business development. Lastly, access to payment services such as money transfers, social security payments or international remittances, is also important to the less well-off rural inhabitants, who often rely on these payments.

The population's relative participation in BP services was gauged by exploring how these components were utilized in each region and in each group of municipalities (divided into semi-deciles of population and GDP per capita).

Tables 6.8 and 6.9 present the distribution of different BP services and products across semi-deciles. Table 6.8 presents the number of current deposits and savings deposits and the number of withdrawals.[4] At first glance, it seems that wealth and the per capita demand for BP services and products were not proportionally related. In fact, those living in the poorest 50% municipalities, representing less than one third of the population (29%) accounted for some 50% of all BP deposits. This is a very positive result as regards financial inclusion, as it indicates that there were more BP deposits in poorer municipalities.

Access to credit is one of the most quoted constraints to business development by the self-employed and micro-entrepreneurs.

[4] Withdrawals refer to shelter withdrawals in BP. However, BP customers can access their savings by other means, mainly through Bradesco facilities, at ATMs, via internet and by telephone.

Micro-enterprises accounted for the vast majority of all Brazilian firms and contributed substantially to employment and GDP. Brazil's 4.5 million micro- and small enterprises accounted for 44% of all employment and more than 60% of urban jobs. From its creation up to the end of 2006, BP granted 1.93 million loans, including micro-credits, loans and e-loans. On average, in 2006, a BP agency granted some 200 loans in the north and central west, while in the northeast and southeast the average number of loans per BP agency was half that amount. The difference was more striking in the south, where a typical BP agency granted four times fewer loans on average than in the north or central west.

Table 6.9, presents an analysis of credit services, including micro-credits, loans, and e-loans.[5] The micro-credits, loans, and e-loans granted by BP were disproportional. In 2005, 10% of the total population, was concentrated in the 20% poorest municipalities and received some 20% of all micro-credits. Conversely, the richest semi-decile, containing some 20% of the population, received less than 10% of all micro-credits granted. This disproportionality was even more apparent with regular loans. Nearly one quarter of all loans were granted to the poorest two deciles, while only some 4% of loans were granted to the wealthiest 5% throughout all municipalities, accounting for 10% and 20% of the total population respectively. These figures confirm the evidence of a north–south pattern in BP lending services.

Local Economic Development

The analysis of the treatment effect of a BP branch opening in 2002 was based on seven outcome variables: (i) number of new firms; (ii) variation in the level of employment; (iii) growth in the average number of employees per firm; (iv) growth in proportion of salaried employees; (v) number of new bank agencies; (vi) number of new correspondents; and (vii) growth in real GDP. All the outcome variables are presented as the difference in their values between 2001 (before the BP treatment) and 2005 (after the BP treatment). The results are presented in Tables 6.10 to 6.17 in Appendix 6.1.

The number of firms was used to study the impact of a BP branch opening on local entrepreneurship. The level of employment was used to assess job creation. To determine BP impact on the size of the firms, the average number of employees per firm was utilized. Furthermore, in order to understand the effect of a new BP branch on the level of formalization of the labor market, the proportion of salaried people compared with all employees was applied. To determine whether the

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[5] E-loans are loans for which a BP customer can apply via the internet.

launch of BP generated positive externalities on other financial intermediaries, (whether it attracted bank agencies and other correspondents) the change in the number of other correspondent agencies and bank branches was looked at. Lastly, any BP impact on local economic growth was considered.

The average outcome for the treated groups and for the control (non-treated) groups is summarized in columns i and ii of Tables 6.10 to 6.17 respectively. Column iii presents the difference between columns i and ii. This can be interpreted as the average treatment effect (ATE). A positive (negative) difference means that the average affects on the treated group is greater (smaller) than on the non-treated group.

The estimates given in Table 6.10 reveal that the launch of a BP agency in a municipality in 2002 had significant average causal effects on most of the outcome variables concerned. In a four-year period (2002 to 2005), the municipalities that had received the treatment experienced a formalization of their labor market and attracted more bank agencies and correspondents. In concrete terms, the increase in the number of bank agencies (other correspondents) was 56% higher in municipalities with a BP agency compared to peers without BP. Another positive impact brought about by BP was the average of 37 additional new firms per municipality with BP compared to peers without BP in four years.

The results in Table 6.10 make no allowance for other sources of variation in outcome, such as differences attributed to regions per se. For example, some regions may have had a more formalized labor market or an industrial structure highly dependent on external financing, which could bias the results. To deal with the intrinsic regional effects or structural regional differences, regional dummies were included in a new set of estimations, the results of which are summarized in Table 6.14.[6] This might have reduced the region-specific bias (which, despite the inclusion of all relevant control variables, is a difficult, if not impossible task). The addition of regional dummies attenuate coefficients and raise standard errors, rendering it impossible to reject the null hypothesis of a zero BP effect on outcome variables, except in the case of enterprise creation. However, these statistical results are more likely to be simply due to the fact that most BP branches were first opened in the north and north-east regions —the municipalities without a bank. Therefore, it can be inferred from Table 6.14 that the average treatment effect of a BP agency launch in 2002 was the creation of an estimated average of 29 additional new firms per municipality with BP compared to peers without BP in four years.

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[6] Dummies are variables that take the value 1 if the observation corresponds to a specific region, and the value 0 if not.

The underlying heterogeneity could be utilized better by conditioning the municipalities on their level of banking penetration prior to treatment. Tables 6.10 to 6.13 report the estimation results of the baseline model using three conditioning information sets. The first set includes only municipalities without a bank in 2001. The second includes municipalities with at least one, but fewer than six, bank branches. The third includes only those municipalities with more than five bank agencies. These sets represent 42.4%, 51.9%, and 5.7% of all municipalities, respectively. The ATT was conditioned to determine where the causal effect was more pronounced. In other words, the treatment was conditioned to use the level of access. Furthermore, conditioning was based on the level of banking penetration—a proxy for financial literacy—and adds regional dummies in Tables 6.15 to 6.17.

It can be concluded from Table 6.16, that taking into account regional differences and specific levels of financial access, the opening of a BP agency in 2002 had a causal impact on the creation of 20 additional new firms in municipalities as well as some level of financial competition and literacy (from one to five bank agencies) compared to peers without BP. It can also be concluded that treated municipalities with some level of financial competition and literacy in 2001 experienced a 17% higher growth in the number of additional new firms than non-treated municipalities.

Although BP led to the creation of enterprises, the average size of the firms remained virtually unchanged. This can probably be explained by the fact that most newly created firms had a small number of employees on average.

As regards the effects on the labor market, it was discovered that, once regional differences were taken into account, jobs were created in municipalities already benefiting from some degree of financial intermediation. This result could well highlight a greater impact of the financial inclusion policy under study in communities with people already being financially literate to some extent in 2001 (Table 6.16). Interestingly, in municipalities with low levels of financial literacy—for instance in municipalities that were initially unbanked—significant BP effects are only found on the formalization of the labor market. On average, municipalities that were initially unbanked experienced relatively more growth in the proportion of salaried workers than other initially unbanked municipalities not benefiting from a BP launch in 2002.

Furthermore, the first wave of BP branch openings did not have any medium-term effect on local GDP per capita growth in 2005. A plausible explanation is that financial inclusion is above all a matter of numbers rather than value. While many individuals and small firms were financially included through BP, it is intuitive to understand that the

monetary added value of all transactions was not large enough so as to have an impact on a macroeconomic aggregate—such as GDP—which is measured in value terms. The result is the same when comparing these transactions to the overall financial system. Yet, this constitutes further tangible proof of the inclusion power of BP, for if many new firms had been created locally thanks to BP (as tested econometrically) while the value aggregate (GDP) remained largely unaffected, this in turn means that the newly created economic activities have mostly involved the less well-off segments of the population:

- low-income households and micro-enterprises. The positive macro-economic local impact of BP is to be found at the extensive rather than at the intensive margin.[7] Thus confirming BP was an important factor of integration for those segments of the population;
- mostly rural or living in small cities—at a time of stronger concentration of economic activities in large centers due to economic development and greater trade openness. More concentration also calls for more integration in order to prevent the periphery from becoming a de-stabilizing factor and jeopardizing the sustainability of economic development.

Ultimately the treatment did attract other bank agencies, but only in municipalities already with bank agencies in 2001. Treated municipalities, with at least one bank agency in 2001, had more than three times as many bank agencies as non-treated municipalities with the same level of financial access through bank agencies.

6.4.3 Trade Facilitation for All: Testing the Impact of the Post in Delivering Access to Export Markets for First-Time Exporters

After demonstrating the impacts of providing access to finance through a postal network, the extent to which the Brazilian postal sector was equally successful for easing access to export markets to those formerly "excluded" firms from the international trading system was examined.

6.4.3.1 Evolution of DSE Exports

How have low-valued exports evolved since the introduction of simplified export procedures (DSE) in 1999?

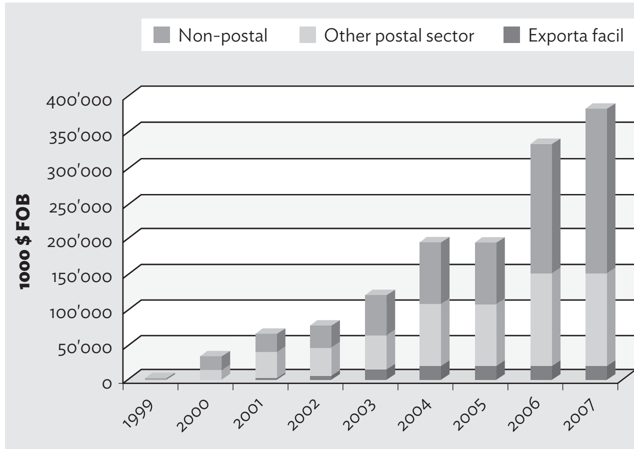
[7] The extensive margin means at the « number of » level while the intensive margin means at the "value of" level.

Figure 6.4 illustrates three important and revealing trends. The first trend illustrates the clear upward evolution of the value of low-valued exports through DSE to $387 million in 2007. A particularly large increase was noticed between 2005 and 2006, which can be explained in part by the increase in the maximum exportable value from $10,000 to $20,000 taking place at that time. The second trend concerning total DSE exports include postal exports carried out by what the Brazilian Ministry of Communications defines as the postal sector—the historical operator Correios, but also eight other express carriers, including the usual global players. Exports through the postal sector had continuously grown, encompassing about one half of total DSE exports. This leads to the conclusion that the postal sector as a whole has an important role to play in the delivery of low-valued exports. The third trend revealed by this graph concerns the evolution of Exporta Fácil exports: they represented a relatively small share of the total small export market and their importance, both in absolute and in relative terms, was decreasing in 2006 and 2007.

6.4.3.2 Evolution of Exporta Fácil

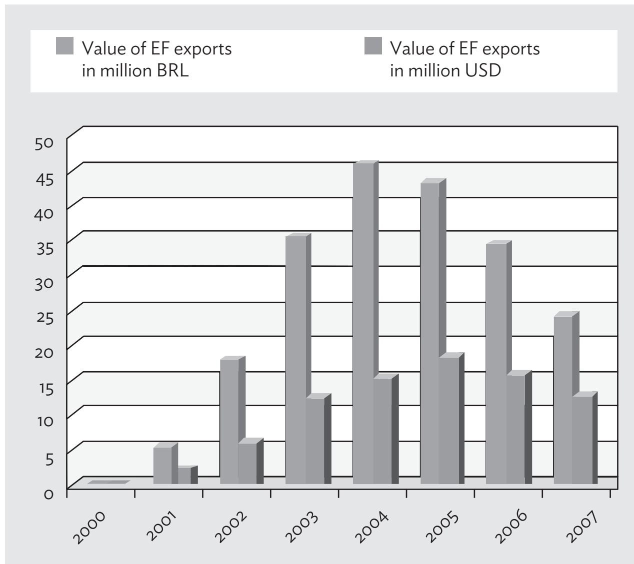
Figures 6.5 to 6.7 illustrate the evolution of: Exporta Fácil exported values, the number of exporters having used Exporta Fácil, and the number of objects sent through Exporta Fácil respectively. All three measures followed the same trend: a rapid increase in the years following Exporta Fácil's launch in late 2000, followed by a clear peak around 2004, after which usage declined. Three explanations can be provided. One is not specific to the program but attributable to Correios' general performance in the outgoing international shipment of packages. Advertising for these services was unexpectedly temporarily interrupted between 2005 and 2007 (more recent provisional figures show renewed growth). The reason for this interruption is that it coincided with a review of the public procurement process at Correios. As Figure 6.8 illustrates, Exporta Fácil followed the same declining trend as the rest of Correios' international shipments. This trend revealed a marketing structural problem, especially when it was confronted by the general growth of Brazilian exporting activity during the same period. Furthermore, Correios was handling an ever-increasing number of incoming international packages, showing that the reliability of its services was not a concern. The second explanation is related more to the implementation of the Exporta Fácil program itself. Correios underestimated the fact that repeat exports were not the rule but the exception in international trade (Besedes and Prusa 2004). It did not sufficiently renew its customer base in terms of new small exporters, holding the belief that repeat purchases would be as high as for other

Figure 6.4 Evolution of DSE Exported Value



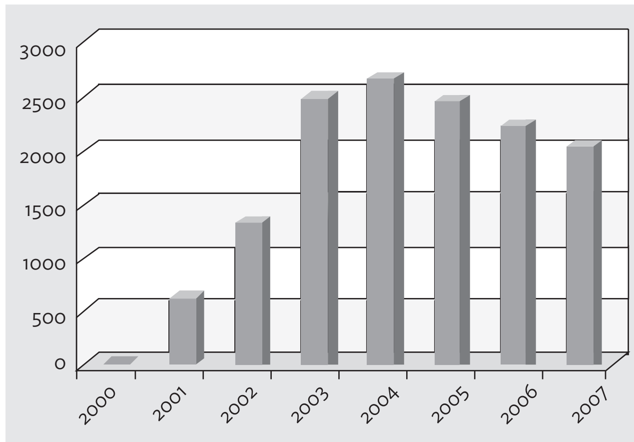
EF = Exporta Fácil.
Source: Authors' compilation; data from MDIC/MC/Correios.

Figure 6.5 EF Exported Values



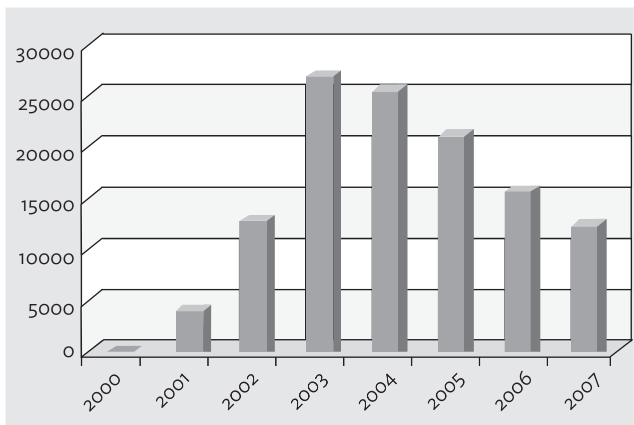
BRL = Brazilian lira, EF = Exporta Fácil.
Source: Correios (ECT).

Figure 6.6 EF Number of Exporters



EF = Exporta Fácil.
Source: Correios (ECT).

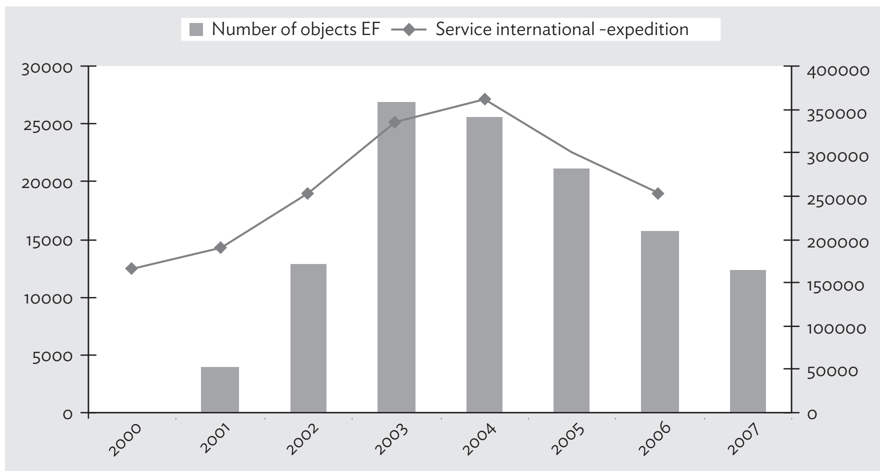
Figure 6.7 EF Number of Objects



EF = Exporta Fácil.
Source: Correios (ECT).

products or services delivered through the postal network. Maintaining and growing this customer base would have required greater effort and coordination with local chambers of commerce and small firm organizations. It is interesting to note that other Latin American countries

Figure 6.8 Exporta Fácil vs. all Correios International Shipments



Source: Correios (ECT).

replicating Exporta Fácil through an IIRSA program—such as the post in Peru—learned from Correios' experience and made efforts to secure a constant inflow of new exporters. The third explanation is related to competition exerted by foreign couriers and express companies, which were also allowed to access DSE. These operators have offered end-to-end integrated services from origin to the destination country for several decades, while historical postal operators have only recently started to develop greater interconnectivity and integration of their services—making international postal regulations more flexible in terms of parcel sizes and weights, or adding reliable international track-and-trace options for their customers.

6.4.3.3 Econometric Analysis: the Determinants of Low-Value Exports

The data allows for further investigation into what drives exporting activity at the municipality level by econometric methods. It is thus possible to estimate the impact of socio-economic and demographic variables on exported value and number of exporters for RE, DSE, and Exporta Fácil exports.

Table 6.4 displays the estimated effect of the different explanatory variables, by export channel, on the number of exporters and exported value, respectively. To make interpretation easier, only the

Table 6.4 Tobit Regression of Number of Exporters and Exported Value, Per Type of Export—Sign of Effect

2005 Estimates	RE No. of Exporters	Value	DSE No. of Exporters	Value	Exporta Fácil No. of Exporters	Value
Population	0	0	0	-	-	0
Log Population	0	0	+	+	+	+
Share of Rural Population (2000 Estimate)	0	+	0	0	0	0
GDP	0	0	-	0	0	0
Log GDP	+	+	+	0	0	0
Gini Inequality Coefficient (2000 Estimate)	-	0	0	0	0	0
Share of Services Sector	0	0	+	+	0	0
Share of Industrial Sector	+	+	0	+	+	+
Transport Cost to Closest Capital	0	0	-	0	-	0
Transport Cost to Sao Paulo	0	0	0	0	-	0
In large Metro Area (Dummy)	+	0	0	0	0	0
Labor Participation Rate (2000 Estimate)	+	+	+	+	+	0
Number of Bank Agencies	-	0	-	+	0	0
Median no. of Years of Schooling	+	+	+	0	0	+
No. of Firms (Unidades)	+	0	+	0	0	0
Average Size of Firms (in Employees)	0	0	0	-	0	0
Constant	-	-		-	-	-
No. of Uncensored Observations	**1,714**	—	**459**	—	**302**	—

DSE = Declaração Simplificada de Exportação, RE = registry of exports.

Note: Signs are reported if effect was found to be statistically significant at the 5% level.

sign (positive = "+", negative = "–") of the effect is displayed here for statistically significant coefficients. A lack of statistical significance for the variable coefficient is reported with "0". It is to be noted that all explanatory variables are not used at the same time in the econometric estimation due to multi-colinearity problems. The first test conducted relates to geographic inclusion. All other effects

being controlled for, both transport costs to São Paulo and transport costs to the nearest capital either negatively affected or did not affect low-valued (DSE and Exporta Fácil) exports. Hence, neither DSE (which was expected) nor Exporta Fácil (which was not expected) had promoted geographical inclusion. It is interesting, then, to analyze which variables affect their usage, and if there are some explaining DSE exports but not RE exports.

The following factors seem to consistently explain all types of exporting activity in a municipality: share of industrial sector (positively); labor participation rate (positively); and education level—as defined by the median number of years of schooling (positively). This gives an insight into the necessary prerequisites for exporting activity in a municipality—it has to be industrialized, educated and have a high labor participation rate (likely to increase access to a variety of production factors). The total number of firms in a municipality explains positively the number of exporters but not the exported value (for both the DSE and the RE).

More interestingly, some factors influence low-valued exports (DSE including Exporta Fácil) differently than normal ones (RE). As can be seen, the population (in log form) affected positively DSE and Exporta Fácil exports, but not RE exports, whereas the log of GDP affected RE exports and the number of DSE exporters, but not its value and not Exporta Fácil exports. This implies that low-valued exports (particularly Exporta Fácil) depend more on population and less on wealth than regular exports. Moreover, it appears that the share of the services (tertiary) sector explains positively DSE exports, meaning that low-valued exports were more intensely used in service-oriented cities. Finally, it looks as if the average size of firms (in employees) affected negatively the value of DSE exports. These two last results taken together appear to indicate that cities with a concentration of small firms where the service sector plays a larger role will generate a higher usage of DSE and Exporta Fácil exports.

The results demonstrate that most municipality-level characteristics explaining Exporta Fácil usage are not much different from those explaining overall DSE exports. However, three variables (log GDP, the share of the service sector, and the number of firms) exerting a positive influence on the total number of DSE exporters had no significant effect on Exporta Fácil exports. These variables together represent a proxy for the level of wealth and economic structure of a municipality. This is important in the sense that it tends to prove that (geographical location controlled for) Exporta Fácil exports were less affected by wealth, access to numerous services, and the number of existing firms than other DSE exports. This may well be indicative of the real inclusion value of Exporta

Fácil—answering the needs and facilitating trade to small exporters irrespective of their municipality's income level, access to services or existence of a rich industrial structure. If trade is to alleviate poverty, then Exporta Fácil program seem to be needed by such communities (relatively poor, with few firms, and little access to services).

Trade Creation? A Panel Analysis

A crucial element in the analysis of the impact of these trade facilitation policies is the question of actual trade creation: has Brazil exported more because of the availability of simplified export procedures? The fundamental question follows: how much of these exports would have happened anyway? Otherwise stated: are DSE-oriented services just used as substitutes to other exporting means, or are they fostering new trade flows? This question cannot be answered by a simple look at DSE exported values, as firm-level data on DSE exporters is not disposed of. Therefore, analysis requires econometric estimation techniques.

The DSE policy was implemented in 1999 and, in theory, made immediately available to everyone everywhere. This means that there is no source of variation in availability across municipalities that could be used to directly identify its effect on trade creation through treatment effects models (unlike in the case of access to finance presented above).

Not having any possible source of variation in access to DSE, variation across usage of DSE in time within municipalities has been used. The problem is formulated in the following terms: over time, all other things being held constant, do municipalities that export more through DSE export more in total? This can be tested both in terms of exported value and in terms of number of exporters. The inherent logic assumes that there is an unobservable element (such as historical exporting activity, cultural impact, etc.) in each municipality that is correlated with the amount of exporting activity, which does not change over time and which can as such be eliminated by running a fixed effect model (within municipality estimation). Such an econometric model is appropriate for this analysis as it allows for a municipality specific constant, which will capture all time-constant (unobserved) characteristics.

To identify possible substitution between RE exports and DSE exports, the number of RE exporters is regressed (that have not used the DSE) on the number of DSE exporters (that have not used the RE), controlling for exporters who exported through both systems (DSE/RE). If this coefficient is not significantly different than zero, then no evidence of substitution would have been found, as it could not be ascertained that a new DSE exporter explains the loss of an RE exporter.

Other possible export determinants are controlled for, but only those that have yearly values can be used (therefore fewer control variables are used than those used in the cross-section analysis of the previous section). Additionally the possibilities of time-specific effects have been accounted for by adding yearly dummies, which might capture nation-wide variations in exporting activity (due to changes in exchange rate, for example).

Two types of specifications are presented in Appendix 6.2, which give comparable estimates. The conclusions are robust to both specifications: the number of DSE-only exporters does not significantly affect the number of RE-only exporters in a municipality (see p-values displayed under the coefficients). Therefore, there is no evidence that a new DSE exporter comes at the expense of an RE exporter. Moreover, it was found that that the instant substitution effect taking place immediately after the introduction of DSE legislature in 1999 was much higher than in following years (third column of the results in Table 6.18 in Appendix 6.2).

These estimates imply that, out of a total of 20,160 exporters in Brazil during 2005, an estimated 4,915 exporters or 24% of the total number of exporters would otherwise not have exported without access to the DSE program. The Exporta Fácil program provided by the historical postal operator enabled 2,451 exporters – the smallest relative to others – to access export markets, out of which 2,084 or 10% of the total number of exporters used DSE as their exclusive export channel and would otherwise not have exported. In summary, the Exporta Fácil program was responsible for having included in the trading system the bottom 10% of exporters in terms of size in Brazil, providing a unique opportunity for relatively poorer entrepreneurs to export for the first time.

6.5 Conclusion

This chapter has revealed that an improved access to basic finance and trade services is necessary not only to facilitate trade, but also to balance the concentration of economic activities with a greater integration in the economic and trading systems of previously excluded players. The latter are often located in the geographic periphery, and are small firms or people from less well-off segments of the population. Exclusion from basic services in Brazil as of the early twenty-first century translated into geographical exclusion with rural and peri-urban municipalities without a bank branch or with large distances to the closest bank, a geographic concentration of service providers in large urban centers, or communities without a single exporter. In turn, inequalities and the

weight of the informal sector could not be easily reduced in these initial circumstances. This chapter has thus examined whether the extensive and pro-active use of the Brazilian postal network has changed this initial state and enabled: (i) small firms which would have otherwise not exported to export; (ii) poor individuals that would have otherwise not saved to save; (iii) micro-enterprises that would have otherwise not been able to borrow; and (iv) micro -entrepreneurs who would have otherwise not created new businesses and jobs to create them. Throughout the chapter, the positive answers to these questions demonstrate the value of these policies toward alleviating poverty or increasing opportunities for relatively small and poor entrepreneurs. They underline the value of a harmonious development of the postal sector in Brazil unlike in many other Latin American countries where *"laissez-faire"* policies related to postal markets have seriously damaged the potential use of the postal network as a prime channel for trade and financial inclusion.

In terms of financial inclusion, this chapter has confirmed that the Brazil postal network has been used effectively to promote access to financial services in the most deprived areas. BP is present in 4,860 of a total of 5,561 municipalities. A total of 12.4 million people living in 1,525 municipalities in which a BP agency was opened did not have any bank agency prior to that time. Moreover, in 2006, BP was present in 865 municipalities that had no bank branches or other correspondent institutions, thus acting as the sole financial intermediary for 5.98 million people.

BP agencies were evenly distributed across the country, while other financial intermediaries were mainly concentrated in the relatively wealthy and populated areas. BP, other correspondent banks and bank agencies are therefore mostly complementary networks. Although access to financial services and products is a necessary condition for development, it is by evaluating the use of those services and products that an assessment can be made on actual financial inclusion. BP appears to have attracted relatively low-income customers, with a very similar profile across the regions. Interestingly, in 2005, about one quarter of all loans and micro-credit were granted to the 20% poorest municipalities, which accounted for 10% of Brazil's population. The 50% poorest municipalities, equal to 29% of the entire population, accounted for 50% of all BP deposits. The analysis suggests that the extended financial access achieved by BP's presence had a positive medium-term impact on entrepreneurship and employment in municipalities with a certain degree of financial literacy and competition in 2001, and also helped formalize the economy of municipalities without any bank branch previous to the introduction of BP. The very fact that local GDP values remained unaffected while numerous new small firms were simultaneously

created signifies that the opportunities created by BP were seized by the poorest and most vulnerable segments in each municipality.

In terms of trade inclusion, the fact that Exporta Fácil is used to export a comparatively small number of comparatively low-valued exports can be seen as a justification for Exporta Fácil's very existence: if the postal incumbent's vast network is going to help provide access to export markets, it might not be, as was originally postulated, in the inclusion of geographically remote areas, but in meeting the needs of very small exporters (who export smaller values) in relatively poorer and less service oriented municipalities. Indeed, these exporters often start out by posting very low-valued objects, and the postal incumbent, as the data shows, seems to be most apt in meeting their needs. As such, it seems that the market failure that Exporta Fácil is effectively countering is that of the under provision of affordable shipment of very low valued objects. It is used by customers who will only export a few packages a year on average, and are therefore less attractive to private carriers. Nonetheless, as was argued in this chapter, they are potentially crucial to the creation of new exporting activity by the poorest sectors. Having facilitated the access to trade to the sector—10% of exporters in terms of size is indeed the most remarkable success of Exporta Fácil. However, due to the low retention rates among exporters, the continuing success of the program relies on the attraction of a new and steady inflow of small exporters. This appeared to again be the case in 2009 and 2010 after a temporary decline in the number of users in 2006 and 2007.

Access to trade and finance are closely related. In 2002, there were 1,456 municipalities that had at least a bank branch and an exporter. Three years later, after the successful implementation of financial and trade inclusion policies, 1,708 municipalities were served by a financial institution and had at least one firm exporting—an increase of 17.3% of exporting municipalities with direct access to finance that has mostly benefited the poorest sectors of society.

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Appendix 6.1: Evaluating Financial Inclusion Policies

A6.1.1 Statistical Tables

A6.1.1.1 Interpretation

The content of Tables 6.5 to 6.8 can be interpreted as follows: the 5,561 Brazilian municipalities were divided into 20 categories (semi-deciles), each one containing 278 municipalities (5% of the total). The categories refer to the population in 2002 (Table 6.5) and in 2006 (Table 6.6), and to the GDP per capita in 2002 (Table 6.7) and in 2005 (Table 6.8).

As an example, the first semi-decile of the population (first row of Table 6.5) contains the 5% least populated municipalities in 2002, all having fewer than 2,442 inhabitants. The last semi-decile of the same table contains the 5% of the municipalities with the highest number of inhabitants in 2002, all having more than 88,477 inhabitants. Row 10 (10th semi-decile) is the median. 50% of the municipalities had fewer than 10,417 inhabitants in 2002. The columns show the distribution of the different networks across semi-deciles: BP agencies, bank agencies and correspondents (without BP)

Tables 6.9 and 6.10 show services and products offered by BP according to the semi-deciles of GDP per capita of a municipality in 2005. Again, the 5,561 municipalities were divided into 20 categories (semi-deciles), each containing 5% of the 5,561 municipalities. The categories refer to GDP per capita in 2005. As an example, the first semi-decile of GDP per capita (first row of Table 6.9) contains the 5% poorest municipalities in 2005, all with a GDP per capita lower than BRL1,975.72. The last semi-decile of the same table contains the 5% wealthiest municipalities, all with a GDP per capita of more than BRL18,296, approximately nine times as much as the lowest.

Table 6.5 Networks by Semi-Deciles of Population, 2002

Semi-Decile Population	Banco Postal Agencies %/Cumulative/Average			Bank Agencies %/Cumulululative/ Average			Correspondents %/Cumulative/Average			Population %/Cumulative/Average		
<2,442	1.92	1.92	0.17	0.25	0.25	0.15	0.07	0.07	0.00	0.31	0.31	1,971.66
2,442 to 3,072	2.12	4.04	0.19	0.38	0.62	0.23	0.15	0.22	0.01	0.43	0.75	2,747.43
3,072 to 3,725	2.12	6.16	0.19	0.53	1.16	0.32	0.22	0.44	0.01	0.53	1.28	3,407.03
3,725 to 4,363	2.29	8.45	0.20	0.62	1.77	0.37	0.00	0.44	0.00	0.64	1.92	4,038.57
4,363 to 5,062	3.06	11.51	0.27	0.65	2.43	0.39	0.15	0.59	0.01	0.74	2.66	4,702.73
5,062 to 5,842	3.10	14.61	0.27	0.81	3.24	0.49	0.00	0.59	0.00	0.86	3.52	5,449.94
5,842 to 6,765	2.90	17.51	0.26	0.92	4.16	0.55	0.15	0.74	0.01	0.99	4.51	6,309.19
6,765 to 7,798	4.24	21.76	0.37	1.08	5.24	0.65	0.15	0.88	0.01	1.14	5.65	7,235.33
7,798 to 9,056	3.14	24.90	0.28	1.20	6.44	0.72	0.15	1.03	0.01	1.32	6.97	8,399.84
9,056 to 10,417	4.12	29.02	0.36	1.50	7.95	0.90	0.29	1.32	0.01	1.54	8.51	9,751.03
10,417 to 12,059	4.78	33.80	0.42	1.52	9.46	0.91	0.15	1.47	0.01	1.77	10.28	11,229.23
12,059 to 13,815	5.35	39.14	0.47	1.84	11.30	1.10	0.51	1.99	0.03	2.05	12.32	12,939.59
13,815 to 15,989	4.45	43.59	0.39	2.18	13.48	1.31	0.51	2.50	0.03	2.34	14.66	14,891.41
15,989 to 18,602	5.35	48.94	0.47	2.46	15.94	1.48	0.44	2.94	0.02	2.72	17.38	17,296.74
18,602 to 21,684	5.51	54.45	0.49	2.99	18.93	1.79	1.40	4.34	0.07	3.16	20.55	20,075.62
21 684 to 26,769	5.92	60.37	0.52	3.66	22.59	2.19	1.47	5.81	0.07	3.81	24.36	24,212.31
26,769 to 33,644	6.04	66.41	0.53	4.29	26.88	2.58	1.91	7.72	0.09	4.71	29.07	29,879.24
33,644 to 48,959	6.61	73.02	0.58	5.96	32.83	3.58	4.85	12.57	0.24	6.35	35.41	40,110.79
48,959 to 88,477	7.67	80.69	0.68	8.87	41.71	5.33	10.88	23.46	0.53	10.37	45.78	65,904.87
>88,477	19.31	100.00	1.70	58.29	100.00	34.99	76.54	100.00	3.74	54.22	100.00	344 101.50

Table 6.6 Networks by Semi-Deciles of Population, 2006

Semi-Decile Population	Banco Postal Agencies %/Cumulative/Average			Bank Agencies %/Cumulative/Average			Correspondents %/Cumulative/Average			Population %/Cumulative/Average		
<2,416	2.91	2.91	0.58	0.23	0.23	0.15	0.19	0.19	0.27	0.29	0.29	1,942.93
2,416 to 3,031	3.16	6.07	0.63	0.35	0.58	0.22	0.23	0.42	0.33	0.41	0.70	2,735.92
3,031 to 3,752	3.66	9.74	0.73	0.47	1.05	0.30	0.33	0.75	0.46	0.51	1.21	3,403.01
3,752 to 4,367	3.68	13.42	0.74	0.58	1.63	0.37	0.28	1.03	0.40	0.60	1.81	4,061.14
4,367 to 5,096	3.65	17.06	0.73	0.58	2.22	0.37	0.37	1.40	0.52	0.70	2.51	4,702.17
5,096 to 5,890	4.22	21.29	0.85	0.97	3.19	0.62	0.55	1.95	0.78	0.81	3.32	5,471.71
5,890 to 6,794	4.08	25.36	0.82	0.89	4.08	0.56	0.62	2.57	0.87	0.95	4.27	6,369.80
6,794 to 7,937	4.24	29.60	0.85	1.19	5.27	0.76	0.63	3.19	0.89	1.09	5.36	7,322.66
7,937 to 9,237	4.44	34.04	0.89	1.38	6.65	0.88	0.95	4.14	1.35	1.27	6.64	8,561.76
9,237 to 10,690	4.60	38.64	0.92	1.54	8.19	0.98	1.03	5.17	1.45	1.48	8.12	9,936.30
10,690 to 12,463	4.80	43.43	0.96	1.57	9.76	1.00	1.18	6.35	1.68	1.72	9.83	11,519.18
12,463 to 14,294	4.81	48.25	0.96	1.83	11.59	1.17	1.45	7.80	2.05	1.99	11.82	13,380.74
14,294 to 16,672	4.87	53.12	0.97	2.31	13.91	1.47	1.69	9.48	2.39	2.30	14.12	15,422.97
16,672 to 19,279	4.90	58.02	0.98	2.41	16.32	1.54	1.96	11.45	2.78	2.68	16.80	17,991.08
19,279 to 22,815	4.96	62.98	0.99	3.10	19.42	1.97	2.58	14.03	3.66	3.12	19.92	20,940.03
22,815 to 28,164	4.96	67.94	0.99	3.58	23.00	2.28	3.04	17.07	4.31	3.77	23.69	25,349.42
28,164 to 35,612	5.05	72.98	1.01	4.48	27.48	2.85	4.19	21.27	5.95	4.70	28.39	31,562.55
35,612 to 52,082	4.96	77.94	0.99	5.67	33.15	3.60	5.67	26.93	8.03	6.35	34.74	42,639.92
52,082 to 96,515	5.42	83.37	1.09	8.62	41.77	5.48	11.13	38.07	15.78	10.49	45.23	70,452.58
>96,515	16.63	100.00	3.33	58.23	100.00	37.04	61.93	100.00	87.79	54.79	100.00	367 978.00

Table 6.7 Networks by Semi-Deciles of GDP Per Capita (Current Values, BRL), Year 2002

Semi-Decile GDP Average	Banco Postal Agencies %/Cumulative/Average			Bank Agencies %/Cumulative/Average			Correspondents %/Cumulative/Average			Population %/Cumulative/Average		
< 1 405.38	4.21	4.21	0.37	0.42	0.42	0.25	0.00	0.00	0.00	2.28	2.28	14 517.2
1405.38 to 1603.11	3.84	8.04	0.34	0.59	1.01	0.35	0.00	0.00	0.00	2.57	4.85	16 253.0
1603.11 to 1764.94	4.21	12.25	0.37	0.81	1.82	0.49	0.00	0.00	0.00	2.59	7.44	16 411.7
1764.94 to 1950.89	4.53	16.78	0.40	0.95	2.77	0.57	0.37	0.37	0.02	2.80	10.24	17 846.1
1950.89 to 2147.21	5.72	22.50	0.50	1.15	3.92	0.69	0.51	0.88	0.03	2.80	13.04	17 685.2
2147.21 to 2362.36	4.49	26.99	0.40	1.19	5.11	0.72	0.88	1.76	0.04	2.65	15.69	16 867.3
2 362.36 to 2 681.4	4.08	31.07	0.36	1.51	6.62	0.90	1.03	2.79	0.05	2.82	18.51	17 829.4
2 681.4 to 3 096.2	4.98	36.06	0.44	1.95	8.58	1.17	2.87	5.66	0.14	3.63	22.13	23 005.3
3 096.2 to 3 560.51	4.00	40.06	0.35	1.79	10.36	1.08	1.84	7.50	0.09	2.81	24.95	17 906.4
3560.51 to 4024.535	4.29	44.34	0.38	2.18	12.54	1.31	3.01	10.51	0.15	3.29	28.24	20 870.1
4024.535 to 4479.83	4.25	48.59	0.38	2.63	15.17	1.58	2.21	12.72	0.11	3.32	31.56	21 145.3
4479.83 to 4940.06	4.33	52.92	0.38	3.18	18.35	1.91	4.19	16.91	0.21	4.15	35.71	26 351.2
4940.06 to 5426.75	4.70	57.62	0.41	3.27	21.62	1.95	3.01	19.93	0.15	3.64	39.35	23 033.4
5426.75 to 5951.28	4.65	62.27	0.41	4.50	26.11	2.70	4.85	24.78	0.24	5.09	44.44	32 282.9
5951.28 to 6519.49	5.80	68.07	0.51	7.15	33.27	4.31	7.79	32.57	0.38	7.43	51.87	47 183.2
6 519.49 to 7 254.7	4.25	72.32	0.37	5.08	38.35	3.05	3.90	36.47	0.19	4.30	56.17	27 266.6
7 254.7 to 8 285.03	4.45	76.77	0.39	5.60	43.95	3.36	4.71	41.18	0.23	4.60	60.76	29 168.7
8285.03 to 9741.27	6.61	83.38	0.58	11.36	55.31	6.79	15.96	57.13	0.78	8.33	69.10	52 851.7
9 741.27 to 13 244	6.49	89.87	0.57	13.56	68.87	8.14	15.96	73.09	0.78	11.11	80.21	70 456.3
> 13 244	10.13	100.00	0.90	31.13	100.00	18.75	26.91	100.00	1.32	19.79	100.00	12 6087

Table 6.8 Networks by semi-deciles of GDP per capita (current values, BRL), year 2002

Semi-decile GDP p.c	Banco Postal agencies %/Cumulative/average			Bank agencies %/Cumulative/average			Correspondents %/Cumulative/average			Population %/Cumulative/average		
<1,975	3.91	3.91	0.77	0.48	0.48	0.30	0.75	0.75	0.43	2.49	2.49	16,514.35
1,975 to 2,236	4.10	8.01	0.80	0.67	1.15	0.42	0.87	1.62	0.50	2.55	5.05	16,887.00
2,236 to 2,457	4.37	12.38	0.86	0.82	1.97	0.51	1.48	3.10	0.84	2.46	7.51	16,345.16
2,457 to 2,686	4.34	16.72	0.85	1.00	2.98	0.62	1.84	4.94	1.05	2.63	10.14	17,415.01
2,686 to 2,948	4.56	21.28	0.89	1.17	4.14	0.72	1.71	6.64	0.97	2.56	12.70	16,889.37
2,948 to 3,266	4.39	25.67	0.86	1.38	5.52	0.86	2.01	8.66	1.15	2.74	15.43	18,179.09
3,266 to 3,782	4.56	30.22	0.89	1.67	7.20	1.03	2.43	11.09	1.38	3.23	18.67	21,336.04
3,782 to 4,413	4.41	34.63	0.87	1.79	8.98	1.11	2.30,.	13.39	1.31	2.93	21.60	19,483.46
4,413 to 5,035	4.63	39.26	0.91	2.05	11.04	1.27	2.82	16.21	1.60	3.29	24.89	21,802.13
5,035 to 5,657	4.28	43.54	0.84	2.26	13.29	1.40	3.02	19.23	1.72	3.76	28.66	24,902.54
5,657 to 6,267	4.54	48.08	0.89	2.83	16.12	1.75	2.97	22.20	1.69	3.61	32.27	23,924.69
6,267 to 6,846	4.94	53.02	0.96	3.62	19.74	2.24	4.29	26.49	2.43	4.45	36.72	29,357.72
6,846 to 7,480	4.48	57.51	0.88	3.22	22.96	2.00	2.68	29.17	1.53	3.18	39.90	21,033.30
7,480 to 8,139	4.76	62.26	0.93	4.60	27.56	2.85	5.16	34.33	2.94	4.73	44.63	31,334.12
8,139 to 8,872	5.44	67.70	1.06	5.73	33.29	3.55	5.75	40.08	3.27	5.76	50.39	37,961.33
8,872 to 9,889	5.35	73.05	1.05	5.86	39.15	3.63	6.90	46.98	3.93	5.49	55.88	36,464.21
98,89 to 11,249	5.47	78.52	1.08	7.25	46.39	4.51	6.88	53.87	3.94	5.60	61.47	37,285.25
11,249 to 13,484	5.27	83.80	1.03	9.49	55.89	5.86	9.33	63.20	5.29	7.50	68.97	49,504.20
13,484 to 18,296	5.92	89.71	1.16	12.18	68.07	7.55	13.73	76.93	7.82	10.38	79.35	68,815.60
>18,296	10.29	100.00	2.02	31.93	100.00	19.87	23.07	100.00	13.19	20.65	100.00	137 261.60

Table 6.9 Banco Postal Services and Products by Semi-Deciles of GDP Per Capita (Current Values, BRL), 2005

	Population		Current Deposits (#)			Savings Deposits (#)			Accounts (#)			Tributes (#)		
Semi-Decile GDP PC	%	Cumulative	%	Cumulative	Average	%	Cumulative	Average	%	Cumulative	Average	%	Cumulative	Average
<1,975.72	2.49	2.49	3.86	3.86	2,860.16	4.42	4.42	717.81	4.53	4.53	926.6655	2.10	2.10	1.62
1,975.72 to 2,236.23	2.55	5.05	3.92	7.78	2,899.11	4.36	8.78	708.88	4.29	8.82	876.7842	2.33	4.43	1.79
2,236.23 to 2,457.8	2.46	7.51	4.58	12.36	3,399.01	4.67	13.45	761.77	4.50	13.33	919.9424	2.66	7.09	2.05
2,457.8 to 2,686.05	2.63	10.14	4.19	16.55	3,103.75	4.82	18.27	782.28	4.26	17.59	871.2122	2.51	9.61	1.93
2,686.05 to 2,948.25	2.56	12.70	4.49	21.04	3,315.10	5.04	23.31	816.01	4.03	21.62	823.7158	1.06	10.66	0.81
2,948.25 to 3,266.09	2.74	15.43	4.58	25.62	3,400.66	5.58	28.88	909.06	4.13	25.75	844.0576	5.06	15.72	3.90
3,266.09 to 3,782.46	3.23	18.67	5.55	31.17	4,091.52	5.55	34.44	898.60	4.80	30.55	981.1223	1.42	17.14	1.09
3,782.46 to 4,413.16	2.93	21.60	4.90	36.07	3,640.27	5.20	39.63	847.15	4.08	34.63	833.5396	30.15	47.28	23.25
4,413.16 to 5,035.39	3.29	24.89	5.07	41.14	3,753.36	5.70	45.33	926.22	4.29	38.91	875.7878	0.24	47.52	0.18
5,035.39 to 5,657.74	3.76	28.66	4.78	45.92	3,539.01	4.58	49.91	743.81	3.89	42.80	794.5504	0.83	48.35	0.64
5,657.74 to 6,267.37	3.61	32.27	4.47	50.39	3,308.72	3.66	53.57'	594.17	3.45	46.25	705.1763	2.66	51.02	2.05
6,267.37 to 6,846.34	4.45	36.72	4.78	55.17	3,526.43	4.17	57.74	675.80	3.48	49.73	711.6151	5.18	56.20	3.97
6,846.34 to 7,480.5	3.18	39.90	4.22	59.39	3,124.63	3.68	61.42	597.68	3.50	53.24	716.036	3.45	59.65	2.65
7,480.5 to 8,139.71	4.73	44.63	4.55	63.94	3,368.68	3.77	65.19	612.41	4.30	57.54	879.3058	5.46	65.11	4.19
8,139.71 to 8,872.64	5.76	50.39	5.22	69.16	3,865.38	4.92	70.11	799.08	4.79	62.32	977.9388	5.20	70.31	4.00
8,872.64 to 9,889.17	5.49	55.88	5.65	74.81	4,179.59	4.83	74.94	785.21	5.84	68.16	1,192.9339	4.08	74.39	3.13
9,889.17 to 11,249.74	5.60	61.47	4.59	79.40	3,409.12	3.95	78.90	644.87	5.03	73.19	1,028.594	6.66	81.05	5.14
11,249.74 to 13,484.76	7.50	68.97	5.14	84.54	3,794.47	4.23	83.12	684.34	5.79	78.98	1,183.076	4.15	85.20	3.18
13,484.76 to 18,296.01	10.38	79.35	5.53	90.07	4,095.35	5.26	88.38	854.49	8.33	87.31	1,701.871	4.70	89.90	3.61
>18,296.01	20.65	100.00	9.93	100.00	7,374.00	11.62	100.00	1,894.05	12.69	100.00	2,602.924	10.10	100.00	7.79

Table 6.10 Banco Postal Services and Products by Semi-Deciles of GDP Per Capita (Current Values, BRL), Year 2005

Semi-decile	Population		Social security payments (#)			Social security payments (BRL)			Domestic domestic remittances (#)		
	%	Cumu-lative	%	Cumu-lative	average	%	Cumu-lative	average	%	Cumu-lative	aver-age
<1,975.72	2.49	2.49	4.46	4.46	691.946	4.07	4.07	201 988	0.82	0.82	11.60
1,975.72 to 2,236.23	2.55	5.05	3.11	7.57	482.626	2.83	6.90	140 214	1.26	2.07	17.87
2,236.23 to 2,457.8	2.46	7.51	3.31	10.88	515.509	3.07	9.97	152 841	1.34	3.41	19.08
2,457.8 to 2,686.05	2.63	10.14	3.62	14.50	561.032	3.37	13.34	167 231	1.62	5.03	23.07
2,686.05 to 2,948.25	2.56	12.70	3.56	18.05	549.756	3.27	16.61	161 586	2.18	7.21	30.85
2,948.25 to 3,266.09	2.74	15.43	3.41	21.46	530.783	3.18	19.78	158 021	3.76	10.97	53.68
3,266.09 to 3,782.46	3.23	18.67	4.78	26.24	738.821	4.47	24.25	220 762	6.05	17.02	85.76
3,782.46 to 4,413.16	2.93	21.60	4.17	30.41	648.921	3.95	28.20	196 798	2.80	19.82	39.90
4,413.16 to 5,035.39	3.29	24.89	4.65	35.06	721.975	4.51	32.71	223 666	2.51	22.33	35.69
5,035.39 to 5,657.74	3.76	28.66	4.84	39.90	750.115	4.77	37.48	236 801	2.65	24.98	37.66
5,657.74 to 6,267.37	3.61	32.27	4.66	44.56	723.46	4.58	42.06	227 227	3.27	28.24	46.48
6,267.37 to 6,846.34	4.45	36.72	5.02	49.59	776.599	5.09	47.15	251 472	3.83	32.07	54.23
6,846.34 to 7,480.5	3.18	39.90	4.76	54.34	738.061	4.80	51.95	238 252	3.80	35.87	54.08
7,480.5 to 8,139.71	4.73	44.63	5.44	59.78	843.842	5.52	57.46	273 802	3.92	39.80	55.77
8,139.71 to 8,872.64	5.76	50.39	5.20	64.98	806.482	5.22	62.68	258 823	5.85	45.65	83.22
8,872.64 to 9,889.17	5.49	55.88	8.51	73.49	1320.4	8.55	71.24	423 541	5.13	50.77	72.92
9,889.17 to 11,249.74	5.60	61.47	6.24	79.73	971.329	6.63	77.86	330 131	4.63	55.40	66.08
11,249.74 to 13,484.76	7.50	68.97	7.78	87.51	1 202.61	8.34	86.20	411 420	5.91	61.32	83.81
13,484.76 to 18,296.01	10.38	79.35	6.98	94.49	1 082.15	7.76	93.95	384 254	7.15	68.47	101.73
> 8,296.01	20.65	100.00	5.51	100.00	858.664	6.05	100.00	301 153	31.53	100.00	449.95

Non-remittances (#)			Microcredits (#)			E-loans (#)			Loans (#)		
%	Cumu-lative	aver-age	%	Cumu-lative	aver-age	%	Cumu-lative	aver-age	%	Cumu-lative	aver-age
0.00	0.00	0.00	3.94	3.94	15.73	4.34	4.34	17.51	6.93	6.93	153.55
0.00	0.00	0.00	4.01	7.94	16.01	4.14	8.48	16.71	5.72	12.65	126.65
0.00	0.00	0.00	7.38	15.32	29.60	3.98	1Z46	16.12	6.62	19.27	147.05
0.02	0.02	0.00	4.30	19.62	17.17	4.81	17.26	19.40	6.15	25.42	136.12
0.10	0.12	0.01	4.14	23.76	16.47	4.28	21.54	17.20	6.19	31.61	136.53
0.02	0.15	0.00	6.09	29.84	24.40	5.63	27.17	22.82	5.89	37.50	130.90
0.00	0.15	0.00	5.28	35.12	21.01	5.96	33.13	23.96	5.91	43.41	130.41
0.27	0.41	0.04	5.05	40.17	20.25	7.17	40.30	29.05	4.77	48.17	105.92
0.24	0.66	0.04	5.09	45.26	20.33	7.49	47.78	30.22	5.87	54.04	130.01
1.19	1.84	0.18	5.71	50.97	22.82	6.24	54.03	25.21	4.53	58.57	100.27
1.46	3.30	0.22	4.79	55.76	19.13	5.16	59.18	20.81	4.05	62.62	89.73
1.99	5.29	0.29	3.73	59.48	14.84	4.92	64.10	19.77	3.94	66.57	87.00
1.38	6.67	0.21	2.80	62.29	11.20	4.96	69.06	20.03	4.16	70.72	92.08
4.42	11.09	0.65	4.46	66.75	17.83	4.77	73.83	19.25	4.30	75.03	95.30
6.21	17.31	0.92	5.58	72.33	22.29	4.14	77.97	16.73	4.29	79.31	94.90
3.18	20.49	0.47	4.97	77.30	19.86	4.48	82.46	18.10	4.66	83.97	103.10
8.96	29.44	1.33	4.59	81.88	18.39	3.82	86.28	15.48	3.80	87.77	84.44
8.40	37.84	1.24	5.35	87.24	21.32	4.36	90.64	17.54	3.45	91.22	76.16
12.14	49.98	1.80	6.64	93.87	26.51	4.44	95.08	17.93	449	95.71	99.42
50.02	100.00	7.44	6.13	100.00	24.57	4.92	100.00	19.94	4.29	100.00	95.33

Tables 6.11 to 6.15 show the causal effects of Banco Postal on local development outcome.

Table 6.11 ATT for the Whole Sample

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	201.041	1 63.357	37.683	17.467	(2.16)[b]
Growth of average firms' employees	0.665	0.184	0.480	0.319	(1.5)[a]
New employees	1 381.21	1 209.49	171.72	133.04	(1.29)[a]
Growth in share salaried	0.026	0.015	0.011	0.005	(2.06)[b]
Number of new bank agencies	0.138	0.088	0.050	0.029	(1.73)[b]
Number of new correspondents	2.919	2.608	0.311	0.260	1.190
Growth of real GDP (2005)	0.034	0.038	-0.004	0.005	-0.780

Table 6.12 ATT for Only Those Municipalities Unbanked in 2001

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	26.830	27.338	-0.509	1.913	-0.270
Growth of average firms' employees	1.213	0.490	0.723	0.809	0.890
New employees	263.75	186.27	77.48	86.17	0.90
Growth in share salaried	0.038	0.019	0.019	0.011	(1.76)[b]
Number of new bank agencies	0.135	0.270	-0.135	0.026	(-5.19)[c]
Number of new correspondents	0.370	0.438	-0.068	0.049	(-1.39)[a]
Growth of real GDP (2005)	0.045	0.045	-0.001	0.008	-0.070

Table 6.13 ATT for Municipalities with 1 to 5 Banks in 2001

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	136.477	127.420	9.057	8.452	1.070
Growth of average firms' employees	0.347	0.345	0.001	0.132	0.010
New employees	860.73	796.08	64.65	61.74	1.05
Growth in share salaried	0.020	0.018	0.002	0.005	0.410
Number of new bank agencies	0.051	0.011	0.040	0.025	(1.63)[a]
Number of new correspondents	1.881	1.868	0.013	0.148	0.090
Growth of real GDP (2005)	0.023	0.026	-0.003	0.007	-0.390

Table 6.14 ATT for Municipalities with More Than 5 Banks in 2001

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	1 091.218	970.135	121.083	155.615	0.780
Growth of average firms' employees	0.267	0.209	0.059	0.137	0.430
New employees	8 014.35	7 127.62	886.74	1 227.55	0.72
Growth in share salaried	0.012	0.006	0.005	0.006	0.950
Number of new bank agencies	0.553	0.142	0.411	0.297	(1.39)[a]
Number of new correspondents	14.963	17.220	-2.257	2.439	-0.930
Growth of real GDP (2005)	0.047	0.034	0.013	0.013	0.950

Tables 6.15 to 6.18 show the causal effects of Banco Postal on outcome regional specification.

Table 6.15 ATT for the Whole Sample

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	199.758	170.527	29.231	19.158	(1.53)[a]
Growth of average firms' employees	0.664	0.358	0.306	0.324	0.940
New employees	1 341.31	1 296.51	44.80	128.72	0.35
Growth in share salaried	0.664	0.358	0.306	0.324	0.940
Number of new bank agencies	0.026	0.024	0.001	0.005	0.250
Number of new correspondents	2.684	2.494	0.190	0.235	0.810
Growth of real GDP (2005)	0.034	0.031	0.003	0.005	0.640

Table 6.16 ATT for Only Those Municipality Unbanked in 2001

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	26.886	29.345	-2.459	2.138	-1.150
Growth in average firms' employees	1.204	0.484	0.720	0.796	0.900
New employees	263.69	209.40	54.29	86.23	0.63
Growth in share salaried	0.038	0.035	0.002	0.011	0.220
Number of new bank agencies	0.136	0.248	-0.112	0.026	(-4.28)[b]
Number of new correspondents	0.371	0.337	0.034	0.046	0.730
Growth of real GDP (2005)	0.045	0.036	0.009	0.008	1.170

Table 6.17 ATT for Municipalities with 1 to 5 Banks in 2001

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	136.477	116.386	20.091	7.979	(2.52)[c]
Growth of average firms' employees	0.347	0.276	0.071	0.133	0.53
New employees	860.73	720.84	139.89	66.77	(2.1)[b]
Growth in share salaried	0.020	0.014	0.005	0.005	1.12
Number of new bank agencies	0.050	0.025	0.025	0.023	1.11
Number of new correspondents	1.881	2.100	-0.219	0.151	-1.45
Growth of real GDP (2005)	0.023	0.030	-0.007	0.007	-1.04

Table 6.18 ATT for Municipalities with More Than Five Banks in 2001

Outcome Variable	Treated (i)	Controls (ii)	Difference (iii)	SE	T-stat
Number of new firms	1 072.453	1 327.475	-255.022	205.140	-1.240
Growth of average firms' employees	0.243	0.055	0.188	0.133	(1.42)[a]
New employees	8 041.67	9 226.28	-1 184.61	1 599.91	-0.74
Growth in share salaried	0.010	0.011	-0.001	0.005	-0.310
Number of new bank agencies	0.453	0.569	-0.116	0.337	-0.340
Number of new correspondents	16.373	17.254	-0.881	2.714	-0.320
Growth of real GDP (2005)	0.053.	0.036	0.016	0.014	1.180

Note: 1. Difference = treated – controls. 2. Significance Levels: [a]significant at 10%; [b]significant at 5%; csignificant at 1%.

Appendix 6.2: Evaluating Trade Inclusion Policies

A6.2.1. Exporta Fácil And Other Simplified Exports: Panel Data Econometrics

First, an Arellano–Bond dynamic panel regression was run which, the authors believe, is the strongest specification for this model: it integrated a lagged version of the dependent variable (RE only exporters) and, by differentiation, controls for a potential omitted variable bias across municipalities. It also enabled control of a possible measurement error in the number of RE as representative of the total non-DSE exporters, due to informal exporting of very small shipments. Finally, to test the robustness of this specification, a robust fixed-effect estimate was computed.

Arellano-Bond dynamic panel data Model:

# of RE only exporters$_{it}$ = α*RE only exporters$_{it-1}$

+ }*DSE only exporters$_{it}$ + ψ*DSE_RE exporters^{it} + o*export determinants$_{it}$ + $\leq$* time dummies + error term Index i: denotes the Brazilian municipalities with at least some RE exporting activity.

Index t: denotes the 7 years between 1999 and 2005.

Export determinants are: population, GDP, and sectoral shares.

Table 6.19 Results of the Arellano–Bond Dynamic Panel Regression

Method	1999–2005 Arellano–Bond	1999–2005 FE Robust OLS	1999–2000 FE Robust OLS
Number of DSE only exporters	-0.16456345 0.1582	-0.11501908 0.2588	-0.57685459 0.2421
Number of DSE/RE exporters	-0.51993349[b] 0	-0.56503157 0	-0.55795517[b] 0
Lagged RE (for A-Bond)	0.24340964 0.15	–	–
GDP	-4.75E-07 0.07	-6.84E-07 0.0767	1.75E-06 0.0609
Population	0.00006715[b] 0.0086	0.00009013 0.0009	-0.00001445 0.5919
Share of services sector	0.37850448 0.3826	-0.89737784 0.1021	0.59895791 0.6746
Share of industrial sector	0.55102175 0.3049	-1.2050131 0.0318	0.78656581 0.5015
2000 dummy	...	0.18550803 0.1582	0.28739596[b] 0.0004
2001 dummy	...	0.62081448[b] 0	...
2002 dummy	0.30472384[b] 0	0.56220518[b] 0	...
2003 dummy	-0.11038443 0.2117	0.60332394[b] 0	...
2004 dummy	0.20316633 0.1206	1.1536661[b] 0	...
2005 dummy	-0.57515873[b] 0.0002	0.68907535[b] 0	...
Constant	0.33028347[b] 0	3.5285014 0.0472	8.9662712[b] 0.0001
Number of observations	**8,329**	**11,365**	**3,031**
Number of groups	**2,170**	**2,289**	**1,687**

7

Gender and Financial Inclusion Through the Post

Smriti Rao

7.1 Gender and Financial Inclusion

Women form a disproportionately large share of the world's unbanked population (Karlan and Morduch 2009). Gender inequalities in employment and earnings mean that women have lower incomes, making them less able to open accounts in formal financial institutions (Chen et al. 2005; Fletschner and Kenney 2011). Due to legal and cultural restrictions on women's access to property, women often do not have the collateral necessary to seek out loans from the formal financial sector (Johnson 2004; Deere and Doss 2006). These factors combined with discrimination against women in financial markets mean that women are far less likely than men to have checking or savings accounts in their own names (Johnson and Nino-Zarazua 2011; Demirguc-Kunt et al. 2013).

The development community has increasingly recognized the need for women to have better access to the formal banking sector in order to build wealth through saving as well as borrowing (Beck et al. 2008; World Bank 2012). Research suggests that expanding female access to formal financial institutions can increase both equity and growth by increasing household income and wealth as well as the economic position of women within and without those households (Seguino and Floro 2003; Claessens 2006). Research also suggests that increasing women's abilities to generate, save and control income and wealth can have positive impacts on child nutrition and schooling outcomes (Quisumbing and Maluccio 2000; Hazarik and Guha-Khasnobis 2008). Thus, there may be considerable positive social benefits to expanding financial access for women.

Women's microcredit and savings and loans groups have become important components of the development agenda in many countries

(Matin et al. 2002). However, these groups have not been able to build the long-lasting linkages to formal the financial institutions necessary to scale up their access to funds and grow independently of non-governmental and aid organizations (Cull et al. 2009). The record of commercial financial institutions (FIs), both public and private, is weak in this regard. Indeed, a recent study found evidence of bias against women on the part of FIs across the world (Demigurc-Kunt et al. 2013). Some of this bias stems from broader legal and social contexts, but FIs seem to act in ways that further reinforce such biases rather than undermining them.

The role of post offices (posts) in banking women has, however, gone unnoticed in this debate. Posts in 51 countries have banked over 1 billion people (Berthaud and Davico 2013). As we show in this chapter, over half of these 1 billion postal clients are women. A recent study of the impact of financial service provision through posts found that the postal operators were much more likely to bank relatively economically marginalized populations (Ansón et al. 2013). In particular, those who were banked at posts were more likely to be relatively poor, relatively young, and living in rural areas, as compared to those who were banked only with FIs or with both FIs and the post. While this particular study found that gender was a statistically insignificant determinant of which institution one was banked at, gender was not the primary focus of the study. Given the historical exclusion of women from the financial sector, it seems worthwhile to ask whether indeed posts can be a more effective medium for the inclusion of women.

This chapter investigates the extent to which financial services offered through posts may serve women in the developing world better than FIs. In those countries where postal operators already offer financial services, we find evidence that posts do seem to include women to a greater extent than FIs. Our empirical analysis suggests that this is partly a function of widely distributed postal networks (and the associated lower transactions costs) and cheaper services offered by the posts. We also find some evidence that this outcome may be a result of greater statistical discrimination against women by FIs rather than systematic outreach to women by the posts. We conclude that a more deliberate attempt at the financial inclusion of women by postal operators has the potential to yield even more success in this regard. We argue that given the potential growth, development and equity impacts of expanded female financial inclusion, there is a strong case for more countries to offer basic financial services through the post and to design those services to meet the needs of potential female clients.

7.2 Women and Financial Exclusion

The literature on women and financial access proposes both "demand-side" as well as "supply-side" reasons for why women are less likely to be banked than men.

7.2.1 Income and Property

The primary "demand-side" explanations are based on women's relative inability to acquire and control income and property and thus 'demand' financial services. Gender gaps in paid employment are pervasive. In 2010, the average female:male labor force participation ratio was 79% for all countries, with the ratio falling to 71% for developing countries alone (World Bank 2014a). Women tend to be concentrated in low paying jobs, often in the rural agricultural sector. Lack of access to education and training, cultural constraints on women's mobility that restrict occupational choices, as well as discrimination on the part of employers, all contribute to gender wage gaps in employment and earnings (Beneria 2003).

Furthermore, where women do work, their work is more likely to be in the informal sector. They are more likely to perform home-based, "putting out" work, work in family businesses or in small enterprises unregulated by the state (Chen et al. 2005). They are thus much less likely to be covered by labor laws and be offered benefits or protections of any kind. Their work is more "precarious" and they have fewer opportunities for increases in wages or rank (Standing 1999; Floro and Meurs 2009).

Women's property rights are also highly circumscribed in many countries. According to the World Bank's Women, Business and Law database (World Bank 2014b), 27 of 143 countries in the database do not grant women even de jure equal rights to inherit parental or spousal property. In 44 of the 143 countries the default marital regime is "separation of property". This is a legal regime that usually discriminates against women by failing to recognize wives' contribution to the formation of marital property through domestic labor or child-rearing and other care giving duties (Deere et al. 2013). Of course, even in countries where women have the same legal rights as men, de facto female control over property is lower as women are unable to claim those rights in the face of social and economic pressures (Agarwal 1995; Deere and Doss 2006). The inability to control property means that women have little ability to build or retain wealth (other than jewelry), making them less able to access the formal financial sector.

7.2.2 Transactions Costs

Women's lower levels of education and their relative exclusion from formal sector employment also mean they are less likely to have the kinds of documentation of residence, income sources or tax records that formal sector financial institutions routinely require. Women may also may not have the educational level required to carry out the day-to-day maintenance of a financial account (e.g. reading and signing bank disclosures and policy documents).

Furthermore, time-use studies have shown that women across the world face significant burdens of unpaid work (Beneria 2003; Antonopoulos and Hirway 2010). Given the much greater likelihood that women are entrusted with caring for children or the elderly, their mobility is circumscribed not just by cultural norms but by the needs of dependents (Folbre 2008; Razavi 2012). In rural or urban areas where bank branches are few and far between and significant physical distance must be covered to reach one, this discourages women from accessing financial services to a greater extent than men. Furthermore, the time required to travel and wait in line to conduct the business of maintaining financial accounts may also be more costly for women caregivers.

7.2.3 Cultural Norms

Cultural norms also work against women here. Curbs on women's geographic mobility further increase the transactions costs discussed earlier. Demigurc-Kunt et al. (2013) report that women were much more likely than men to say they did not need an account in their own name since another family member already had one. Where female economic dependency is a norm, this dependency extends to financial access as well. Thus, for many women, access to FIs, as to many other aspects of the economy, is mediated through a male family member.

In those countries where gender norms assume some physical segregation of the sexes, the way in which financial services are provided may also matter. Whether services are provided through male or female staff, or through separate or common queues for men and women may influence women's likelihood of accessing those services.

7.2.4 Supply-Side Barriers

There may also be barriers on the supply-side that serve to exclude women. In some countries, as mentioned earlier, bankers' hands are tied by legal restrictions on women owning financial assets. If women are concentrated

in rural areas (for example, in countries where rural–urban migration streams are dominated by men) where banks have fewer rural branches, this may lead to a failure to financially include women. As discussed earlier, a failure to organize the provision of financial services in a manner that is sensitive to local cultural norms (for example, separate queues for women and men) may also lead to the financial exclusion of some women.

There is also some evidence that bankers discriminate against female clients (Johnson and Nino-Zarazua 2011). That is, all else constant, they are more likely to accept a request for financial services from a man and deny one from an equally wealthy (or poor), equally educated/employed woman. Using unit level Findex survey data for developing countries, Demirguc-Kunt et al. (2013) show that even after controlling for a number of demand side and supply side factors, including gender discriminatory laws that constrain bankers' options, being female is negatively associated with being banked. This raises the possibility of systematic discrimination against women.

Economists tend to distinguish between "taste-based" discrimination and "statistical discrimination". "Taste-based" discrimination refers to outright prejudice, where bankers deny women's applications for checking accounts because they are biased against women as women. "Statistical discrimination", on the other hand, occurs when being a woman is associated with, for example, being poor, or being risk intolerant, and an individual woman's characteristics are subsumed within these larger generalizations or stereotypes. Such an association might result in bankers either overtly discouraging women clients or failing to actively seek them out (Johnson 2004). In their discussion of the financial exclusion of the poor, Berthaud and Davico (2013) suggest that the more sophisticated the financial products offered by FIs, the more likely they are to engage in such discrimination precisely because bankers then have a greater incentive to focus their resources and attention on the "best" prospective clients—those with greater wealth (see also Cull et al. 2009). It is possible that this dynamic extends to women as well.

This discussion suggests at least two reasons to believe that the posts may serve women better. To the extent that postal networks are wider than FI networks (in terms of branches/square kilometer and rural presence) at least some transactions costs for women are likely to be lower. More importantly, to the extent that postal services have a dual mission that seeks financial sustainability alongside service to the broad public, they are also less likely to engage in statistical discrimination of the kind found at FIs. In this context, the possible role of financial services via posts becomes especially interesting.

If gender inequalities prevent women from being banked more generally but are less of a barrier when it comes to being banked at posts,

postal operators could play a key role in expanding access to this large, underserved and important population. This chapter uses data from the 2011 Global Findex survey to investigate these hypotheses.

7.3 Financial Services through the Posts

A recent survey of financial service provision by posts (perhaps the only international study on the topic at this time) estimates that about 1 billion people are banked through 51 postal operators across the world (Berthaud and Davico 2013). As the study points out, this is a much larger number than those banked through microfinance institutions (MFIs), co-operatives, insurance agents, mobile banking operators or other non-bank financial institutions that have received more attention in the literature.

A wide variety of financial transactions are enabled by postal operators across the world. For example, in some countries posts serve merely as cash merchants for government payments, insurance company payments, mobile banking operators and/or other institutions. They may also more directly offer insurance services in partnership with insurance companies.

However, in this chapter, we restrict financial service provision to mean, at minimum, the provision of payment or savings accounts, either directly by the post or through a partnership with an FI. In our dataset, the majority of the 60 countries where posts offer financial services in this sense offer "unlicensed savings accounts", originally designed as a means for the government to raise small deposits from poorer, more rural populations. While these deposits are usually guaranteed by the government, at least in theory, they are not usually regulated or directly overseen by the central bank.

Securing a bank license that brings the postal bank under the oversight of the country's central bank requires considerable technical and financial capacity. As a result, some postal operators have expanded their financial service offerings by entering into partnerships with commercial banks in what is called the "partnership model".

Only a small group of national postal operators have secured a bank license and in some cases this license limits posts to offering savings but not credit products. There are, however, five postal operators with "universal postal bank licenses" that allow them to offer the entire range of borrowing and lending services. Berthaud and Davico (2013) found, however, that the high costs associated with offering the full range of financial services may lead to posts, like FIs, seeking out wealthier clients

Table 7.1 List of Developing Countries with Postal Accounts

Developing Country	Female Account Share at FIs Only (A)	Female Account Share at Posts and FIs (B)	Female Account Share at Posts Only (C)	Share of Women Banked (D)	Share of Banked Women Who Have an Account at Posts ((B+C) / D)	Posts-Only Gender Ratio (Female Share/Male Share) E	FI-Only Gender Ratio (Female Share/Male Share) F	Post-FI Gender Gap Ratio (E/F)
Togo	0.077	0.002	0	0.08	2.53	0.00	0.90	0.00
Brazil	0.478	0.014	0	0.49	2.85	0.00	0.81	0.00
Burkina Faso	0.094	0.014	0	0.11	12.96	0.00	0.73	0.00
Sudan	0.036	0.006	0	0.04	14.29	0.00	0.46	0.00
Bosnia and Herzegovina	0.441	0.021	0.002	0.46	4.96	0.18	0.70	0.26
Tanzania	0.109	0.008	0.005	0.12	10.66	0.36	0.67	0.53
India	0.214	0.028	0.015	0.26	16.73	0.35	0.64	0.55
Indonesia	0.175	0.01	0.001	0.19	5.91	0.50	0.90	0.55
Nepal	0.187	0.003	0.003	0.19	3.11	0.43	0.68	0.63
Senegal	0.048	0.001	0.002	0.05	5.88	0.67	1.04	0.64
Burundi	0.033	0.008	0.011	0.05	36.54	0.55	0.80	0.68
Comoros	0.074	0.038	0.041	0.15	51.63	0.52	0.75	0.69
People's Republic of China	0.362	0.2	0.03	0.59	38.85	0.68	0.91	0.75
Benin	0.071	0.003	0.004	0.08	8.97	0.67	0.82	0.82
Cameroon	0.086	0.003	0.006	0.10	9.47	0.55	0.56	0.97
Kenya	0.352	0.018	0.022	0.39	10.20	0.96	0.90	1.07
Congo, Republic of	0.107	0.015	0.016	0.14	22.46	0.89	0.83	1.07

Zimbabwe	0.277	0.054	0.035	0.37	24.32	0.85	0.79	1.08
Serbia	0.468	0.051	0.104	0.62	24.88	1.09	1.02	1.08
Croatia	0.792	0.03	0.035	0.86	7.58	1.25	1.02	1.22
Mauritius	0.668	0.065	0.015	0.75	10.70	1.15	0.92	1.25
Morocco	0.084	0.009	0.028	0.12	30.58	0.58	0.45	1.31
Kazakhstan	0.326	0.063	0.047	0.44	25.23	1.42	1.06	1.35
Botswana	0.2	0.042	0.042	0.28	29.58	1.40	0.88	1.59
Lesotho	0.115	0.033	0.021	0.17	31.95	1.24	0.77	1.60
Algeria	0.069	0.083	0.187	0.34	79.65	0.96	0.56	1.71
South Africa	0.451	0.03	0.03	0.51	11.74	1.67	0.87	1.91
Tunisia	0.098	0.048	0.117	0.26	62.74	0.98	0.45	2.21
Gabon	0.052	0.026	0.089	0.17	68.86	1.31	0.56	2.34
Chad	0.035	0.022	0.003	0.06	41.67	1.00	0.43	2.34
Egypt, Arab Republic of	0.021	0.018	0.036	0.08	72.00	0.82	0.31	2.61
Mauritania	0.07	0.004	0.021	0.10	26.32	1.50	0.55	2.72
Sri Lanka	0.595	0.06	0.007	0.66	10.12	3.50	0.92	3.82
Malawi	0.143	0.002	0.023	0.17	14.88	3.83	0.99	3.86
Rwanda	0.247	0.007	0.005	0.26	4.63	5.00	0.71	7.04
Yemen, Republic of	0.006	0	0.068	0.07	91.89	0.75	0.10	7.72
Sierra Leone	0.1	0.015	0.01	0.13	20.00	5.00	0.64	7.85
Bangladesh	0.236	0.013	0.011	0.26	9.23	5.50	0.66	8.37
Average	**0.21**	**0.03**	**0.03**	**0.27**	**22.22**	**1.27**	**0.73**	**1.95**

Source: 2011 Global Findex Survey.

and thus diluting their mission of financial inclusion. They conclude that unlicensed postal savings banks are therefore the best model for developing countries whose primary goal is financial inclusion.

The Global Findex survey from which this data is drawn provides data on the shares of men and women who are banked in a total of 148 countries (Demirguc-Kunt and Klapper 2013). This paper analyzes the 60 countries that provide financial services through one of the three business models: unlicensed savings, partnership or universal banking license. The list is dominated by Francophone countries or countries with a legacy of French/Belgian colonialism—27 of the 60 are Francophone countries. Ex-communist Eastern European and Baltic states form another significant sub-group of 11 countries offering postal financial services. History is thus an important determinant of whether states have chosen to provide financial services through the post.

It is interesting to note that apart from a strong positive correlation with the legacy of French/Belgian political influence, the share of urban population is negatively and significantly correlated with a country offering financial services through the post (Table 7.1). When we split the sample by developed and developing countries, we find the additional result that (log)GNI per capita is negatively associated with financial service provision through the post in developing, but not developed countries.

While richer, more urban countries tend to have higher shares of their populations who are banked, postal financial services are being offered in relatively poor, developing countries with larger shares of rural populations. This is a model that has therefore already been employed in relatively poor countries with, we will argue, some success with respect to the financial inclusion of women. This record thus further strengthens the case for the expansion of such services in more countries.

7.4 The Dataset

The 2011 Global Findex survey data conducted by Gallup and the World Bank provides us with country level average shares of women and men who have bank accounts only at the post, only at FIs or at both the post and FIs. In this document “Posts-only” refers to the first category, “FI-only” to the second, and “Posts-and-FI” to the third.

We were unable to access unit level data, but country level aggregate shares for each of the above variables were made available to us by gender. This data was provided for 60 countries where sample sizes were large enough to split the sample by account type as well as gender. Of the 41 developing countries in the sample, 15 are low-income countries while

13 are upper-middle-income and 13 lower-middle-income countries. The Americas are under-represented in the sample, with only one country from Latin America and the Caribbean. The largest regional grouping comprises 22 countries from Sub-Saharan Africa, followed by 21 from Europe and Central Asia.

Given that the female share of the “Posts-and-FI” category cannot be attributed to either the practices of the post or FIs alone, most of our analysis of gender differentials focuses on the share of female to male account holders at the post only, as compared to FIs only.

Four countries drop out of our sample when we compare posts only to FI only because there are no account holders who have accounts at only the post. These four countries are Viet Nam, Turkey, Pakistan, and Greece. Our sample is thus reduced to 56 countries, 37 developing, and 19 developed.[1] As a result, samples sizes are larger for the FI-only ratio. This may be one of the reasons for the greater sensitivity of the FI-only ratios that we will see below.

A further constraint on the analysis arises from the inability to split country level aggregates by more than two variables—thus we cannot obtain country level aggregates for women postal account holders in the bottom income quintile at the country level, for example. Indeed, because income quintiles split the samples into relatively small subgroups we are unable to obtain country level aggregates by account type and income quintile.

Tables 7.2 and 7.3 list all 60 countries with account shares for women, men and the share of the latter to the former. In the analyses that follow, our “dependent” variables of interest for the following analysis are:

(i) ratio 1: the female:male ratio for posts only;
(ii) ratio 2: the female:male ratio for FI only;
(iii) ratio 3: the relative gender gap between posts only and FI only (ratio 1/ratio 2).

It must be noted here that even within these 60 countries, posts provide only a fraction of the total financial services in the country. The average share of women banked through posts only to the share of all women banked (at all institutions) is only 10%, as compared to 78% of women through FI only. Even in developing countries, this average rises to only about 13%. Thus, because posts do not extensively offer financial services in most countries, it may be hard to capture the impact of these services in the quantitative analysis that follows. On the other hand,

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[1] Economies were sorted into developed and developing using the 2014 UN classification of regions with the addition of Israel, Republic of Korea, Hong Kong, People’s Republic of China, and Singapore to the list of developed countries.

Table 7.2 List of Developed Countries with Postal Accounts

Developed Countries	Female Account Share at FI Only (A)	Female Account Share at Posts and FI (B)	Female Account Share at Post Only (C)	Share of Women Banked (D)	Share of Banked Women Who Have an Account at Posts ((B+C) / D)	Posts-Only Gender Ratio (Female Share/ Male Share) E	FI-Only Gender Ratio (Female Share/Male Share) F	Post-FI Gender Gap Ratio (E/F)
Korea, Republic of	0.657	0.243	0.025	0.925	28.97	0.50	1.09	0.46
Ireland	0.603	0.303	0.007	0.913	33.95	0.39	0.92	0.42
Luxembourg	0.649	0.252	0.019	0.92	29.46	0.61	1.12	0.55
Israel	0.896	0.02	0.009	0.925	3.14	0.69	1.05	0.66
Japan	0.17	0.765	0.033	0.968	82.44	0.97	1.13	0.86
Spain	0.856	0.041	0.005	0.902	5.10	0.83	0.97	0.86
Italy	0.479	0.013	0.14	0.632	24.21	0.78	0.90	0.87
Estonia	0.939	0.008	0.016	0.963	2.49	0.94	1.00	0.94
Hungary	0.707	0.018	0.003	0.728	2.88	1.00	1.01	0.99
Czech Republic	0.674	0.045	0.084	0.803	16.06	1.25	0.97	1.29
Latvia	0.809	0.057	0.052	0.918	11.87	1.30	1.00	1.30
Slovenia	0.847	0.052	0.03	0.929	8.83	1.58	1.03	1.53
Slovak Republic	0.672	0.066	0.043	0.781	13.96	1.59	0.95	1.67
Belgium	0.84	0.071	0.016	0.927	9.39	1.78	1.05	1.70
France	0.715	0.197	0.049	0.961	25.60	1.81	0.95	1.91
United Kingdom	0.833	0.086	0.035	0.954	12.68	1.94	0.99	1.97
Poland	0.657	0.001	0.019	0.677	2.95	1.90	0.93	2.04
Austria	0.83	0.094	0.031	0.955	13.09	2.07	0.97	2.14
Average	**0.71**	**0.13**	**0.03**	**0.88**	**18.17**	**1.22**	**1.00**	**1.23**

Source: 2011 Global Findex Survey.

Table 7.3 Correlation of Countries Offering Postal Accounts

	All Countries	Developing Countries	Developed Countries
(Log)GNI Per Capita	-0.0776	-0.23**	-0.2058
Number of Observations	144	107	37
Average Urban Share of Population	-0.2026**	-0.3333***	-0.2796*
Number of Observations	145	108	37
French Speaking/ French Colony	0.2663***	0.3392***	0.1463
Number of Observations	147	110	37

GNI = gross national income.
‡ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

these numbers also suggest the tremendous possibilities for further expansion.

In the section below, we first see what we can learn from some initial simple correlations using country level aggregates and then follow that by regression analysis.

7.5 Correlation Analysis

7.5.1 Female Account Shares at Posts and Financial Institutions

This data indicates that postal financial services are more inclusive of women than the FIs. Mean female male ratios are higher for posts than banks and thus the post-bank gender gap ratio is thus greater than 1 on average (Tables 7.2 and 7.3). On average, the posts serve 1.27 times more women than men in developing and 1.21 times more women than men in developed countries. The highest female:male ratio at posts only is Bangladesh, where the post serves 5.5 times more women than men, closely followed by Sierra Leone and Rwanda, where the posts serve 5 times as many female account holders as male.

The mean female share of the "Posts-and-FI" category is also higher than that for the "FI-only" category and lower than that for "Posts-only", although the gap is smaller.

Importantly, the post–FI gender gap ratio appears to be larger in developing countries, despite the fact that for all accounts together, women are more likely to be banked in developed countries (Tables 7.1, 7.2 and 7.4). When we look at the female:male ratio in the "Posts-and-FI" category, in developing countries the combined category still has a

Table 7.4 Summary Statistics

Variable	Obs	Mean	Standard Deviation	Minimum	Maximum	Source
Developed Country Dummy	60	0.32	0.47	0	1	HDR (2014)
Post-Only Female/Male Ratio	56	1.25	1.19	0	5.5	2011 Global Findex
FI-Only Female/ Male Ratio	60	0.80	0.24	0.10	1.13	2011 Global Findex
Post-FI Gender Gap Ratio	56	1.72	1.88	0	8.366526	2011 Global Findex
(Log)GNI Per Capita	60	8.95	1.25	6.58	11.02	World Development Indicators (2014)
Female Banked Share (All Accounts)	60	0.45	0.34	0.03	0.968	2011 Global Findex
Male Banked Share (All Accounts)	60	0.51	0.32	0.052	0.978	2011 Global Findex
Average Urban Share of Population	60	52	23	11	97	World Development Indicators (2014)
Average Postal Branches Per Square (1000) Km	57	18.37	20.71	0.03	71.77	Universal Postal Union
Average Female Share of Postal Staff	57	38.68	19.94	4.465	81.88	Universal Postal Union
Average Female Share of Managers	51	31.11	21.15	0.5	94	Universal Postal Union
Average Postal Branches Per Capita	54	0.13	0.11	0.00	0.43	Universal Postal Union
Female/Male Labor Force Participation Ratio	59	71.97	20.90	20.17	105.18	World Development Indicators (2014)
Female/Male Secondary Educational Attainment	55	0.80	0.24	0.31	1.55	HDR (2012)

continued on next page

Table 7.4 *continued*

Variable	Obs	Mean	Standard Deviation	Minimum	Maximum	Source
Female/Male Life Expectancy Ratio	59	1.06	0.04	0.97	1.16	World Development Indicators (2014)
Gini Coefficient	55	7.46	3.90	3.4	21	HDR (2012)
Average Female Share of Agricultural Labor Force	40	0.93	0.48	0.15	2.3	World Development Indicators (2014)
Unlicensed Savings Business Model	60	0.52	0.50	0	1	Universal Postal Union
Partnership Model	60	0.40	0.49	0	1	Universal Postal Union
Universal Banking License	60	0.08	0.28	0	1	Universal Postal Union

GNI = gross national income.

higher average female:male ratio than FI only. However, in developed countries that advantage goes away. Thus, the impact of postal financial inclusion upon women is most apparent in the posts-only category.

Decomposing the postal gender advantage between developed and developing countries, t-tests suggest that the posts-only female:male ratio is not significantly different between developed and developing countries (Table 7.5). However, the FI-only ratio is significantly worse in developing countries. (Table 7.6). *Thus, it appears to be the greater failure of banks to include women in developing countries that explains the greater gender advantage of the posts in developing countries.* This also helps us potentially understand why inclusiveness diminishes in the "Posts-and-FI" category.

We then examine the relationship between female:male ratios and total shares of banked women, i.e. women with accounts of all types. We find that the posts-only female:male ratio is not significantly correlated with overall female account share, but that the FI-only female:male ratio is positively and significantly correlated with overall female account share (Table 7.7). As mentioned earlier, posts-only accounts cover only an average of 10% of all banked women. Thus, the association with the overall level of women banked is not likely to be strong.

The post–FI gender gap is negatively but not significantly correlated with female account share. The larger the share of women with accounts in the country as a whole, the greater the female:male ratio of FIs, but

Table 7.5 T-test: Post-FI Gender Gap Ratio by Developed and Developing Countries

Group	Observed	Mean	Standard Error
0	38	1.95	0.36
1	18	1.23	0.14
Combined	56	1.72	0.25
Difference		0.72	0.54
Difference = mean(0) - mean(1)			t = 1.3486
Ho: diff = 0		Degrees of freedom: 54	
Ha: < 0		Ha: diff != 0	Ha: diff > 0
Pr(T < t) = 0.9085		Pr(T > t) = 0.1831	Pr(T > t) = 0.0915

Table 7.6 T-test: Posts-only Ratio by Developed and Developing Country

Group	Observed	Mean	Standard Error
0	38	1.27	0.23
1	18	1.22	0.13
Combined	56	1.25	0.16
Difference		0.05	0.34
Difference = mean(0) - mean(1)			t = 0.14
Ho: diff = 0		Degrees of freedom: 54	
Ha: diff < 0		Ha: diff != 0	Ha: diff > 0
Pr(T < t) = 0.9085		Pr(T > t) = 0.8928	Pr(T > t) = 0.4464

not necessarily at the posts. This is partly a composition effect, given that FIs account for most of the changes in national shares of those banked. It could also be further evidence that, as barriers to female economic participation weaken, and women become more active economic participants, they become more attractive clients for banks. This finding also suggests the potential that posts have to expand further by more clearly focusing on this group of potential clients.

When we look at the relationship between female:male ratios at posts only and FI only and the total share of banked men with accounts (of all types) we find similar results for the FI-only ratio (Table 7.7). That is, for FIs only there is a statistically significant positive relationship between

Table 7.7 T-test: FI-only Ratio by Developed and Developing Countries

Group	Observed	Mean	Standard Error
0	41	0.71	0.04
1	19	1.01	0.02
Combined	60	0.80	0.03
Difference		-0.30	0.05
Difference = mean(0) - mean(1)			t = -5.4461
Ho: diff = 0		Degrees of freedom: 58	
Ha: diff < 0		Ha: diff != 0	Ha: diff > 0
Pr(T < t) = 0.0000		Pr(T > t) = 0.0000	Pr(T > t) = 1.0000

the female:male ratio and total male shares of account ownership. This result is strong for developing countries only and similar, though weaker, for developed countries. This relationship is not statistically significant for the female:male ratio at the posts.

There are two interesting implications of this result. First, if women are truly voluntarily refraining from getting bank accounts because their husbands/fathers have one, we might expect a negative correlation here. However, there is little evidence at the macro level that male account holdings result in fewer women getting accounts. Second, the share of banked men serves as a potential proxy for the female share at FI only, given the very strong positive relationship between these two, but not for the female share at posts only.

Overall, the FI-only female:male ratio is positively and significantly related to the overall female:male share of all accounts. This is especially strong for developing countries, although quite strong for developed countries as well. This is line with the overall tendency for the FI-only share of accounts to be more sensitive to a variety of socio-economic indicators.

7.5.2 Supply-Side Determinants of Female Financial Inclusion

The Universal Postal Union (UPU) maintains statistics on postal branch density in terms of branches per kilometer as well as per capita. Postal branch density in most countries is higher than commercial bank branch density, although when we include all FIs, the situation reverses (Berthaud and Davico 2013). However, FIs as a whole (with

the exception of MFIs) are concentrated in richer, more urban regions, and their branch density is lower in developing countries, while the postal network is distributed relatively evenly (Berthaud and Davico 2013).

In this dataset, the posts-only female:male ratio is positively and weakly significantly correlated with the number of postal branches per 1000 km (Table 7.8), as is, interestingly, the FI-only ratio. The post–FI gender gap is positively but not significantly correlated with this metric of density.

While the first result is expected and important; the second is a little hard to explain. Why would banks be able to increase female:male ratios in contexts where postal networks are wider? Ansón et al. (2013) also find FI financial inclusion is sensitive to some metrics of postal service provision. In some countries, the explanation lies in the fact that banks offer some of their products through posts. Ansón et al. (2013) also argue, and we agree, that there might be positive spillover and demonstration effects when posts allow previously marginalized populations access to financial services, thereby increasing their representation in FIs as well.

When we split the sample into developing and developed countries, we get the more intuitive former result for developing countries, but none of the correlations are significant for developed countries. *Thus, branch density does appear to matter, especially in developing countries.*

Data on the share of female staff and female managerial staff at the posts is also available to us at the country level. Here again we get this interesting result that it is the FI-only female:male ratio that is positively and significantly related to the female share of postal staff (Table 7.8). This is particularly true in developing countries. The most likely explanation here is that female shares of postal staff reflect the existence of larger pools of female staff at all large institutions and are thus highly correlated with female shares of bank staff.

When it came to female shares of managerial staff, a number of countries had missing data. Perhaps as result, there were no statistically significant correlations to report.

Last but not least, the business model adopted by the posts to supply financial services may also impact female financial inclusion (Table 7.8). Given that only five postal operators have universal licenses, the main comparison is between the unlicensed savings model and a business model that involves partnerships with FIs. Partnership with FIs could potentially lower financial inclusion as the incentives and biases of the FIs would then shape financial inclusion via the posts to a greater extent. Thus, one hypothesis might be that where posts offer unlicensed savings the relative degree of financial inclusion is greater.

Table 7.8 Correlations: Metrics of Postal Branch Density and Female Staff Against Gender Ratios

	Share of All Women Banked			Share of All Men Banked			Female:Male Ratio (All Accounts)		
	All Countries	Developing Countries	Developed Countries Only	All Countries	Developing Countries	Developed Countries Only	All Countries	Developing Countries	Developed Countries Only
Post-Only Female/Male Ratio	0.04	0.11	0.02	0.03	0.08	-0.02	0.15	0.21	0.07
Number of Observations	56	38	18	56	38	18	56	38	18
FI-Only Female/Male Ratio	0.71***	0.51***	0.43‡	0.60***	0.28‡	0.24	0.93***	0.91***	0.57**
Number of Observations	60	41	19	60	41	19	60	41	19
Post-FI Gender Gap Ratio	-0.20	-0.09	-0.05	-0.18	-0.07	-0.06	-0.21	-0.13	0.01
Number of Observations	56	38	18	56	38	18	56	38	18

‡ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

However, using an unlicensed savings model was negatively correlated with the female:male ratio at posts only (not statistically significantly) as well as at the FIs only (statistically significant). The opposite was true when posts offered financial services through a partnership model. This seems to be contrary to our earlier finding of the failures of financial inclusion of women by FIs. Here, a partnership with FIs seems to increase female:male ratios. The explanation for this result lies in the fact that it is being driven primarily by outcomes in developed countries.

When we split the sample, we find that in developing countries unlicensed savings models raise the female:male ratio at posts only (not statistically significant) and lower it at FIs only (statistically significant). The opposite is true with a partnership model. In developed countries, however, there is a strong negative effect of using an unlicensed savings model on the female:male ratio at posts only as well as the post–FI gap. The effect on the FI-only ratio is not statistically significant.

We conclude that in developed countries, where most women are already banked, the quality of service is a greater concern. Unlicensed financial services are a signal of lower quality financial services, given that they are not regulated by the central bank. Thus, we find that unlicensed savings models are negatively associated with female:male ratios at the posts in developed countries.

7.5.3 Demand-Side Determinants of Female Financial Inclusion

Given the importance of postal branch density in the prior analysis, we use the share of urban population in a country to approximate the extent to which distance from bank branches reduces the ability to be banked[2]. We could also include the country's female to male ratio of workforce in agriculture as a way of approximating the extent to which women are concentrated in rural areas, but due to missing data the sample then reduces to 38 countries.

The particular context of gender relations in the country clearly impacts the degree to which posts can financially include women, as discussed earlier (Johnson 2004; Fletschner 2009). In this analysis, the absence of unit-level data restricts us to using country level aggregates that are proxies for demand-side barriers to account usage by women.

[2] Data on GDP per capita, the Gini coefficient, the urban share of the population and metrics of gender inequality were obtained from the World Development Indicators and Human Development Reports (see Table 7.5).

Table 7.9 Correlations: Metrics of Postal Branch Density and Female Staff Against Gender Ratio

	All Countries			Developing Countries			Developed Countries		
	Post-Only Ratio	FI-Only Ratio	Post-FI Gender Gap Ratio	Post-Only Ratio	FI-Only Ratio	Post-FI Gender Gap Ratio	Post-Only Ratio	FI-Only Ratio	Post-FI Gender Gap Ratio
Average Postal Branches Per Square (1000) Km	0.25 ‡	0.35**	0.08	0.36*	0.10	0.23	0.10	0.30	0.05
Number of Observations	53	57	53	35	38	35	18	19	18
Average Share of Female Staff	-0.08	0.41**	-0.24 ‡	-0.11	0.41**	-0.26	0.07	-0.29	0.10
Number of Observations	54	57	54	37	39	37	17	18	17
Average Female Share of Managers	-0.06	0.23	-0.12	-0.13	0.05	-0.14	0.22	-0.31	0.25
Number of Observations	47	51	47	34	37	34	13	14	13
Average Postal Branches Per Capita	0.00	0.48***	-0.17	0.04	0.25	-0.09	0.20	-0.47	0.22
Number of Observations	50	54	50	34	37	34	16	17	16
Unlicensed Savings	-0.03	-0.42	0.18	0.05	-0.52	0.24	-0.53	0.11	-0.51
Number of Observations	56	60	56	38	41	38	18	19	18
Partnership with an FI	0.06	0.40**	-0.13	-0.01	0.48**	-0.19	0.42 ‡	-0.08	0.40 ‡
Number of Observations	56	60	56	38	41	38	18	19	18
Universal Postal License	-0.003	0.149	-0.05	-0.03	0.16	-0.06	0.12	0.19	0.10
Number of Observations	56	60	56	38	41	38	18	19	18

‡ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

There are now a wide variety of indices of gender equality at the country level but given the small sample size, we attempt to be somewhat parsimonious in our choice of "independent" variables.

As is now well known, the GDI is now much criticized because of its very high correlation with country level income per capita. However, at least two of its components—the female:male labor force participation ratio (in paid work) and the female:male life expectancy index capture aspects of gender equality that continue to be very important.

For our purposes, given that we are studying female financial participation, the female:male labor force participation ratio is a particularly significant indicator of possible demand for financial accounts on the part of women. Both the female:male literacy ratio and the female:male ratio of secondary school attainment are available as metrics of education discrimination. Education may also lead to a greater awareness of the importance of being banked, as well as a greater ability to deal with the paperwork and other administrative aspects of maintaining a bank account. Because of the potential importance of the latter and therefore of education beyond literacy, we use the female:male secondary school attainment ratio as the primary metric of gender equitable education in a country.

The female:male life expectancy index is used here as a metric of gender discrimination in the provision of the most basic needs of nutrition and healthcare.

The country's level of economic inequality is indicated by its Gini coefficient for the most recent year. Data on the Gini is missing for several countries, which further reduces our sample size. As a result, the Gini is not used in most of the analysis, although we do report the regression result after its inclusion.

We do not use the headcount ratio of people living below $2 a day because of even greater data issues, although it would be another way to approximate the extent to which people are not banked because of a lack of income. In each case, the values used in the analysis are averages for the years 2008–2011 where available, or the most recent if no data is available for 2008 or after.

A correlation table tells us again that the FI-only female:male ratio is much more sensitive to these different demand-side metrics (Table 7.10).

Countries with higher gross national income (GNI) per capita see higher ratios of women to men at the FIs, as do countries with higher shares of urban population. In fact, the impact of urban share of population is strong enough that it also statistically significantly lowers the post–FI gap. Higher female:male shares of the labor force as well as secondary educational attainment raise both post-only and FI-only gender ratios, but the effect is only statistically significant for the latter.

Table 7.10 Correlations: Demand-side Correlates of Gender Ratios

	All Countries		
	Post-Only Ratio	FI-Only Ratio	Post-FI Gender Gap Ratio
(Log)GNI Per Capita	-0.02	0.41***	-0.13
Number of Observations	56	60	56
Average Urban Share of Population	-0.18	0.40**	-0.27*
Number of Observations	56	60	56
Female/Male Labor Force Participation	0.18	0.52***	-0.07
Number of Observations	55	59	55
Share of Women in Agricultural Labor Force	-0.02	-0.68***	0.16
Number of Observations	38	42	38
Female/Male Secondary Educational Attainment	0.05	0.44***	-0.16
Number of Observations	51	55	51
Female/Male Life Expectancy	-0.12	0.34 ‡	-0.20
Number of Observations	55	59	55
Gini Coefficient	0.02	-0.07	0.02
Number of Observations	51	55	51

GNI = gross national income.
‡ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

The female to male life expectancy ratio statistically significantly raises the ratio of women to men at FIs only while the Gini coefficient has no effect on either. Finally, we use the share of women in agriculture as a measure of the extent to which women are concentrated in agriculture. Given the urban, formal sector bias of FIs, this has the expected negative impact on female financial inclusion at FIs. The impact of the gender gap ratio is positive but not statistically significant.

7.5.4 Supply and Demand-Side Determinants: The Summary

This analysis provides preliminary evidence that posts have higher female:male ratios than the FIs, particularly in developing countries. It appears that this is at least partly because FIs seem particularly likely

to exclude women, rather than the posts being especially focused on including women.

Indeed, developed and developing countries differ quite substantially in the dynamics of financial service provision. There is thus a case for separating the two while doing further analysis, although this would mean a further decrease in sample size.

On the supply side, there is some evidence that branch density matters, as does the postal business model, particularly in developing countries.

In developing countries FI-only account holder composition is also sensitive to the postal business model, with some evidence that the use of unlicensed savings at the posts may raise the postal female:male ratio in developing countries. However, the use of this model also seems correlated with lower female:male ratios at the FIs, which is clearly not the desired policy outcome. From a policy perspective then, many of these results reiterate the importance of continuing to work on transforming FIs to become more inclusive even as postal services expand financial services.

Conventional metrics of gender inequality depress female participation in FIs to a greater extent than at the posts. This suggests that posts can be a way to try to reach women in countries where cultural norms do not favor extensive female participation in the market economy. Most importantly, posts can be a way to reach rural populations. Once again, the geographic reach of the postal services emerges as a very significant asset.

7.6 Regression Analysis

We use simple OLS regressions to test whether the relationships observed above hold up once we control for the country's income per capita. The two dependent variables used here are the posts-only gender ratio and the post–FI gap. We do also report some regression results for the FI-only ratio for comparative purposes.

As dependent variables we use (log)GNI per capita, the urban population share and the female:male share of the labor force on the demand-side. On the supply side, we include postal branches per 1000 km^2, and whether the postal service uses an unlicensed savings business model (versus a partnership model or a universal banking license).

The share of men who are banked (at any institution) is included both to control for other country specific factors that may increase the propensity to be banked more generally, as well as to control for the fact

that women may not open accounts if their husbands or fathers already have one.

To begin with just the impact of (log)GNI per capita, we see a negative, though insignificant, effect on the posts-only ratio as well as the post–FI gap (results available upon request). This makes sense if, as countries get richer, male accounts expand faster than female, and FI accounts in general expand faster than postal accounts.

Once we control for the expansion in male accounts (and indeed the expansion of FIs in general, given the dominance of FIs amongst male account holders), we see a switch to a positive but not statistically significant impact of GNI per capita on the post–FI gap (results available upon request). For the posts-only ratio itself, after we control for the greater expansion in male accounts as a country grows richer, we still see that higher income correlates (statistically insignificantly) with lower female:male ratios at the posts. However, once we control for the urban share of the population, which is also usually higher in richer countries, this relationship becomes positive and statistically significant for both the posts-only ratio as well as the post–FI gap (Tables 7.11 and 7.12). The size and statistical significance of these variables is even stronger for developing countries only.

If we assume that both men and women have a greater demand for financial services in a richer country, this result suggests that FIs disproportionately absorb the increases in male demand, so that it is at the posts that female demand for financial services is fulfilled. Another possible interpretation from the supply side is that larger FI networks in richer countries mean their exclusion of women also has a more significant impact on the post–FI gap, pushing it in favor of the posts.

Higher urban shares of the population are correlated with a smaller post–FI gender gap. The same result holds for the posts-only ratio as well. Thus, posts are less female inclusive in more urbanized countries, particularly in the developing world. This may be because male migration to cities results in relatively high urban male population shares in Africa and Asia (which dominate our dataset). It may also be because in urban areas posts do not have as much of an advantage over FIs when it comes to transactions costs, thus reducing their relative attractiveness to women. This finding implies that *rural postal networks are especially crucial if the posts are to more directly aim for greater female financial inclusion. Furthermore, even in richer countries, posts can take advantage of their greater presence in rural areas to expand financial services amongst women.*

As Table 7.11 shows, branch density also matters as expected for the posts-only ratio. Average branches per 1000 km squared and the share of

the urban population remain statistically significant after the addition of the female to male ratio of secondary school attainment, female to male life expectancy ratio as well as the business model identifier. When the dependent variable is the post–FI gap, however, only the urban share of the population remains statistically significant at 5% and is negatively related to the post–FI gap (Table 7.12).

A postal service with an unlicensed savings model also increases the posts-only female:male ratio as well the post–FI gap for developing countries, as suggested by our earlier analysis based on correlation coefficients.

Interestingly, indicators of gender inequality are not statistically significant determinants of the posts–FI gap in developing countries. We explore this in greater detail below, but this re-emphasizes the sense we get from our qualitative interviews below that the posts are not actively seeking out women, or designing financial products that help women overcome barriers posed by gender equality. On the other hand, to the extent that they have a social mission, they do include poorer, less financially stable clients, a group that certainly includes women. Lower direct and transactions costs of postal accounts and the greater exclusion of women by FIs appear to better explain the posts' success with women at this point.

Looking at the results for the posts-only ratio confirms this sense. We note that higher female:male labor force participation ratios do seem to increase female:male ratios at the posts in some models (although largely for developed countries only). When we run the same regression model for the FI-only ratio as well (with the density of FI branches substituted for postal branch density) the coefficient for the female:male labor force participation ratio is positively and statistically significantly related to the FI-only female male ratio in developing countries (results available upon request).

It is possible that some posts, like banks, either require proof of income, or may have a question about employment on their application forms. As a result, women who do not perform paid work may be less likely to have an account. However, FIs seem to reflect this tendency more consistently in developing countries.

The introduction of the Gini and the female share of agriculture (as an indicator of female concentration in rural areas) reduces the sample size to only 34 countries. Importantly, of the 15 countries that drop out upon the inclusion of these two variables, only 1 is a developed country. Thus, the sample for this regression becomes dominated by developed countries.

For these countries, the urban share and branch density are still significant, but now the female:male secondary educational attainment

Table 7.11 Regression Results, Dependent Variable Posts-Only Female:Male Ratio (t-statistics in parentheses)

	All Countries				Developing Countries Only				Developed Countries Only			
	1	2	3	4	1	2	3	4	1	2	3	4
(Log)GNI Per Capita	0.301	0.503§	0.457	0.0236	0.409	0.673‡	0.696	0.0737	-0.00866	0.413	0.457	2.438*
	(1.03)	(1.70)	(1.45)	(0.07)	(1.08)	(1.71)	(1.64)	(0.12)	(-0.01)	(0.86)	(0.68)	(2.83)
Male Banked	0.401	-1.236	-0.774	0.0405	0.307	-0.541	0.176	-0.603	0.379	-1.504	-1.755	-3.813
	(0.46)	(-1.19)	(-0.70)	(0.04)	(0.25)	(-0.34)	(0.10)	(-0.25)	(0.19)	(-0.92)	(-1.01)	(-2.40)
Urban Population Share	-0.0267*	-0.0299*	-0.034**	-0.025‡	-0.0334‡	-0.0333‡	-0.0470*	-0.010	-0.0077	-0.009	-0.005	-0.006
	(-2.21)	(-2.44)	(-2.75)	(-2.03)	(-1.97)	(-1.73)	(-2.11)	(-0.27)	(-0.62)	(-1.01)	(-0.43)	(-0.68)
Branches Per Km		0.0256*	0.0213	0.0304**		0.0294‡	0.0191	0.0511		0.0114	0.0135	0.0136
		(2.59)	(2.02)	(2.82)		(1.85)	(1.03)	(1.65)		(1.30)	(1.42)	(1.79)
Unlicensed Savings Business Model		0.121	0.252	-0.194		0.720	1.019‡	-0.0678		-0.644*	-0.585*	-0.489
		(0.36)	(0.71)	(-0.60)		(1.34)	(1.77)	(-0.08)		(-3.00)	(-2.52)	(-2.21)
Female/Male Labor Force Participation Ratio		0.0206*	0.0168‡	0.0139		0.0258*	0.0194	0.0188		0.0521*	0.0568*	0.0696*
		(2.47)	(1.77)	(1.11)		(2.38)	(1.45)	(0.81)		(2.36)	(2.41)	(3.20)

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Table 7.11 *continued*

	All Countries				Developing Countries Only				Developed Countries Only			
	1	2	3	4	1	2	3	4	1	2	3	4
Female/Male Secondary Educational Attainment			0.613	2.063‡			0.708	1.387			-1.224	0.326
			(0.69)	(2.05)			(0.57)	(0.66)			(-0.75)	(0.19)
Female/Male Life Expectancy Ratio			-3.751	-1.933			-6.989	-3.828			3.361	10.95
			(-0.79)	(-0.36)			(-1.02)	(-0.35)			(0.61)	(1.92)
Gini Coefficient				0.0166				0.0101				0.0378
				(0.35)				(0.11)				(0.38)
Female Share of Agricultural Labor Force				0.00335				-0.00369				0.0523
				(0.23)				(-0.15)				(1.46)
Constant	-0.255	-2.998	1.332	0.948	-0.836	-5.197	2.297	2.197	1.546	-5.120	-8.636	-38.18*
	(-0.13)	(-1.38)	(0.26)	(0.13)	(-0.34)	(-1.78)	(0.32)	(0.17)	(0.28)	(-1.14)	(-0.74)	(-2.76)
Observations	56	53	49	34	38	35	31	17	18	18	18	17

GNI = gross national income.

‡ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Table 7.12 Regression Results, Dependent Variable Posts-FI Female:Male Ratio Gap (t-statistics in parentheses)

	All Countries				Developing Countries Only				Developed Countries Only			
	1	2	3	4	1	2	3	4	1	2	3	4
(Log)GNI Per Capita	0.783‡	0.927‡	0.884‡	-0.0112	1.001	1.326‡	1.353‡	0.0186	0.000818	0.467	0.522	2.713*
	(1.71)	(1.89)	(1.69)	(-0.02)	(1.67)	(2.01)	(1.92)	(0.02)	(0.00)	(0.88)	(0.69)	(2.75)
Male Banked	-1.607	-2.565	-1.693	0.206	-1.824	-1.529	-0.165	-0.845	0.190	-1.831	-2.040	-4.286‡
	(-1.18)	(-1.50)	(-0.92)	(0.12)	(-0.92)	(-0.58)	(-0.06)	(-0.23)	(0.09)	(-1.02)	(-1.04)	(-2.35)
Urban Population Share	-0.042*	-0.050*	-0.057*	-0.026	-0.055‡	-0.070*	-0.090*	0.0161	-0.00996	-0.0109	-0.0074	-0.0086
	(-2.24)	(-2.49)	(-2.64)	(-1.42)	(-2.02)	(-2.16)	(-2.43)	(0.29)	(-0.76)	(-1.06)	(-0.58)	(-0.86)
Branches Per Km		0.0231	0.0169	0.0371*		0.0179	0.00162	0.0790		0.00998	0.0118	0.0120
		(1.41)	(0.97)	(2.35)		(0.67)	(0.05)	(1.67)		(1.04)	(1.10)	(1.37)
Unlicensed Savings Business Model		0.658	0.821	-0.0034		1.665‡	2.151*	0.0393		-0.670*	-0.623*	-0.529‡
		(1.19)	(1.41)	(-0.01)		(1.85)	(2.24)	(0.03)		(-2.83)	(-2.37)	(-2.08)
Female/Male Labor Force Participation Ratio		0.00643	0.000700	0.0124		0.0104	-0.000648	0.0256		0.0522	0.0561	0.0693*
		(0.47)	(0.04)	(0.67)		(0.57)	(-0.03)	(0.72)		(2.15)	(2.10)	(2.78)
Female/Male Secondary Educational Attainment			0.0909	3.204*			0.590	1.602			-0.948	0.763

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Table 7.12 *continued*

	All Countries				Developing Countries Only				Developed Countries Only			
	1	2	3	4	1	2	3	4	1	2	3	4
			(0.06)	(2.18)			(0.29)	(0.50)			(-0.52)	(0.39)
Female/Male Life Expectancy Ratio			-7.450	-4.160			-12.12	-6.713			2.923	11.33
			(-0.95)	(-0.52)			(-1.06)	(-0.40)			(0.47)	(1.73)
Gini Coefficient				0.0104				0.0162				0.0509
				(0.15)				(0.12)				(0.45)
Female Share of Agricultural Labor Force				0.0185				0.0153				0.0594
				(0.88)				(0.42)				(1.44)
Constant	-2.244	-3.713	4.970	2.381	-3.461	-7.279	6.097	2.944	1.792	-5.216	-8.514	-41.20*
	(-0.74)	(-1.03)	(0.58)	(0.22)	(-0.88)	(-1.48)	(0.51)	(0.15)	(0.31)	(-1.06)	(-0.65)	(-2.60)
Number Of Observations	56	53	49	34	38	35	31	17	18	18	18	17

GNI = gross national income.

‡ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

ratio is also significantly and positively related to the female:male share of account holders at the post, although again this result is driven by developed countries. While Ansón et al. (2013) find that posts are more likely than FIs to include the less educated, this result suggests that in developed countries posts can do even more to reach less educated women.

When we look at the posts–FI gap for these 34 countries, we find that the number of postal branches per kilometer still have a positive and significant impact on the posts–FI gender gap (Table 7.12). Here we find that the ratio of secondary educational attainment is statistically significant and positively related to this gap. That is, the postal advantage with women over FIs grows in countries where female educational attainment is relatively high. Assuming that documentation needs are higher for FI bank accounts, this suggests that postal accounts disproportionately attract women as their educational attainment rises. Given what we know from our prior results about the greater exclusion of women by FIs, this may indicate that even where educated women have the ability to maintain bank accounts they find fewer supply-side barriers at posts than at banks and thus are more likely to open accounts there. However, when we split the sample by developed and developing countries, this result ceases to be statistically significant.

There are thus two robust results that emerge from this analysis. The first is the importance of postal rural networks and geographical density in explaining why the posts have a higher female:male ratio of account holders. This suggests that tremendous potential for increasing account ownership amongst women by expanding postal networks into rural areas.

The second is the greater sensitivity of the FI-only female:male ratio to various metrics of demand for financial services, including metrics of wider societal gender inequality. We find that the posts-only female: male ratio seems to be less negatively affected by these variables. These findings taken together suggest a less discriminatory environment for women within posts even after accounting for income, network density, postal business models and measures of wider gender inequality.

The final component of our research was qualitative analysis based on surveys of postal authorities. The goal was to explore the extent to which postal operators attempt to directly target women. As we discuss below, in most cases there are few effective interventions by postal operators to expand female financial inclusion, and yet posts are able to do better than the FIs due to the absence of overt statistical discrimination against women. This means that there is considerable room for further improvement if posts were indeed to reach out to women more directly.

7.7 Qualitative Analysis

7.7.1 Methodology

To better understand best practices in terms of financial inclusion of women, we administered a survey to postal authorities at selected best and worst performing countries. Since our study focuses on developing countries to a greater extent than developed countries, developing countries dominated the list of surveyed countries.

The first criterion in picking countries for surveys was the success/failure of the posts in attracting female accountholders. In 60% of our sample, the post performed better than FIs when it came to attracting female account holders. Five of the developing countries chosen and two of the developed came from this group. 15 out of the 38 developing countries in the Findex database, on the other hand, had male dominant postal accounts. Two of the developing countries (India and Burundi) and one developed country (Republic of Korea) selected for the survey came from this group.

The second criterion was that there be a minimum share of women banked with the post to ensure the integrity of our gender gap metric. Given the small numbers of countries with shares of women account holders at posts only just above 5%, we selected a 1% share of women account holders at posts only as our cutoff.

Finally, we also attempted to make sure that our sample included postal services with universal bank licenses, partnerships with financial institutions as well as unlicensed postal savings accounts.

The eight developing countries we identified on the basis of these criteria were: India, Burundi, Tunisia, Yemen, Gabon, Mauritania, South Africa and Bangladesh. The three developed countries selected were France, Poland and Republic of Korea.

We received completed surveys from 7 countries in total: Burundi, Tunisia, Yemen, Gabon, Mauritania, India, and France. Table 7.13 summarizes some key information from the surveys.

7.7.2 Key Findings

As we had expected, no postal operator had a financial product exclusively targeted at women. India came closest with a newly announced scheme offering incentives to households to open an account in the name of a girl child. There was also no example of a postal operator specifically targeting women for information or marketing about financial products. Indeed, the French postal authorities pointed out that they were barred

by law from treating differentiating between clients by sex and providing preferential treatment in any form to clients of a particular gender. As authorities in Tunisia put it "all have equal access to postal services".

While the principle of equal access for all is an important one, as a recent UN Women report suggests, legally gender-blind policies can perpetuate existing societal inequalities (UN Women 2013). When it comes to financial inclusion of women, this approach has clearly been more inclusive of women than the forms of statistical and perhaps more direct discrimination engaged in by commercial banks. However, given the fact that women continue to dominate the ranks of the unbanked, we do think the posts could and should seek out more ways to provide access that is de facto and not just de jure equal.

In this report, we do not recommend developing women-only financial products due to the practical constraints of legal principles of equal access in some countries, but also due to a long history of "women-only" products and services languishing for lack of funding (and even generating some backlash). However, we do suggest that posts develop financial products and forms of service delivery that are designed in ways that might appeal to women. We discuss such features below.

The lack of outreach to women, however, does seem worth addressing. Interestingly, Burundi, a country with low reported female financial inclusion via posts in the 2011 Findex survey has since commenced an expanded financial inclusion program that does outreach to co-operatives and via radio programs. It has also been reaching out to groups such as domestic workers and fruit/vegetable traders who are more likely to be female. It will be interesting to note if the results of these efforts become evident in future surveys.

Several of the surveyed postal authorities reported existing collaborations with nongovernment organizations (NGOs). These collaborations may be part of the explanation for their success in attracting women. Using NGOs and MFIs to transmit information more directly to women and encouraging them to open accounts at the local postal branch would be one way to disseminate information more directly to women. Providing information on postal accounts at local healthcare providers might be another way of reaching women.

Indeed, greater outreach to NGOs would appear to be required at the macro level. Both UN Women and UPU are in a position to reach out to the large and growing community of advocates for financial inclusion of women and urge them to consider allying with postal operators across the world.

In the surveys, the postal authorities themselves identified their lower cost of services as the primary advantage over banks, with some

also referencing their wider rural networks. As expected, the primary disadvantage they pointed out was the limited range of financial products they offered.

When it came to possible barriers faced by female account holders, all the responses pointed to broader social and economic factors—female illiteracy, poverty, and "customs and traditions". Almost none of the responses listed ways in which posts themselves might present barriers to greater female financial inclusion. While our quantitative analysis suggests that any such barriers are likely to be lower than in the case of FIs, it would be interesting to compare these responses to those of women themselves, who might have a different perspective on how welcoming posts are to women clients. For example, we did not have access to the application form that some surveyed countries reported was a necessary precondition for opening an account. It would be interesting to analyze the extent to which such forms are gender-neutral.

The one exception to the above was the response from the authorities in Yemen who suggest that the photo-ID requirement might present a barrier to women who are unwilling to have a photograph taken. While overall the documentation these countries reported requiring was minimal, the Yemeni response may suggest that even this level of documentation presents a barrier for some women.

This leads us to some recommendations on how postal operators can build in features that are likely to attract women.

Offering incentives for multiple members of a family (irrespective of gender) to open postal accounts might be one such feature, given the reported unwillingness of women to open accounts if a family member already has one. Our quantitative analysis suggests that this is not an insurmountable barrier, as countries with high male shares of the banked also tend to have female shares of the banked. Well-designed incentives may therefore draw in both female and male members of a family. For example, India's new girl child account is a step in this direction, but policy makers may want to consider ways to enhance this scheme to encourage adult women in these households to open accounts as well.

Other design features are suggested by the literature on Rotating Savings and Credit Associations (ROSCAs)[3] and female microcredit groups. For example, research on ROSCAs suggests that apart from the absence of collateral requirements and a delinking of membership from formal income generation activities, and the documentation associated with such activities, ROSCAs may be appealing to women precisely

[3] ROSCAs typically comprise a group of individuals who come together and make regular cyclical contributions to a common fund, which is then given as a lump sum to one member in each cycle.

Table 7.13 Summary of Qualitative Survey of Postal Authorities

Question	France	Tunisia	Gabon	Mauritania	Yemen	Burundi	India
Post-FI gender gap ratio.	1.91	2.21	2.34	2.72	7.72	0.68	0.55
What documentation do you require from a customer who wishes to open a checking account with you?	ID, proof of address, proof of income	ID, application form	ID, photos, proof of employment	ID, photos, proof of address	Photos, ID, application form	Photos, ID	Documentation is based on risk category.
Are there minimum balances the customer must maintain? If so, how much?	No	No	Yes, for savings accounts	Yes, for savings accounts	Yes	No	Yes
Are deposits at the post insured by the government?	Yes	Yes	No	Yes	Yes	No	Yes
Can holders of checking or savings accounts also take out loans?	Yes, consumption and real estate loans	No	Yes, for deposit accounts	Yes, for some current account holders only	No	Yes, since 2012	No
At postal branches, are there special queues for women or any other way in which women are served separately/differently?	No	No	No		Yes	No	No
Are social transfers (such as government payments to low income populations, widow/widower benefits, etc.) carried out through postal accounts?	No	Yes	No. Some NGO transfers	Yes	Yes; also NGO transfers	Yes	Yes

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Table 7.13 *continued*

Question	France	Tunisia	Gabon	Mauritania	Yemen	Burundi	India
Efforts to disburse information about banking services at the post to women.	Not applicable	No differentiation between women and men	No	No	None	Not directly	Not directly
Efforts to disburse information about banking services to low-income or other marginalized populations (other than women).	In partnership with various NGOs, multiple programs to offer financial advice and services to "financially fragile" persons	Outreach on financial culture via international organizations		No	None	Yes	Advertising only outside post offices themselves
Any special products, programs or incentives to increase the number of women opening accounts at the posts.	Not applicable	"All customers have the same rights of access to postal services"	Child savings accounts—we encourage the mother also to open accounts	No	Competitions with household appliances as prizes to encourage women to open savings accounts	Not directly	Special incentive for accounts in the name of girl child
Any special products, programs or incentives to attract low-income or otherwise marginalized population (other than women) to open accounts at the posts.	No-fee savings account available to all, Very low minimum withdrawal and deposit amounts, personal and commercial microcredit	Special man- date for the sick and disabled	No	No	No	Yes	No

What do you think are the main differences between banking with the posts and banking with other financial institutions in your country?	Lower costs; a public service mission	Rural coverage, more highly developed than banks due to use of ICTs	No fees; open to all socio-economic groups	Low cost	Posts offer fewer financial services	Posts offer short term credit and low interest rates on loans; greater territorial coverage	Absence of credit and loan facilities; focus on small deposits
What do you think are the main barriers to more women opening accounts at the posts?	Not applicable	None	None	Low income, “attitudes”, lack of communication	Tradition; need to apply for photos; illiteracy	Low income, Lack of property rights	Lack of awareness
Are you interested in developing a women specific product?	Not applicable	Yes	Yes	Yes	Yes	Yes	Yes. Example: scheme for girl child

because while there is a commitment to save, it is difficult for other members of the household to track the amounts women have saved, and also difficult for women to withdraw funds at short notice (Anderson and Balland 2002). Women are thus able to protect their savings from demands made by other family members. The opacity and lack of flexibility built into the ROSCA system is seen as an advantage by the women who participate.

These findings would suggest that posts explore keeping minimum deposit amounts low (as the French post does) but extending the minimum period of time required to save before withdrawals are allowed and/or limiting the number of allowed withdrawals. That is, counter intuitively, creating products that are less flexible.

Another more direct way to incorporate features of ROSCAs and female microfinance groups would be to invite these groups (both male and female) to open accounts for the group as a whole at the local postal branch. The literature suggests that such an initiative would need to be accompanied by offers of help with administering, maintaining and monitoring these accounts. Such additional assistance may be more economical when offered to groups as a whole rather than to individuals. This, again, is similar to an effort that Burundi is currently pursuing in offering financial education through co-operatives.

Perhaps most important, however, is a strong, pervasive emphasis on financial inclusion within the culture of the postal operator coupled with a greater awareness that women constitute the majority of the posts' current and future client base. The response from the French postal operator suggests that at least the former emphasis pervades the institution and has led to a number of innovative financial products and service delivery mechanisms, including direct collaborations with NGOs and financial literacy programs, designed to reach what the French termed "financially fragile" populations. As the statistics suggest, this has also translated into a high level of female financial inclusion via posts.

In developing countries where the challenge of banking women is greater, these efforts should be coupled with a more direct acknowledgement that women constitute a majority of current customers as well as those with unmet needs. More efforts to survey female clients and understand features of service delivery that might be most useful to them would be an important step towards uncovering additional product innovations.

7.8 Conclusions and Recommendations

Posts have an important role to play in bringing the unbanked into the formal financial system. Recent history suggests that where posts offer

financial services, they do so to a diverse group of clients, including economically marginalized groups to a much greater extent than other financial institutions. Our research suggests that women have been beneficiaries of this feature of financial service provision via the posts. Given this track record and the fact that a majority of the unbanked across the world are women, we argue posts can and should play a much more prominent role in the debate over how to reach and bank them.

Our quantitative analysis shows that FIs are much more likely than posts to exclude women. As a result, female:male ratios at posts are significantly higher than at FIs, particularly in developing countries, the main focus of our study. The greater presence of postal branches in rural areas appears to play an important role in explaining greater female account ownership via the posts. We note that even in developed countries, posts have the potential to tap rural clients using their wider networks.

In line with other research (Berthaud and Davico 2013; Ansón et al. 2013), we also find that even offering simple unlicensed savings accounts via posts (rather than in partnership with FIs) can have an impact on the financial inclusion of women. On the other hand, from the perspective of FIs, partnership with posts did seem to improve female:male ratios, suggesting one way for FIs to approach the issue of financial inclusion.

Our most interesting overall finding, however, was that in our correlation analysis, female: male ratios at FIs are much more sensitive that female:male ratios at posts to a range of socio-economic factors, including measures of gender equity. Our regression results indicated that a country's (log)GNI per capita was positively related to female:male ratios at the posts, but not at FIs. We assume that as countries grow richer, female demand for financial services grows. If so, this result indicates a failure on the part of FIs to absorb that increased female demand. As a result, women may seek out posts to supply their financial services. In countries where the post does not provide such services then, these women will join the ranks of the unbanked.

Another interesting finding was that although women report not obtaining an account because a male member of the family already has one, at the macro level we find no evidence that this constitutes a serious barrier to women obtaining accounts. Overall, male and female account shares tend to move together, suggesting that other factors such as the cost of services may be more significant deterrents for both men and women. Once again posts appear to be in a better position to offer such low-cost services to both men and women in developing countries.

Our qualitative analysis confirmed that even in posts with relatively high shares of female accounts, postal operators do not appear to take

into account, or have a deep understanding of, women's needs when designing products and service delivery mechanisms. They also do not report any substantive outreach to women.

This leads us to make five main recommendations.

1. Posts in more countries could be encouraged and empowered to offer financial services, at least in part from a gender equity perspective. Rural postal operators are particularly valuable in accomplishing this goal and should be allowed to offer financial services.
2. Advocates of female financial inclusion in the global development community need to be made more aware of the successful track record of postal financial services and the potential advantages of allying with posts in efforts to bank women.
3. Postal authorities in developing countries may need to be made more aware of the fact that the majority of their current clientele is female. In our qualitative interviews and surveys, postal authorities did not appear to reflect that awareness. To that must be added the more explicit understanding that a majority of the unbanked population in most countries (and thus their future client base) is also female. We believe this knowledge should inform better information gathering, perhaps via surveys of current female clients, on how to design services that meet their needs.
4. We do not recommend designing female-only financial products or services, but rather building features that may be especially attractive to women into all financial products. Based on the literature on female ROSCAs and microcredit groups, we suggest the following possible features:
   (a) incentives for multiple family members to open accounts;
   (b) encouraging ROSCAs and existing microfinance groups to open group accounts at posts;
   (c) connected to (b), encouraging more alliances with NGOs and development organizations working on women's empowerment;
   (d) based on evidence from ROSCAs, very low minimum deposit and withdrawal amounts increase women's use of financial services, but this may need to be combined with longer periods in which withdrawals cannot be made, i.e. designing accounts in which women's savings can be protected from demands made by other family members.
5. Given that posts currently offer financial services in only a few countries, the above efforts must be matched by continuing

efforts to document and fight the financial exclusion of women by commercial banks. Indeed, the success of posts could be used to show that supply-side barriers are more significant deterrents than demand-side barriers when it comes to unbanked women. Indeed, our quantitative analysis suggests that FI partnerships with posts do improve female:male ratios for FIs, making that a possible first step for FIs who wish to address female financial exclusion.

Greater financial inclusion of women is a win–win development strategy with the potential to positively impact growth and human development, as well as women's social and economic empowerment. We believe that postal services have a vital role to play in this process.

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8

Postal Savings and Financial Inclusion in Japan

Naoyuki Yoshino, Matthias Helble, Asami Takeda, and Suguru Shimazaki

8.1 Introduction

The postal savings bank is the largest deposit taking financial institution in Japan. It was established in 1875 and contributed a great deal to promote domestic savings. It has always been trusted by the Japanese and its nationwide network of post offices has absorbed household savings. The savings were entrusted to the Ministry of Finance, which allocated the funds to infrastructure investment, housing loans, small and medium-sized enterprises (SME) loans, etc., and was called the Fiscal Investment and Loan Program.

In developing Asian countries, the promotion of domestic savings is very important for economic growth. Too much reliance on foreign finance will increase the exchange rate volatility and make the economies vulnerable to shocks in the case of financial crises. Traditional postal savings combined with savings based on new financial technology will promote new ways to promote savings to individuals.

This chapter consists of 5 sections. Section 8.2 summarizes postal savings and Japan's economic development. Section 8.3 explains the postal savings system and the fiscal investment and loan program in the Japanese financial system. Section 8.4 states postal savings versus private bank deposit. Section 8.5 summarized recent development of postal savings in Japan and explains the future challenges of postal savings.

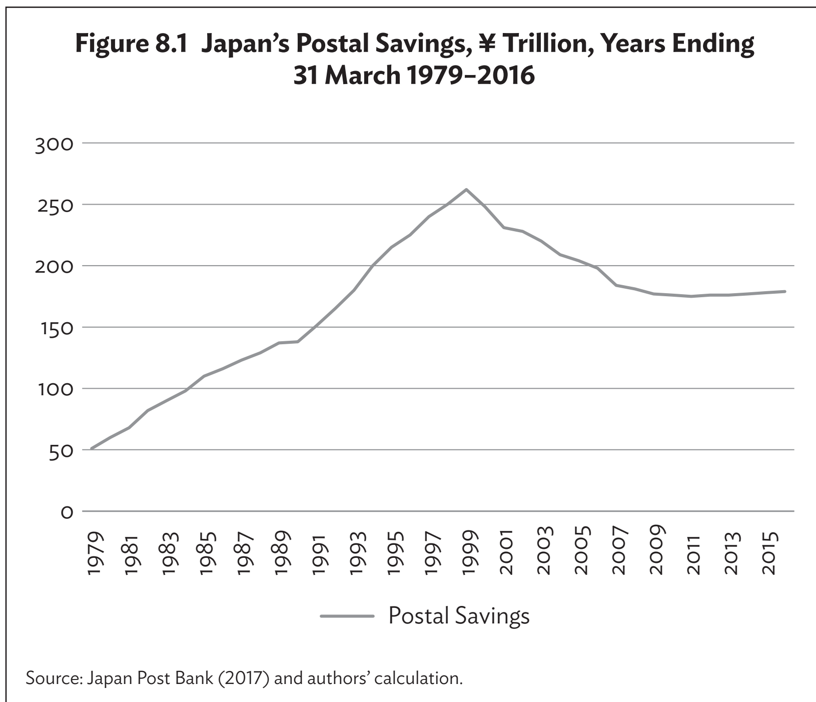
8.2 Postal Savings and Japan's Development

8.2.1 Historical Development of Postal Savings

Japan's postal savings system is one of the largest savings institution in the world. Figure 8.1 shows the volume of the deposit of Japan's postal savings from 1979 to 2016. The peak was achieved in 1999 when the stock of accumulated postal savings reached ¥262 trillion, which was equivalent to 50% of GDP at that time. After 2000, Japan's postal savings gradually diminished and reached ¥175 trillion in 2010. Since then, postal savings have started to grow again, reaching ¥178 trillion in 2016.

Regarding the share of postal savings, it was only 15% in 1955. However, the share increased to nearly 40% of total individual term deposits in 1980. This is due to the unique characteristics of the postal savings products. The Ministry of Finance has set up a segregated financial system in Japan. Under the system, ordinary banks are not allowed to issue long-term deposits. Ordinary banks, long-term credit banks, and trust banks are only allowed to issue one or two years of term deposits. On the other hand, the post office issues a ten-year time deposit.

Figure 8.1 Japan's Postal Savings, ¥ Trillion, Years Ending 31 March 1979–2016



Source: Japan Post Bank (2017) and authors' calculation.

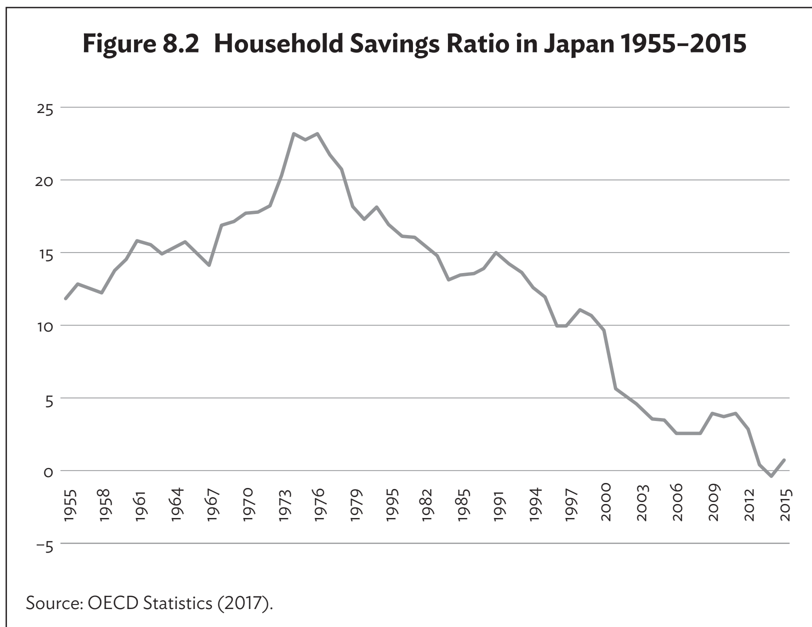
This deposit has attracted many people and this is one of the reasons why postal savings have gained a 40% share of the total term deposits in Japan.

8.2.2 Origins of Postal Savings in Japan

Figure 8.2 shows the fluctuation of household saving ratios (%) in Japan from 1955 to 2015. Japan's savings rate was very high around the early 1970s and the ratio reached 23% in 1974 and 1976.

However, right after the Edo period, which was in 1868, the savings rate of Japan was quite low. During the Edo period, between 1603 and 1868, Japan was dominated by the "Samurai class", which was made up of "knights". There were no customs for them to save money for the future. Right after the end of the Edo period, Hisoka Maejima went to England and he found out that post offices there collected savings. In Japan, during the Edo period, the mail system was quite well established in all over Japan. He considered Japan should also start postal savings, which could increase savings rate in Japan. He went to a Buddhist monk, Raiden Shimaji. However, the Buddhist monk denied pledging the people to promote savings. He also thought the custom of savings was not so well implemented

Figure 8.2 Household Savings Ratio in Japan 1955–2015



Source: OECD Statistics (2017).

in Japan, but he did not agree to promote savings in Japan. Hisoka Maejima therefore started children savings at primary schools. The system was as follows. Postmasters visited the primary schools and they asked small children to start or open savings, and the children started to save very small amount of money. At the end of their six years at the primary school, their savings had accumulated. These children savings eventually pervaded Japan's society, and the savings rate increased up to 1974.

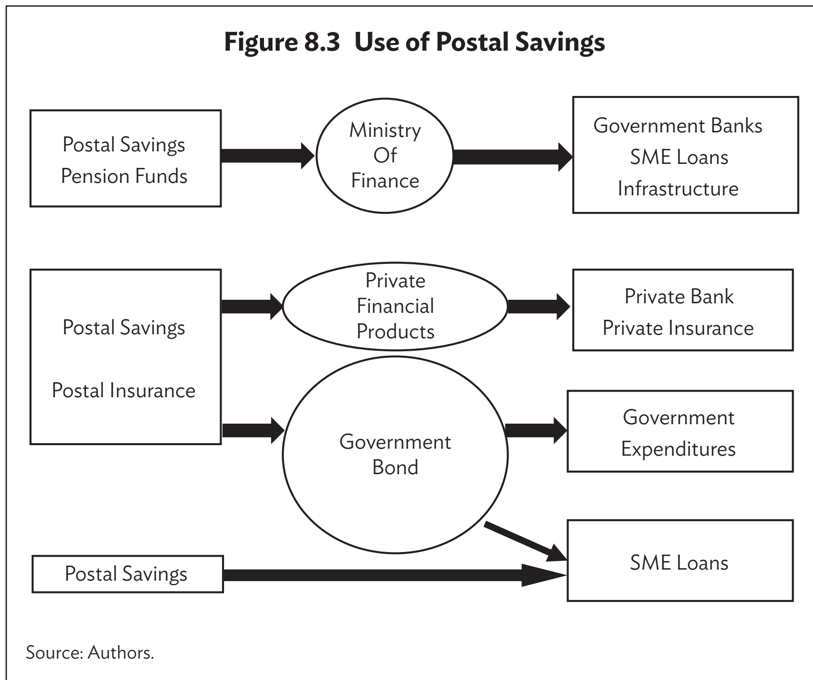
A study by Horioka et al. (2007) showed three factors that induced household savings. First, when the economy is growing, people tend to save more because their income is growing. Second, if the number of children is plenty, their parents try to save for their children. Third, the poor social welfare system forces people to save for their own future and after retirement. Those three reasons applied to Japan during its high economic growth period, in the 1970s and early 1980s. However, as the economy of Japan declined, the Japanese savings rates declined, as shown by Figure 8.2. The decline of the saving rates can be explained by three factors. First, due to the decline in economic growth rate, people tend to save less since their income is decreasing. Second, the number of children had diminished. Finally, the establishment of good social welfare system for retirement made people less inclined to save.

8.3 The Postal Savings System and the Fiscal Investment and Loan Program in the Japanese Financial System

8.3.1 Fiscal Investment Loan Program (FILP)

Figure 8.3 illustrates how postal savings had been utilized. In the Japanese case, the top line applies to traditional Japanese use of postal savings. In Japan, there is a system called the Fiscal Investment Loan Program (FILP) where postal savings and public pension funds are deposited to the Ministry of Finance. The Ministry of Finance allocated these funds through government banks for lending to SMEs, infrastructure, and housing (see Cargill and Yoshino (2003)). The second type is postal savings to be put into private financial institutions where private financial institutions make loans by use of their own deposits and postal savings. Another way to utilize postal savings is to invest them into government bonds only, which is called the core bank. The third type of postal savings is where the post office directly makes loans to SMEs or for housing, showing that the post office can become an ordinary bank.

Figure 8.3 Use of Postal Savings



Source: Authors.

8.3.2 Japan's Industrial Policy

Table 8.1 shows the amount of Japanese disbursement of subsidies and the share allocated to various sectors from 1955 to 2017. Since the 1950s, the Japanese government conducted industrial policy by strongly supporting sea transport, electric power, ship building and coal mining. The table reveals that agriculture, forestry and fisheries accounted for over 80% of total subsidies. As the subsidies provided to non-agricultural industries, the subsidies were often directed to weak sectors or declining sectors such as small business, textile and coal mining. On the other hand, the high technology sector only received very small amount of subsidies, which reached a peak of 3.6% in 1974 and declined again to slightly over 1%. Today, almost two thirds of subsidies are spent on social security.

8.3.3 Industrial Infrastructure

Table 8.2 shows the gross investment in social overheads and its share of industrial infrastructure in Japan. Japan experienced a high economic

Table 8.1 Sectoral Disbursement of Subsidies From 1955 to 2017 (¥ billon)

Year	Sea Transport		Coal mining		Small Businesses Textiles, etc.		Agriculture, Forestry and Fisheries		High Technology		Total Subsidies
1955	3.5	5.0%	0	0.0%	0.5	0.7%	65.7	93.5%	0.5	0.7%	70.3
1960	1.7	1.8%	5.8	6.0%	2.6	2.7%	86.1	89.0%	0.5	0.5%	96.7
1965	10.1	4.1%	20.1	8.1%	21.8	8.8%	190.1	77.0%	0.8	0.3%	246.9
1970	15.4	2.35%	78.8	11.8%	51.6	7.8%	510.7	76.8%	7.7	1.2%	665.2
1975	15	1.1%	61.1	4.5%	129.4	9.6%	1102.3	81.5%	43.3	3.2%	1352.2
1980	9.5	0.3%	48.8	1.7%	243.7	8.7%	2473.8	88.0%	34.6	1.2%	2811.8
Year	**Society Security**		**Education and Science**		**Public Projects**		**Agriculture**		**Other**		**Total Subsidies**
1990	6356.4	42.3%	3436.6	22.9%	2132.5	14.2%	1269.2	8.4%	1833.5	12.2%	15028.2
2000	9513.6	46.0%	4082.1	19.7%	4243.5	20.5%	1655.2	8.0%	1202.5	5.8%	20696.9
2010	14863.1	55.6%	5374.1	20.1%	3221.7	12.1%	1265.1	4.7%	1985.9	7.4%	26709.9
2017	19431.3	63.2%	5105.1	16.6%	2998.7	9.8%	1084.1	3.5%	2103.7	6.8%	30722.9

Source: Ogura and Yoshino 2004.

Data source: Nihon Densan Kikaku (1990–2017).

Table 8.2 Investments in Social Overheads and Industrial Infrastructure 1955–1980 (every five years), ¥ billion

			Of Which				
Year	Gross Investment in Social Overheads	Share of Industrial Infrastructure	Roads	Ports	Waste Treatment Facilities	Water for Industrial Use	Railways
1955	148.7	79.9	23.0	4.4	0.0	0.0	52.5
1960	501.0	339.3	197.6	23.5	0.6	1.3	116.4
1965	1457.6	1136.0	704.7	87.2	4.6	8.3	331.2
1970	2565.1	1875.5	1275.3	185.1	3.6	10.1	401.5
1975	4758.7	3627.6	2507.6	316.2	23.3	21.4	759.0
1980	9896.1	6683.8	4756.2	579.9	66.2	22.6	1258.9

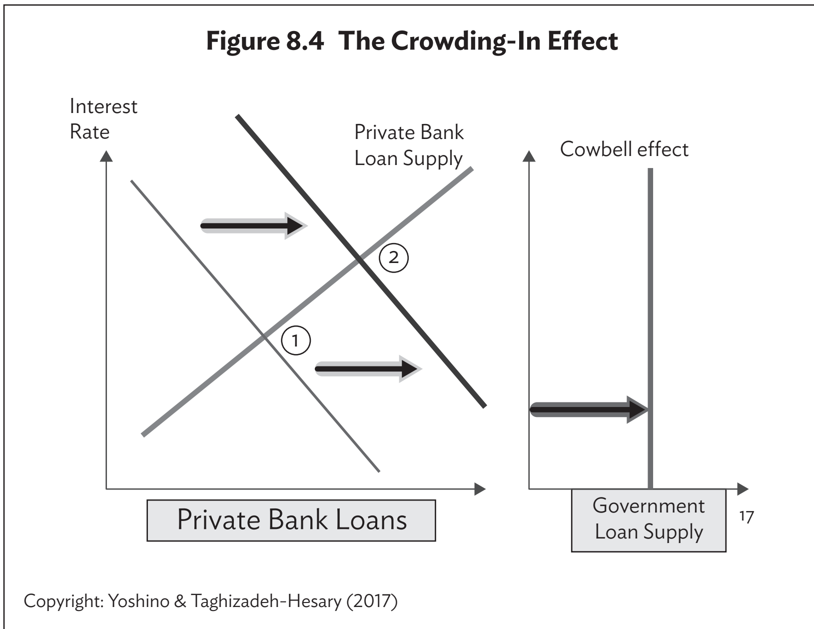
Source: Ogura and Yoshino (2004).

growth period from the mid 1950s to the early 1970s. However, the development of industrial infrastructure received less than adequate attention during this period, with the result that there was a social overheads shortage. Under the FILP system, postal savings funds deposited into the Ministry of Finance was utilized for constructing highways, roads and bridges. The government set about the task of improving the industrial infrastructure.

As Table 8.2 shows, the size of the national budget for development of roads and railways expanded significantly. The proportion for roads increased from ¥23 billion in 1955 to ¥704.7 billion in 1965. In the case of railway development, it increased more than six times from ¥52.5 billion in 1955 to ¥331.2 billion in 1965.

However, the loans by the government were not always welcomed by the private sector, especially when it crowded out private investment. In the best case, the government bank becomes the leading financial institution, called the "cow bell effect". Government banks, such as development banks, and small and medium size enterprise banks, lent money to the private sector. Then private banks joined to lend money together with government banks. In other words, government banks became the leader of the direction of loans. In these cases, the supply curve shifted to the right when government started to lend money. However, the case of crowding out was also observed. For example, if housing loans were excessively supplied by the government, private banks could no longer lend money to the housing sector. This is the case where government loans to the housing sector crowded out private loans. It is important that the government loans do not

Figure 8.4 The Crowding-In Effect



Copyright: Yoshino & Taghizadeh-Hesary (2017)

crowd out private loans. Moreover, they should induce private bank loans that are win–win for both government and private banking industries.

Figure 8.4 shows the crowding-in effect of government loans and Figure 8.5 shows the crowding-out effect of government loans. In the case of crowding in, the government loan will induce borrowers to borrow more from private banks in order to increase investment and their business activities. The cow bell effect initiated by the government loan will be a signal for private banks to increase loans to the same sector in order to increase investment and business activities.

On the other hand, the case of crowding out by the government loans, shown in Figure 8.5, the government loan will reduce the demand for loans from private banks. Borrowers go to government banks to finance their investment and business activities. Then borrowers reduce the same amount of loan demanded from private banks, which is the crowding-out effect of government loans. Government bank loans should not crowd out private bank loans.

8.3.4 FILP Uses of Funds

Table 8.3 shows the allocation of FILP by use in 1990, 2000, 2010 and 2016. The table shows that in 1990 and 2000 more than half of the

Figure 8.5 The Crowding-Out Effect

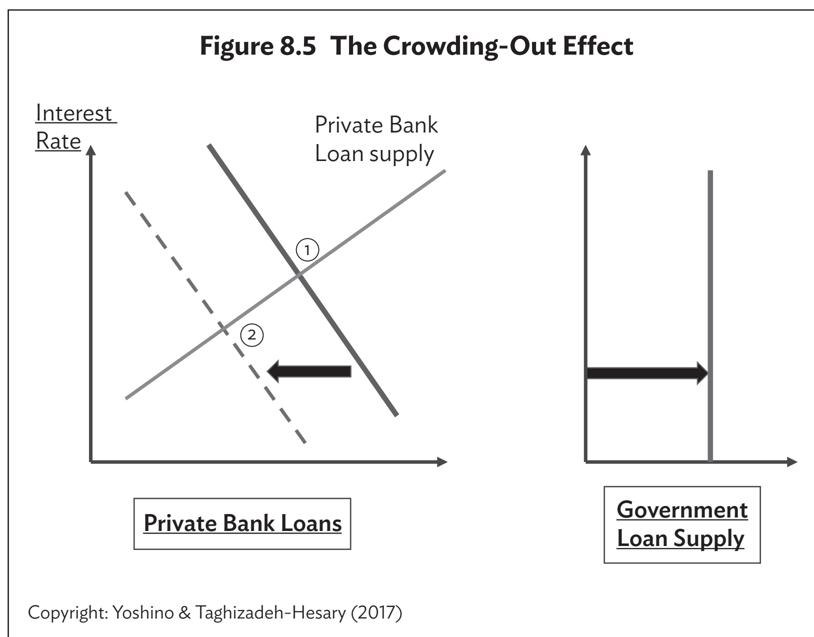


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Table 8.3 Composition of Fiscal Investment and Loans Program by Use (%)

	1990	2000	2010		2016
Strengthening of key industries	2.9	1.8	10.4	Industry and innovation	6.4
Trade and economic cooperation	5.8	4.9	7.9	Overseas investment	14.8
Area development	6.8	7.2	5.9	Agriculture, forestry and fishery	2.1
Equipping the industrial infrastructure	18.1	11.1	15.6	Social capital	23.1
Modernization of low-productivity sectors(small and medium industries)	15.7	16.7	30.9	Modernization of low-productivity sectors (small and medium industries)	23.6
Improvement of living standards	50.7	58.4	29.3	Improvement of living standards	19.0
				Other	11
Total amount of FILP loans (Yen 100 million)	276,224	374,660	183,569	Total amount of FILP loans (Yen 100 million)	134,811

Source: Ministry of Finance. (1900, 2000, and 2010).

investment was allocated for improvement of living standards, including housing, living environment, social welfare and education. However, the proportion started to decline and it decreased to 29% in 2010 and 19% in 2016. By contrast, the proportion of FILP for modernization of low-productivity sectors was doubled in 2010. In 2016, nearly half of the FILP allocation was used for social capital and supporting small business.

8.4 Postal Savings Versus Private Bank Deposit

8.4.1 Definition of Financial Institutions

Table 8.4 shows the number of banks, amount of capital stock and the number of branches by type of financial institution in Japan. The Japanese banking financial system is segregated from large companies and small and medium sizes enterprises in different sectors. For example, city banks are providing nationwide loans to mainly large corporations, while regional banks are providing loans in each region. Regarding the number of branch offices, agricultural and fishery cooperatives, and Shinkin credit banks have many branch offices. However, the fact that Japan's widely dispersed 24,167 post offices function as collection points for its saving system equals the total number of branches of regional banks, Shinkin banks and Agriculture cooperatives, suggesting a wide-based infrastructure of post offices reaching out to rural areas.

8.4.2 Demand for Postal Deposits Relative to Bank Deposits 1980-1985, 47 prefectures

Table 8.5 shows the result of the cross-section and time series pooled estimations for the factors of demand for postal deposits relative to private bank deposits (dependent variable is postal savings divided by private bank deposits). The result reveals several significant implications about factors that influence the choice between postal and private-bank deposits. First, the ratio of the number of post offices to the number of private banks is significant and it is the most important determinant of the choice. The post office has a nationwide network and postal savings are very easily accessible for any individuals in remote areas, which attracts many people. Second, the household income variable is negative but insignificant. Third, the spread between private-bank time deposits and the postal savings rate changes variable is negative but insignificant.

Table 8.4 Financial Institutions in Japan in 2017

	Number of banks (As of Sep 2017)	Capital stock (¥ million)	Number of branches
City banks	5	5,236,947	10.4
Regional banks	64	2,595,090	7.9
Regional banks II	41	874,878	5.9
Foreign banks in Japan	55	–	15.6
Trust banks	4	948,685	30.9
Financial institutions for small business			29.3
Shinkin banks	264	813,508	
Credit coperative	150	439,357	
Labor credit association	13	29,190	
Financial institutions for agriculture, forestry and fishery			
Agriculture cooperatives	652	–	8,010
Fishery cooperatives	–	–	–
Insurance companies			
Life insurance companies	41	–	–
Life insurance companies	26	–	–
Securities finance companies	264	–	–
Government financial institutions	5	7,100,000	305
Japan Post Bank	–	3,500,000	24,167

Source: Financial Service Agency (2017) and Japan Financial News (Number of banks), Japan Bank Association (2016, Number of branches), and Japan Post Bank Annual Report (2017, Capital stock and Number of branches of Japan Post Bank).

However, the variable is negative and becomes significant when adjusted for a large-city dummy. Lastly, the dummy variable for periods of increasing interest rates is negative and significant, suggesting that when the increased interest rate started to be lowered, postal savings are always delayed in lowering their interest rates. This is why postal savings gained more deposits when the interest rate starts to fall.

8.4.3 Bank Failures in Japan

The Japanese financial system used to have a segregated financial system. However, after the burst of the bubble in 1989, many Japanese banks were faced with non-performing loans and this led to high bank failures in Japan. Table 8.6 shows the number of bank failures, which includes SME banks who were lending money to small businesses. In 1998, 30 banks went bankrupt, and 51 banks in 2012. Up to 2014, 182 financial

Table 8.5 Determinants of Demand for Postal Deposits

Dependent Variable	Postal savings/private-bank deposits	
Independent Variable	**Estimated Coefficient (*t*-value)**	
Ratio of post offices to private banks	0.124	(11.1)
Household income	-0.021	(-1.7)
Spread between private-bank time-deposit and postal savings rate changes	-0.005	(-0.2)
Spread between private-bank time-deposit and postal savings rate changes adjusted for large-city dummy variable	-0.062	(2.0)
Dummy variable for period of increasing interest rates	-0.124	(-15.2)
Dummy variable for regional bank reorganization	-0.087	(-5.3)
R^2 (adjusted)	0.920	

Source: Cargill and Yoshino (2003).

institutions had gone bankrupt. Between 1992 and 2002, in particular, many bank failures existed in Japan. The case of high bank failures can be observed in several cities. During this turmoil period between 1992 and 2002, many people deposited their money into postal savings because postal savings were guaranteed perfectly compared to private banks.

Figure 8.6 shows the fluctuations in land price in 6 large city areas in Japan from 1972 to 2017 (end of March 2000 = 100). The figure shows that land prices kept on rising until 1991. However, after the burst of the bubble, land prices continued to fall until 2010. The dotted line in the figure shows the total expenditure of the Deposit Insurance Corporation of Japan (DICJ). DICJ spent a significant amount of money on resolving the banking failures that occurred from 1992 to 2002. There are mainly four reasons why Japanese banks went bankrupt. First, the decline of land prices after the burst of the bubble, which accumulated non-performing loans. Second, the concentration of loans to certain sectors. For example, in Kamaishi city, the regional banks were lending money to the steel industry where steel was the major industry in the region. When the steel industry was faced with problems, the regional banks could not recover their non-performing loans. The third reason for Japanese bank failures stems from too much concentration on certain sectors in the region. Fourth, the bad asset management of the stocks and bonds market. When the economy started to decline after the burst of the bubble, the Japanese banks found it difficult to keep on lending money to companies. Thus, many Japanese banks started to invest in the securities market or overseas

Table 8.6 Financial Assistance in the Resolution of Failed Financial Institutions 1992–2014 (¥ billion)

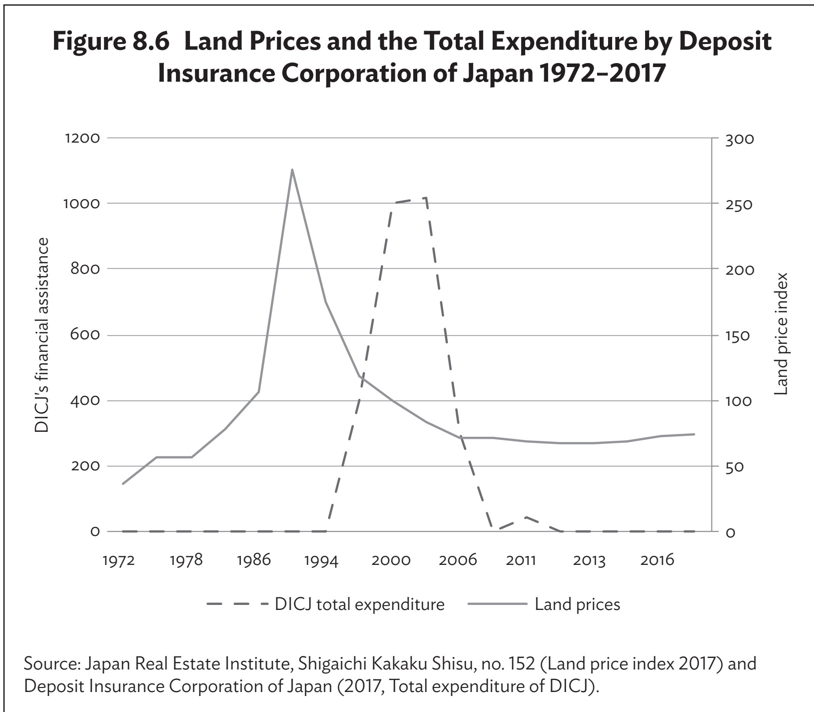
Fiscal Year	Number of Cases	Monetary Grants: To Assuming Financial Institutions	Monetary Grants: To Failed Financial Institutions (Equitable Financial Assistance)	Purchase of Assets	Lending	Debt Assumption
1992	2	20.0		-	8.0	-
1993	2	45.9		-	-	-
1994	2	42.5		-	-	-
1995	3	600.8		-	-	-
1996	6	1,315.8		90.0	-	-
1997	7	152.4		239.1	-	4.0
1998	30	2,674.1		2,681.5	-	-
1999	20	4,637.4		1,304.4	-	-
2000	20	5,153.0		850.1	-	-
2001	37	1,639.4	-	406.4	-	-
2002	51	2,332.6	-	794.9	-	-
2003	0	-	-	-	-	-
2004	0	-	-	-	-	-
2005	0	-	-	-	-	-
2006	0	-	-	-	-	-
2007	0	-	-	-	-	-
2008	1	256.3	-	1.7	-	-
2009	0	-	-	-	-	-
2010	0	-	-	-	-	-
2011	1	46.1	127.0	53.0	-	-
2012	0	-	-	0.1	-	-
2013	0	-	-	-	-	-
2014	0	-	-	-	-	-
Total	182	18,916.5	127.0	6,421.0	8.0	4.0
		19,043.50				

Source: Deposit Insurance Corporation of Japan (2017).

securities. Many banks who did not have expertise in securities investments were faced with enormous difficulties. Lastly, the bad management, and fraud and illegal activities of management caused bank failures.

Table 8.7 summarizes the ratio of postal savings flows to individual bank deposits flows for two periods. It reveals significantly high deposit

Figure 8.6 Land Prices and the Total Expenditure by Deposit Insurance Corporation of Japan 1972–2017



Source: Japan Real Estate Institute, Shigaichi Kakaku Shisu, no. 152 (Land price index 2017) and Deposit Insurance Corporation of Japan (2017, Total expenditure of DICJ).

flows into postal savings in Hokkaido, Iwate and Wakayama prefecture from 1990 to 1998. In most of the prefectures, the growth rate of postal savings exceeded the growth rate of the deposits of private banks due to huge bank failures from 1992 to 2002. This is another reason why Japanese banks shifted to postal savings.

8.4.4 Attractiveness and Cost Efficiency of Postal Savings

The success of the postal savings system can be attributed to several factors. First, the accessibility of its locations. The number of post offices was 24,167 in 2017 and this number far outstrips the number of private bank offices. Second, the post office is very easy to visit. If agricultural farmers or small business employees would like to use ordinary banks, it is often joked that they have to wear good clothes and good shoes. However, post offices can be accessed in their daily clothes and shoes. Closeness, convenience and friendliness are the reasons why post offices have been attracting many customers. Another advantage is the affordable transaction costs. Postal savings had been operated under

Table 8.7 Ratio of Postal-Savings Flow to Individual Bank-Deposit Flows by Selected Prefecture

Prefecture	1980–81 to 1988–89	1990–91 to 1997–98
Fukui	0.88	2.05
Fukuoka	0.57	1.66
Gifu	0.86	1.81
Hokkaido	1.00	2.34
Hyogo	0.82	2.55
Iwate	1.21	0.82
Kanagawa	0.51	1.10
Miyagi	0.66	1.18
Osaka	0.26	Negative movement
Shizuoka	0.72	1.30
Tokyo	0.10	Negative movement
Wakayama	1.14	3.90

Source: Cargill and Yoshino (2003).

the government. Therefore, there was strong trust by many individuals, especially in rural regions. Japan had a deposit insurance system that covered both private banks and postal banks. However, during the crisis period, many people shifted their deposits from private banks to postal savings due to the idea that postal savings are under the government and therefore strongly protected.

The cost efficiency of postal savings relative to private bank industries is another reason why the Japanese postal bank has been so successful. First, they have economies of scale since there are 24,167 branch offices nationwide in Japan. Second, the post office has economy of scope. Post offices handle three businesses: mail services, postal savings and postal life insurance. Postal life insurance has a very interesting history. Private financial institutions operated mainly in large cities and they were focusing on the employees of large companies and government officials since life insurance has to be secured by people who have healthy and long lives. At the beginning, private banks and private insurance companies were reluctant to make contracts with agricultural farmers and small businesses. Therefore, the post office insurance was established to provide life insurance to those people who were excluded from private life insurance, in particular in rural regions where agricultural farmers had difficulties in accessing private life insurance. However, it turned out that agricultural farmers and small

business workers are not so different from employees of large companies and government officials. Only later did private life insurance companies start to provide insurance contracts to farmers and small business workers. Third, the reliability of postal offices was well established in Japan. Post office masters have always enjoyed much respect and there has always been a trust relationship between them and the people. Social security payments have been traditionally provided by the post office, which also makes it easy for people to put their money into post office.

8.5 Conclusion: Reforming the Postal Savings System and its Future

Postal savings have been drastically changed in recent years. First, the fiscal investment and loan program (FILP) was abolished and the government banks no longer received money from the post office. Instead, the Japanese postal bank invested its money into government bonds and invested in capital markets. They are managing their assets by themselves. The government banks started to receive money from the Japanese Ministry of Finance, which issues fiscal investment loan bonds (FILP bond) to finance their loans. The FILP bond is regarded as a government bond and has the same interest rate as other central government debts obligations. Loans to small and medium size enterprise and agricultural loans have been consolidated into the Japan Finance Corporation. The Japanese Development Bank is under the process of privatization. The housing loan corporation has stopped its housing loans and the housing loan corporation started selling secondary private banks' housing loans to the financial market. Thus, they became a guarantor of housing loans and they are no longer providing direct housing loans.

The Japan Post group was established in 2014. The holding company, the Japan Post group, holds three subsidiary stocks: (i) Japan Post, (ii) Japan Post Bank, and (iii) Japan Post Insurance. However, the post office is facing serious challenges. Postal savings have been separated from postal deposits (Japan Post Bank) and post life insurance (Japan Post Insurance). Mailing services by Japan post to all over the world were started to compensate for the decline in mail services due to the development of the internet and mobile phones. Therefore, ordinary mail services are in a downward trend, while the parcel service has increased. In 2017 (Table 8.8), Japan Post recorded negative net profits, while the Japan Post Bank and Japan Post Insurance recorded positive net profits.

Secondly, postal savings had been mainly invested into the government bonds market. However, the most recent monetary policy of

Table 8.8 Results of Operations (31 March 2017)

	Japan Post Co.	Japan Post Bank	Japan Post Insurance
Ordinary Income	¥3,759 billion	¥1,897 billion	¥8,659 billion
Net ordinary income	¥52 billion	¥442 billion	¥280 billion
Net income	–¥385 billion	¥312 billion	¥89 billion

Source: Japan Post Bank (2017).

Japan introduced a negative interest rate policy. Japanese government bonds up to 18 years, in 2016, had a negative interest rate. As a result, it made it difficult for post life insurance and postal savings to invest in the government bonds market. Thus, it can be said that Japanese postal savings were very successful up until the early 2000s. However, they are faced with challenges and difficulties in the new environment. Development of the FinTech companies started companies using transactions by electronic methods, which will reduce the account transactions of the post bank. Major investment of government bonds will not achieve a high rate of return on both the Japan Post Bank and Japan Post Insurance. Competition with private banks and private insurance companies will become severer. The nationwide branch network of 21,500 post offices will also face challenges. Most of financial transactions will be made by mobile phones and the internet in the near future. To maintain a branch office network will become very costly unless postal branch office networks are utilized for other purposes.

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PART IV

The Future of Postal Financial Inclusion

9

Postal Financial Services, Development and Inclusion: Building on the Past and Looking to the Future[1]

Gonzales d'Alcantara, Paul H. Dembinski, and Odile Pilley

9.1 Introduction

Post offices (posts), inherited from the Industrial Revolution and the Rowland Hill one-penny stamp reform in the United Kingdom (UK), were monolithic telephone and postal administrations. They were intimately linked to the fabric of nations and made significant contributions to state finances. From the 1960s onwards, integrators, such as UPS and FEDEX, started offering end-to-end express services, thus challenging the postal monopoly in new high-added-value services. From cash generating enterprises, more and more posts ceased contributing positively to government finance due to a combination of high fixed costs—particularly labour costs—and heavy bureaucracy.

Gradually, the liberalization paradigm gained ground. It challenged monopolies, starting with airlines and telecommunication operators, and was then applied to all network industries, including posts. Many of the latter were subsequently transformed into public enterprises or incorporated, but few were privatized. Telecommunications, and sometimes financial services, were spun off from postal operations. The European Union (EU) led in the process through its market integration agenda, but not the US where the United States Postal Service (USPS) remained a government agency. As a result, some European posts have been in full competition even prior to the 2011 EU deadline. Finally,

[1] The views expressed here are those of the authors and should not be attributed to the institutions to which they belong.

technology and internet-induced convergence have blurred the boundaries of the postal sector even more, with significant diversification away from physical mail.

With the Industrial Revolution, the mission of collecting savings and delivering payments to citizens, then mostly un-banked, had been inherent to posts, which combined the benefits of a centralized organization, a ubiquitous retail network covering the whole territory and last-mile delivery. Money and postal orders grew in the 19th century and, as early as 1878, a Universal Postal Union (UPU) multilateral treaty was signed concerning international postal money orders. In 1864, Gladstone set up the National Savings system through the post office, as a convenient way to save, for the large part of the population that did not have access to banks, and also as a cheap way to finance public debt. Another innovation in 1883 by the Austrian Postal Savings Bank, the "giro" system, whereby a written instruction authorized a debit from one account and credit to another, also spread rapidly throughout the world, and revolutionized payments. This new system created a mass market alternative to cheques that, until then, had been a bank preserve for a small minority. Today's financial services retailing, on its own, represents, according to the 2012 UPU statistics, 72% (40%) of total postal revenues in Arab countries, 52% (26%) in Europe and Commonwealth of Independent States, 52% (12%) in Africa, and 39% (20%) in Asia. In the industrialized countries, it represents 25% of revenues (12%).[2]

In the same way as postal operators, postal financial institutions and their offerings have evolved and diversified. Dominant paradigms have influenced the political decisions regarding them. Some postal financial institutions have become full-fledged banks. Others have been modernized while retaining their status as non-bank financial institutions. Others have disappeared altogether in Nordic countries, transition countries and the developing world. Most are still state-owned but some are wholly or partly privatized. In 2005, the structural separation in Japan between savings, insurance, postal and retailing operations and the resulting reduction in the rural network caused public discontent and contributed to the first change in the ruling party in fifty years. The recent political reversal led to the decision to gradually privatize the

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[2] In the UPU statistics, financial services are to be found under two statistical categories: on the one hand the category of "financial services", on the other hand, the category of "other" as third party payments, and other financial services represent the quasi totality of that category. The figures referred to here result from the addition of these two statistical categories. The bracketed figure corresponds to the "financial services" category while the figure without brackets corresponds to the above-mentioned addition.

post. This illustrates the political sensitivity of the role of posts in delivering financial services.

Among new public policies, financial inclusion has become a top priority in the emerging countries and the developing world. This does not mean that financial exclusion is not also an issue for countries belonging to the Organisation for Economic and Co-operation Development. In the United States, the number of un(der)banked citizens is estimated by the Federal Deposit Insurance Corporation to reach 60 million and the creation of a new postal bank both to remedy financial inclusion while making the post office sustainable is hotly debated. In the EU, further to a consultation, the European Parliament has just adopted a directive on the right to a basic account. The question to be addressed is which role, if any, do posts play or could play in ensuring inclusion.

The purpose of this chapter is to give a rapid overview of how these shifts in paradigm have affected postal policy, the postal financial services regulatory framework, the status of the organizations delivering those services and the offerings themselves. Research in this field has been exceptionally scarce. After a research review in Section 9.2, including the regulatory dimension, Section 9.3 focuses on how postal financial services institutions in their legal framework have developed historically, distinguishing three main periods:

1. post and telecommunication administrations since Rowland Hill (1839–1979);
2. Postal and postal finance liberalization since the Reagan–Thatcher era (1979–now);
3. emergence of financial inclusion as a new national public policy priority since the Monterrey Consensus (2002–now).

Each period has its structural characteristics (office network, product bundles) and its change drivers (technological and social) that have shaped postal operators. Behind the liberalization and financial inclusion agenda, the ensuing governance and regulation frameworks will be analyzed on an illustrative but not exhaustive basis. Important research challenges arising from this review are summarized in Section 9.4.

9.2 Some Milestones in Research on Postal Financial Services

There are only a few case studies on the evolution of postal financial services delivery in European countries (Anderloni and Pilley 1999;

Anderloni and Ruozi 2002). Even less research has been carried out on transition and developing economies.

From the late 1990s to the mid-2000s, the United Nations Department of Economic and Social Affairs (UN-DESA) bucked the liberalization trend. It pioneered research on the role of postal savings institutions, partly as a response to the South-East Asian and Russian economic crises. The 1999 UN survey of financial development stressed the role that postal savings did play—and could play even more—in collecting savings and giving access to basic financial services to the majority of the population that is financially un(der)served in developing countries. A project funded by the Japanese government gave rise to a discussion paper on the role of posts in Africa, Asia and the transition economies in 2001 and then to a joint publication (Scher and Yoshino 2004) in 2004. The Asian section benefited from the UPU's contributions.

The research showed that safety and security of deposits, particularly in developing economies, are much more important to savers than returns, above all in countries where financial systems are not stable. Indeed, Kalala (2001) pointed out that in some West African countries, the fee paid to money keepers is indicative of the value placed on safe-keeping. This major safety concern has been formally met by the government guarantee. It also appeared that structural separation and privatization of the postal financial services arm had an overall negative effect on the network, since it is the synergy of postal and financial services that makes postal financial services uniquely efficient. Difficulties arise when the package of services is unbundled and the former obligation of newly separated components to sustain the entire network is removed, without the post being able to share in the profits generated.

In brief, the separation of the post from the financial services arm was seen as destructive of the synergies that made providing services to low-income household feasible, the ultimate risk being the disappearance of postal financial services altogether. The ensuing recommendation was to have a strong government policy to collect savings through the postal network. This implied proper valuation of the network as a socio-economic asset. An informed choice had to be made between agency agreement, delivery of own services or strategic alliance either with a postal bank or with a national savings institution that reinvests into the community or fulfils public missions.

A three-year World Bank study of the role of postal networks in expanding access to financial services in developing countries was carried out by ING Institutional and Government Services using assumptions, albeit nuanced, of the liberalization paradigm. It also involved

CGAP[3] and the WSBI (2005 and 2006). A list of 87 developing countries was analyzed using secondary data. The major lesson drawn was that postal financial services can be provided according to different scenarios and institutional structures. Recommendations regarding regulation mirrored the dominant approach in Europe: regulatory and structural separation of postal and financial services. Two types of strategies were advocated: either the postal network as a conduit for financial services provision, or an alliance with a full-fledged financial services provider.

Most postal financial services organizations were still owned by the state with some exceptions, not only in developed, but also in transition and developing economies. In Africa, Asia and Latin America, the central banks had responsibility for postal financial services in about half of the cases. If so, there was often a service level agreement between the post and the postal financial service organization. In Asia, ministries of finance were most often involved in the supervision of the postal savings operation and in investing the funds collected. When the post was still a monolithic administration with no reporting links to the central bank, the relationship with the post was internal, with most often shared management and operational functions.

It was noted with regret that, in most cases, there was no government postal policy and postal networks were not included in programmes to upgrade payment systems to cashless, even where posts had a reporting line to central banks. In all regions, mail volumes were significantly lower than in industrialized countries and financial services were essential to network sustainability. Although some benchmark practises were identified in each region, a typology of postal savings institutions was not established and results not yet evaluated in the context of financial inclusion and social and economic development.

The WSBI has produced extensive applied research on access to finance through savings banks, including a significant number of African and Asian postal savings banks. Research covered regulation, the role of savings banks in microfinance and also financial education. It drew attention to the wider choice open to citizens in countries where several types of financial institutions co-existed, and to the potentially higher systemic risk of a financial industry comprising only full-fledged quoted

[3] CGAP stands for Consultative Group to Assist the Poor and WSBI for World Savings Banks Institute. It is an evidence-based advocacy platform to advance poor people's access to finance. It includes over 35 development agencies, private foundations, and national governments that share a common vision of improving the lives of poor people with better access to finance.

banks. It showed how doubly exclusive the commercial bankers club was, monopolizing representation both in national and international policy-making, supervisory and regulatory bodies.

The strength of the banking lobby was demonstrated by the UK inquiry (Cruikshank 2000) into competition in retail financial services that led to the opening up of the clearing house membership to the post office. In addition, the lack of familiarity of banking supervisory authorities with non-bank financial services was shown to stifle innovation, a point also made by Western Union in its 2004 response to the EU consultation on the proposed payment services directive: "We, at Western Union, ... have some concern that inadequate attention has been given to non-bank payment industry participants.... Such payment service providers generate meaningful competition in the financial services market in the EU and should not be regulated as if they were banks and operated as banks do".

On the basis of its research, the WSBI has been promoting access to financial services as an instrumental accelerator to meet the UN Millennium Development Goals.[4] Its June 2010 Roadmap for Postal Financial Services Reform and Development focuses on legal and financial autonomy of postal savings banks and requires this autonomy to be enshrined in legislation. Rather than entering the debate on public or private ownership, it stresses the importance of good corporate governance—transparency and clear supervision rules and regulations—to counteract the specific risks of political interference. The mechanism to achieve this is a shift from supervision by the ministry of communication to an independent body or the central bank. Policy recommendations to governments must start from postal reform and address fair pricing, development of account ownership through social benefit payment and links with microfinance institutions. At the operator's level, the key challenges are to build capacity, develop management information systems, instil a commercial culture, improve efficiency and out-reach through training and technology.

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[4] The UN Millennium Development Goals (MDGs) are eight international development goals that were established following the Millennium Summit of the United Nations in 2000, in line with the adoption of the United Nations Millennium Declaration. All 189 United Nations member states and at least 23 international organizations committed to help achieve the Millennium Development Goals by 2015. The goals are:

1. to eradicate extreme poverty and hunger
2. to achieve universal primary education
3. to promote gender equality and empowering women
4. to reduce child mortality rates
5. to improve maternal health
6. to combat HIV/AIDS, malaria, and other diseases
7. to ensure environmental sustainability
8. to develop a global partnership for development

Some of these recommendations are at odds with those of the UN-DESA, in particular as regards structural separation. This stems from the fact that the WSBI is taking, as a starting point, double bottom-line banks, unlike the UN-DESA, which focuses on leveraging the postal network potential. In some countries, savings banks not distributing through the postal network have been competing head on with financial services delivered through the postal network.

In the roadmap, questions remain as to why some experiences have failed and others succeeded, and whether the business model matters. These questions are being addressed through action research in the ten WSBI financial inclusion projects funded by the Bill and Melinda Gates Foundation, of which most include the postal network. A first WSBI evaluation has been published on how to provide usable services to the poor in Africa, Asia and Latin America (Angelow et al. 2012). Early results suggest that profits can be made, but only by shifting from cash to electronic payments and adopting a development path that addresses first immediate payment and transfer needs before developing a cross-selling range. Much remains to be explored as regards genuinely understanding the needs of poor clients, and which features can improve the offering in terms of pricing and benefits.

9.3 Three Periods in Post and Post Finance History

9.3.1 Post and Telecommunication Administrations Since Rowland Hill (1839–1979)

Ever since posts have existed to serve kings and trade, whether in the Mongol Empire or through the Thurn and Taxis enterprise, they have combined financial services with transport of letters, messages and goods (Scher 2001; Scher and Yoshino 2004). The traditional post organizations go back to the Industrial Revolution. They evolved into monolithic postal and telecommunication administrations delivering payment services and collecting savings. Through significant profit generation, posts provided states with extra budgetary revenues and collected funds to invest in development, including telecommunication infrastructure. The emergence of this new type of socially cohesive organization was due to a conjunction of factors:

- the rise of modern nation states;
- Rowland Hill's postal reform in the UK, first launched on 5 December 1839 with a uniform post rate, and revised on 10 January 1840 with the one-penny stamp;

- Gladstone's collection of small savings in 1861 through the post office network
- the 1878 UPU international treaty on money orders;
- the adoption of new transport and telecommunications technologies;
- the fulfillment of new communication needs with higher literacy;
- the creation of centralized autonomous cashless account-based postal payment systems, starting with the invention of the centralized account-based giro system by the Austrian post office in 1883.

Distinct industrialized post models emerged in the Austro-Hungarian Empire, Belgium, the UK, France, Germany, Japan, the Netherlands, the US, and the USSR. Besides common features, there were also several distinguishing factors. Thus, the funds collected could be managed by a government entity different from the post or by the post acting as a financial intermediary abiding by strict investment rules. Products offered could be limited to savings and money orders but also include transaction accounts and payments, and also life assurance, as in Japan, India, and other Asian countries.

Trust in the post and the added government guarantees facilitated the mobilization of small savings, especially at times of financial crisis. The most striking case was that of the Japan Postal Savings, created in 1881 after the UK National Savings model, following a major banking crisis and a total loss of confidence in the banking system. It was until recently the largest financial institution by balance sheet in the world.

It is mainly in continental Europe that account-based services were developed with the giro system and, later on, the check system copied from the banks first by the French Post Office. The UK Post Office and the USPS kept mostly out of offering their own financial services, apart from traditional money orders. Postal savings were introduced by President Taft in 1910 on the back of his experience in the Philippines. Owing to bank competition and unattractive product features, this USPS service was eventually stopped in 1966. In the same way, in the UK the Girobank was set up in 1968 by a Labour government. It prospered, but was sold less than 15 years later by a Conservative government at a price below value according to the National Audit Office. Owing to government guarantees and transfer of collected funds to treasury and national savings organizations, the financial services delivery of posts was, in most cases, not controlled by the central bank. Instead it was highly regulated by the government through postal legislation of an administrative type, including a tariff-setting procedure. Provision of credit was not allowed, with the only exceptions of mortgages based

on cumulated previous savings and limited overdraft facilities on transaction accounts.

African and Asian economies inherited the postal savings service initially set up to cater for the needs of the colonial civil service and exchanges with the colonizing country. The Austro-Hungarian giro model influenced Iraq, Lebanon, Syria and Turkey; the Belgian model central Africa; the British model, India and Bangladesh in Asia, and east/southern Africa; the Dutch model, Indonesia and South Africa; the French model, north Africa and French-speaking west Africa; and the Japanese model mainly the Republic of Korea and Taipei,China but also other Asian economies. These models have significantly evolved since independence.

9.3.2 Post and Post Finance Driven by Liberalization Since the Reagan–Thatcher era (1979–2001)

A deep structural change started in the 1980s owing to a conjunction of several factors. Market fundamentalism was introduced in the Thatcher–Reagan era and reinforced by the fall of the Iron Curtain. Liberalization was intrinsically linked to privatization in the dominant political thinking of the time. Posts that had been generating extra budgetary revenues felt pressures on their margins owing to their high fixed costs, bureaucratic inefficiencies, bad labor relations and insufficient investments. New integrators delivering end-to-end services to multinationals successfully challenged postal monopolies. ICT and delivery channels (initially telephone banking, then electronic data interchange and later internet) then appeared, complementing, and sometimes competing with, last-mile mail offer.

The World Bank and other international institutions did not show any interest in posts. This contrasted with Edward Prescott's statement in the early 1980s conversation that "postal economics might be more central to understanding the economy than monetary economics". UPU research subsequently showed that postal infrastructure was as important for development as roads, telecommunications or education, which had been overlooked for years (UPU 2008).

Simultaneously, the EU Single Market integration policy initiated in the mid-1980s implied the removal of national monopolies. Whereas, in the US, liberalization had normally been driven by competition cases, the EU liberalization process was conducted through directives derived from the treaty and case law, and applied first to the innovation-driven capital-intensive telecommunication industry. The EU telecommunications market opened up in 1998, simultaneously with the implementation date of the first Postal Directive and the

Commission Notice on the application of the competition rules to the postal sector. The approach chosen by the EU was then adopted by the World Bank, which had initially seen competition challenges as the main liberalization tool and not independent regulation. With a few exceptions in transition countries, the EU markets were fully liberalized on 1 January 2011 on the back of the third Postal Directive.

As a result of telecom liberalization, postal and telecommunications operations were split. As for postal financial services, they were also excluded, without raising any questions, from the scope of the successive directives that adopted a narrow postal definition (letters and parcels), or taking into account either the blurring of industry boundaries caused by information and telecommunications technology convergence, or the strong synergies between the postal, telecommunication and payment/financial services. In Sweden, high computer literacy was an additional change driver and the postal network was considered as an expensive liability. In the case of Finland Post, it ultimately withdrew from retail financial services, a decision made as early as 2000. In structural adjustment programs, postal financial institutions, frequently in a dire state, were separated from the post, often followed by the creation of a postal bank that stopped eventually distributing financial services through the postal network. This led to the demise of a number of posts. Mali is one such example.

Postal financial services in the EU fell under the scope of the banking, insurance and investment directives. Nevertheless, the Member States had and still have the sovereign right to entrust entities, irrespective of ownership, with public service missions (services of general economic interest in European parlance). In its postal decisions, the Commission did not see any manifest error in considering as a public service the financial services delivered through a public postal counter network, whose configuration is imposed by the state with a view to reaching out to all citizens and, in particular, the most vulnerable and isolated. As indicated by Pesaresi and Pilley (2003), compensation for the delivery of public financial services was considered compatible in Greece, Ireland, Italy, Sweden, and the UK.

The Dutch were the precursors in the liberalization process of postal financial services. Their postal incumbent, TPG, was also the first to buy an integrator, TNT, and to be publicly quoted. They were the first to offer home banking by telephone and mail, and to develop integrated multi-channel delivery. The Giro Bank and Savings Bank were merged into Postbank in 1968. Through its accounts and savings services, Postbank served about 60% of the population. The product range—without securities trading and life insurance—and skillset were, however, too limited to attract middle and high net worth individuals

and serve the business market. In 1986, Postbank was incorporated. It was subsequently merged with NMB—a large Dutch bank—and obtained full banking status. The next move was to acquire Nationale-Nederlanden in 1991, a composite insurer that had insufficient size and was losing market share. The entity was renamed Internationale Nederlanden Groep (ING) in 1994 and started its international development with the acquisition of the Belgian Banque Bruxelles Lambert. It became the largest *bancassurance* company in the world, with a low cost base due to its dual reliance on direct banking and the postal retail network. Postkantoren, the retail network including large/standard branches in shopping areas and sub-agencies was a 50/50 joint venture between TPG and ING that ended in 2008.

ING was badly hit by the financial services crisis and imprudent moves in the US. It received a €10 billion capital injection in October 2008 from the Dutch state and was subsequently ordered to divest out of its insurance, investment banking and US direct operations as a condition for the European Commission giving its green light for the "back to basics" restructuring plan.[5] It no longer delivers its financial services through the post office network.

The progress of Deutsche Postbank (DPB), another star of the postal financial services liberalization process, was bumpier and reflected the political tensions and hesitations of a government whose main concern was Germany's reunification. The DPB had been leading in payment automation and comprised the giro and savings business. It obtained some commercial freedom in 1989 and became an independent operation owned by the government—not by Deutsche Post—when the second phase of Germany postal reform was concluded. It received a banking license upon its incorporation as a joint-stock company in 1995, thus enabling it to offer a comprehensive range of financial services. From 1993, DPB customers were able to conduct their banking by phone and from 1998 over the internet.

On obtaining its full banking status, the de jure universal service obligation to open and hold giro accounts and the de facto practice to offer related giro payments were lifted. DPB closed an estimated 300,000 small non-profitable accounts, most of which were re-opened with savings banks. The commercial retail banks published a voluntary charter to counteract the public outcry and an annual parliamentary investigation was requested to check that the banks, including DPB, were keeping to their commitments.

In 1999, in a strategic U-turn, Deutsche Post regained control of DPB by acquiring 100% of its shares. Deutsche Post's own IPO was

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5 See www.ing.com

launched in 2000. DPB generated record profits, continually increasing its retail market share. It acquired two specialized financial services companies, launched a successful IPO in 2004 and entered the DAX in 2006, while buying the 850 most attractive branches of Deutsche Post, in anticipation of its separation from the postal operator. It continued developing its unique expertise in in-sourcing payment transaction management for other banks. In 2008, Deutsche Post sold a 22% share in Deutsche Postbank to Deutsche Bank giving the latter the option to buy its remaining 38% share. Finally, it retained from its postal origin the name and a skill set in integrated channel delivery, not to mention a significant share of the highly competitive German retail financial services market. DPB had become the largest retail bank in Germany with 14 million customers and 5 million accounts.[6] It was gradually bought by Deutsche Bank, which had to recapitalize it further, owing to unsafe investments, and the link with Deutsche Post became tenuous.

In line with ING and DPB, the aspiration for postal financial services institutions to become full-fledged publicly quoted banks became widespread. This became part and parcel of the structural reform programs in developing and emerging economies with mixed results since the new postal banks tended to focus on wealthier market segments and stopped distributing through the postal network, thus threatening the viability of the network and abandoning the universal services mission previously implicit to their mandate (Scher and Yoshino 2004; Ansón and Toledano 2011).

As far as postal financial institutions or the financial arm of the posts are concerned, many have changed beyond recognition and have retained from their postal past only their “postbank” or “postal savings bank” name, particularly in Eastern Europe and Africa. Further to political decisions, most North European posts that had initially played a central role in including financially the whole population withdrew from financial services.

The financial crisis itself has deeply shaken the new European postal financial services world. For example, Fortis, which was the joint venture partner of An Post and the Belgian Post, was bought by BNP Paribas, which decided to close down the newly created Post Bank joint venture with the Irish Post. BNP Paribas, on the other hand, maintained the partnership with the Belgian Post.

The undisputable winners in the industrialized countries seem to be two postal financial institutions that do not have fully fledged banking status, i.e. the Swiss and Italian posts, to which must be added the French, that chose a banking structure.

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6 See www.postbank.com

Where postal liberalization was positively anticipated by the government and operator, the postal financial services delivery was often stopped (Finland and Sweden) or the postal financial services institution was made into a bank, quoted and then totally separated from the postal network (Germany and the Netherlands). In the UK where there have been hesitations and tensions as to whether to privatize or not, the post has been considerably weakened and a half-hearted and half-successful new financial services proposition has been adopted with the network as a conduit (Brandt and Schulten 2008). It is where the liberalization process has been more gradual that the financial services arms have prospered.

The outcome of the postal financial services regulatory reforms has been mixed. A systematic evaluation exercise has yet to be conducted that takes into account the industrial development levels. This should follow the recommendations of Laffont (2004), who has drawn attention to the significant differences between postal developments in Asia and in developed countries: "Liberalization, competition and regulatory policies are very recent developments, especially in very poor countries. The empirical evidence is limited and not of easy access".

9.3.3 Emergence of Financial Inclusion as a New Public Policy Priority Coined by the Monterrey Consensus[7] (2002–now)

While Europe was implementing EU postal and financial deregulation, new thinking and new models were developed in emerging and transition economies, and in a few industrialized countries. From the mid-1990s onwards, a number or economists challenged the market fundamentalism orthodoxy with its treble creed of competition, privatization and globalization, especially when applied to the developing world. Almost all rich countries, with the possible exception of the Netherlands and pre-First-World-War Switzerland, grew wealthy by protecting infant industries and limiting foreign investment. The UK and the US were not the only practitioners of infant industry protection. Such protectionism did not only apply to tariffs, but also to foreign investments, particularly in banking. The same story was repeated in Austria, Finland, France, Germany, Japan, the Republic of Korea, Norway, and Taipei,China, and now the People's Republic of China and India. Stiglitz (2006) argued that insulated domestic financial services systems are information intensive and facilitate development. Before the sub-prime crisis, Dimsky (2005)

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7 See http://www.un.org/esa/ffd/monterrey/MonterreyConsensus.pdf

drew attention to the systemic risk caused by the high risks and prices of financial services products specifically targeted at the poor as a result of the segmentation strategies used by financial institutions. He deplored governments' withdrawal from universal service regulation.

The Bretton Woods Institution's standard solutions for dealing with financial crises, including structural separation and privatization of post banks, began to be challenged, in particular the assumption on market self-regulation. Unfettered competition introduced too early in Latin America in postal markets was also argued to have had destructive effects (Universal Postal Union 2008). Generally, tools other than competition began to be promoted to develop financial inclusion, such as the carrot and stick approach of the US Community Reinvestment Act.

As a matter of fact, trust in many posts as a financial service provider was demonstrated at times of crisis. In the United States, postal savings (which ceased to exist in 1967) were multiplied eight-fold during the great depression. The same pattern repeated itself in the Japanese, Russian and Southeast Asian crisis. In the latest crisis, significant switches out of banks into postal accounts have taken place in France, Germany, Italy, Japan, and Switzerland. Citizens often believe that their deposits are safer at a post, even when the postal financial institution no longer has a government guarantee, as is the case for example in the European Union, and despite the governments acting de facto as a guarantor to "too big to fail" banks.

Further to the work on microfinance and exclusive market segmentation policies, awareness developed that, in a modern society, access to financial services was essential for citizenship and financial inclusion was a necessary tool to achieve the poverty reduction and growth of the Millennium Development Goals, as affirmed by the UN special advocate to the Secretary General on financial inclusion.

The 2002 Monterrey Consensus, the outcome of the UN International Conference on Financing for Development held on 18–22 March 2002 involving all major stakeholders, signaled the turning point for international development cooperation. Agreement was reached on aid commitments, including debt relief, fighting corruption, and policy coherence. The document embraces six areas of financing for development: mobilizing domestic and international financial resources, international trade, increasing international financial and technical cooperation, external debt relief and finally systemic issues, such as enhancing the coherence and consistency of the international monetary, financial and trading systems in support of development.

The UN book, Building Inclusive Financial Sectors for Development (2006) took a cautious and pragmatic approach. It stated that different national circumstances may lead policy makers to give different

answers as to how much intervention, what kind, where and when. It recommended that, if and when needed, regulatory frameworks should be built to allow all types of financial institutions to offer financial services to poor people. Policies should also be developed to broaden and strengthen financial system soundness, mitigate risk, reduce cost, enhance innovation and improve transparency.

Building inclusive finance meant access at a reasonable cost to a range of financial services within a sound and sustainable financial system with a diversity of providers, including a combination of private, non-profit and public providers. The main choices of policy options for governments were listed as:

- allow only entrance of competent firms that wish to provide services to the poor or not;
- treat all providers the same way or allow preferential treatment;
- differentiate between valuable and counterproductive state aids;
- intervene through mandates or not; engage directly into financial services or not.

In parallel, the UPU developed its Nairobi Postal Strategy (2009–2012) to be implemented regionally in line with its mission, as stated in the preamble of its constitution: to stimulate the lasting development of efficient and accessible universal postal services of quality to facilitate communication between the inhabitants of the world. The strategy integrated the financial dimension. It was based on three axes: interconnection, development and governance—and three dimensions—physical, electronic and financial.

The sheer number of UPU and WSBI initiatives, as well as private initiatives, such as those of the International Post Bank Council of the Lafferty Group whose members are decision-makers in postal financial institutions, shows a growing interest in the leveraging of the potential of postal networks for financial services delivery. Postal financial institutions, both double-bottom-line banks and non-banking financial services institutions, should be able to play a full part in the reshaping of the international financial system and its regulation.

9.3.4 Examples of Recent Institutional Developments of Postal Financial Services

Evolutionary developments include that of the Swiss and French Posts. Both benefitted from a major migration from banks at the time of the financial crisis. The Swiss Post does not comprise a bank but a specialized financial institution with public limited company status, Postbank,

now falling under the supervision of the financial services authority. Attempts to switch to full banking status might not be supported by citizens. PostFinance is not registered as a credit institution. It manages 2.5 million accounts with over 60% of retail payments in a particularly competitive market. Its payment services fall under a universal service obligation.

As regards the French post, its financial arm was turned into a double-bottom-line bank in 2006, thus allowing it to offer loans (not corporate loans).

Korea Post has swiftly grown its traditional model of payment, savings and life assurance into an integrated multi-channel network delivering both its own products (deposits increasing by 225% in four years) and those resulting from partnerships. It has now 12 million individual customers, (i.e. one Korean out of four), and 170,000 business customers. Its clientele base is predominantly among the over-forties and the rural and small city dwellers (two thirds for each category) owing to its geographical base in contrast to banks of which 80% of branches are in large cities. The one-stop finance service is provided through 147 partnerships.

Besides these evolutionary developments, there were also radical changes (see the summary in the Appendix).

Bangladesh Post, a least developed country in the land of microfinance, as part of the "Digital Bangladesh" policy obtained from the regulator through the Post Office (Amendment) Act (2010), the right to provide money transfer, banking and insurance services, thus enabling it to lead a mobile payment consortium. Its mobile money transfer service and smartcard have already been winning propositions in meeting the needs of the rural migrants and the large majority of the unbanked. The next stage will deal with micro-insurance and microbanking.

Poste Italiane, a traditional, bureaucratic and previously ill-managed organization, went through a radical change process enabled by its 1998–2002 business plan under the leadership of its then CEO, Corrado Passera, who developed a business plan supported by all the stakeholders, including government departments, the Bank of Italy and the staff. Staff support was greatly facilitated by its board's decision to take a significant cut in salary in view of the dismal state of affairs. BancoPosta, initially a division and then a business unit of Poste Italiane, was allowed in 2001 to manage its own accounts through a specific regulatory framework, but not to manufacture financial services other than its traditional range (savings, government payments). The service proposition was transformed through integrated multichannel delivery and a set of partnerships with specialist financial services providers. In a developed market but still relatively under-banked, 6 million new accounts were opened and

new products delivered in partnership, with a major contribution from investment products wrapped in life assurance. Financial services make a major contribution to Poste Italiane's profits. The customer base includes a sizeable share of the social benefits claimants and migrants' market. As a result of this U-turn, Poste Italiane has been, and is due to be, involved in a number of postal change management projects, including possibly the sizeable modernization project of Russia Post.

The creation of Kiwi Bank, in 2002, a full-fledged bank (a 100% subsidiary of the state-owned New Zealand Post Office) was a political decision from the Alliance coalition in response to citizens' discontent with foreign ownership of the banking sector and closures of branches in non-urban areas. Its branches are based in post counters and franchises. It is highly innovative, particularly in multiple channel delivery, and was one of the first banks in the region to develop mobile banking. Kiwi Bank has been an immediate success and keeps on growing. It broke even at the end of its third year and has been generating significant profits ever since. It has now 700,000 customers, which is remarkable for a small country. Kiwi Bank was allowed to move into commercial loans and a life assurance company has been added. It is making a substantial contribution to NZ post revenues. Throughout the crisis, it has been the only NZ Post business generating a profit, thus ensuring the postal network sustainability.

As early as 2000, the decision to corporatize the South African postal financial institution, Postbank, was made within the context of black empowerment and reduction in the financial and digital divide. The existing financial institution was recapitalized in 2002, the network outreach increased through state investment in post office real estate and IT network. The Mzanzi products were launched as a basic account and also as a money order both by banks and the post office. Thus an extra 2.5 million transaction Mzanzi accounts were opened in three years, mainly by the unbanked, to which were added another million social security accounts in 1999. The priority of South African Post Office has been clearly set as "universal service" versus "liberalization". The corporatization process of Postbank as a full-fledged bank has been delayed, owing to numerous hurdles including a serious hacking incident.

Namibia, a sparsely populated country with 2 million inhabitants, 49% of whom are unbanked, started leveraging its relatively dense postal network three years ago (132 posts to which were added 196 merchants). It developed a smartcard combined with biometric identification enabling secure transactions even where communication infrastructures are poor or nonexistent. Already 400,000 Namibians have used the card and an additional 150,000 have opened an account.

As a result of the traumatic post-independence years and the Russian crisis in the late 1990s, the Kazak government acknowledged both the demise of the post that had had public enterprise status since 1995 and the role it should have in the financial stabilization and modernization of the Kazak economy, particularly in the rural parts where there was no bank presence. This was a major challenge since Kazakhstan is the largest land-locked country in the world. Postal development was included as a project in the 1999–2002 modernization program and successive government plans. The post gradually increased its product range through new licenses and developed simultaneously its agency activities (deposits, transfer agent, broker and dealer). Ten years after its creation, it had opened 4.5 million savings accounts for one-third of the Kazak population.

In Brazil, Bradesco, the largest *bancassurer* in Latin America, won initially the highest bid ($150 million contribution to capacity building in network automation and training) to become the exclusive partner of Correios under the brand name of Banco Postal. This was the result of a concerted action at government and central-bank level to develop financial inclusion, while guaranteeing the stability and integrity of the financial system. Priority was given to the offering of basic financial services in un(der) banked communities. The legal basis was a banking correspondence law (1999) by which non-financial agents can contract with a financial institution to collect savings, receive and transfer request for loans and credit card applications, execute payments, bills, social security, deposits, transfers and withdrawals. The bid was authorized in 2001. In 2010, more than 10 million previously unbanked citizens had bank accounts. The second tender was won by Banco di Brasil on the basis of goodwill, for an amount significantly higher than previously.

The success of the Postal Savings Bank of China (PSBC) is remarkable. One in three Chinese people is a client of PSBC, which has 893 million accounts and 475 million individual clients. Its customers are mostly students, self-employed businessmen, migrant workers and pension recipients. Created in 1986, it is now the fourth bank in the People's Republic of China with assets amounting to $500 billion. It developed gradually from a post traditional range, delivering treasury bonds, payroll and pension payments, to a sophisticated intermediary leading in inter-bank deposit. A full-fledged bank, it must also meet social objectives:

- to build the retail network by setting up new banking outlets in areas with low service coverage by financial institutions, thus gradually reducing the number of villages without access to financial services, and supporting banks in reconstructing their outlets on the basis of multi-service networks;

- to speed up product and service innovation through click and mortar integrated delivery channels including telephone and internet;
- to develop the intermediary business, owing to shrinking interest margins on savings;
- to fulfill social responsibilities, improve people's livelihood and promote growth by supporting rural finance, (micro and small–medium enterprises and green developments).

The speed with which it built its small business portfolio is a testimony to its huge potential. Only two years after starting offering microloans to farmers and small businesses, it had disbursed 5.5 million loans averaging $6,000 for farmers and $12,000 USD for small businesses. The interest income of retail credit was the biggest income of the network.

9.4 Lessons and Questions Arising

Is it possible to identify a number of common features from a quick look at such successful new developments?

After the Reagan–Thatcher all-market era, the Monterrey Consensus around financial inclusion, and more recently micro, small and medium enterprise (MSME) trade facilitation, acted as major drivers for the development of postal financial services. It is to be noted that in the new cases describing radical changes, the postal financial institutions have remained, up to now, government owned. The only exception, Poste Italiane, is due to sell 40% of its shares in an initial public offering.

Postal financial services reforms were initiated and driven by the government departments in a concerted cross-functional approach. They involved the post, the central bank, supervisory/regulatory bodies, the postal operator and those responsible for development through social, infrastructure, and trade policies. The purpose was to leverage the postal network to provide access to basic financial and most often government and social security services for un(der) banked and MSMEs. Thus, the postal element was not defined in narrow terms but in broad terms and included the virtual dimension and last mile delivery. De facto or de jure basic financial services had to be offered on a universal basis or targeted to the un-banked in rural and underprivileged areas. Their scope was defined in law. As a result, the postal reforms were worked out in conjunction with the other public policies: financial depth, soundness

and stability, access to government services, fight against poverty and digital divide, trade facilitation of MSMEs. In all cases, the changes were guided by an overall strategy integrated into the postal public mission.

Generally, the clientele base is skewed towards the rural and less well-off population, thus reflecting the inclusive policy of the posts. The solutions were tailor-made to each country—no one-fits-all solutions—owned by the stakeholders and scalable with a 3–5 year dynamic roadmap regularly assessed for progress and reviewed. Exacting intermediary objectives were set. In several of these ventures, millions of previously un(der)banked citizens gained access to basic financial services, starting with payments and followed by account services.

Commercial freedom, along with ownership and accountability by staff, was the first key success factor. It required significant investments in recruitment and training at all levels. The second necessary condition was the connectivity of the network and the equipment of each post office with ICT-based technology. The third condition was real-time centralized management of the cash flow and liquidity functions with optimization of the cash logistics at post level.

This required significant investments by governments and bilateral/multilateral donors, up to tens of millions of dollars (an estimated $500 million alone for the proposed Russian Federation network up-grade and development of their IT platform).

The degree of integration of postal accounts into the postal financial institution structure with ownership of the client database (Ansón and Toledano 2011) played an important role and impacted the profitability or even sustainability of the venture. The case of Brazil is an exception and has been tested through the attribution of the partnership to another bank, the existing clientele base remaining the property of the previous partner unless customers choose to transfer their accounts and other financial services to the new venture, also delivered through the post premises. As a result, most customers have stayed with the first partner bank that has opened branches where the demand was high. However, new unbanked citizens keep opening accounts through the post and a joint venture with Banco di Brasil is under study.

An additional feature of these new developments is that the multi-dimensional postal network was consistently seen as an asset to leverage, not a liability, and also as a portal for citizens, MSMEs, and governments. It enabled integrated click telephone and mortar delivery of an affordable mass offering.

However, as a reflection of the specific situation in each country (government policy, regulation, institutional arrangements, development

modes on a sole or partnering basis) the financial services propositions differ and show high idiosyncratic features.

Regulation was adapted to enable greater inclusion into the function of policies and needs. In Bangladesh, the central bank allowed the postal operator to deliver both payment and account services, and to act as the leader in a mobile payment consortium, thus making the venture sustainable for the post. In Kazakhstan, equal access to the banks' retail payment clearing house was also given to the post, as a recognition of its vital role in payments. This had been also done in a much-publicized case in the UK (Cruikshank 2000). In both Kazakhstan and the People's Republic of China, regulation developed in synchronization with policy and post strategy, gradually introducing investments and loans. Interoperability with banks and social security institutions at national level were built from inception into the newly designed national payment system. Finally, in New Zealand and the People's Republic of China, the postal financial services institutions were set up as, or became gradually, full-fledged banks.

As regards institutional arrangements, the financial services arm can be a division of the post acting as an agent of a banking partner as in Brazil, although the latter arrangement might soon evolve. In Italy, it is still a division of the post that receives deposits and enacts payments while concluding partnership agreements or setting up joint ventures with specialist financial services providers. A separate structure, with restricted bank status, may be licensed by the central bank to deliver a limited range of financial services, most often not including loans, as in Switzerland. Normally this goes together with investments being limited to sovereign debt or infrastructure/public service projects as is the case in Asia where often postal financial institution collect funds but do not act as financial intermediaries. The bank may be a full-fledged bank, such as in France (with restrictions only on corporate loans) or in the People's Republic of China, which used temporary partnerships as learning tools. In the Republic of Korea, at the other extreme, the post, still a part of the ministry, offers basic payment and accounts services but acts as a conduit to multiple private specialist partners.

Indeed, as underlined for the Republic of Korea, the institutional arrangement, regulation and the partnering model are intimately linked to the strategy. In Brazil, for example the decision had been made not to set up an additional public bank. This translated into an exclusive partnership with a financial services institution. In the People's Republic of China, the developments were often greenfield, but often also initiated through a learning partnership. Kazakhstan Post started by connecting

social security payments with savings accounts. Regulation developed in full synchronization with the strategy, gradually adding investment and loan services. The Italian Post was refused permission to become a full-fledged bank but was allowed to offer its own interoperable current accounts. It modernized government and payment services to cashless, upgraded its direct offer through the phone and the internet and acted as the leading electronic commerce provider through its portal and certification. It became a leading financial services innovator and a coach to other post offices. It did so through alliances with ICT and financial services providers.

As regards the financial services propositions, they reflect partly the original savings, payment and government offer, but transformed through the use of technology. This compares with the way Western Union transformed the traditional money orders into a tool enabling international remittances by migrants. This modernization of money orders contributed greatly to money transfers amounting to more than foreign direct investment and aid combined. The postal offering was not only transformed but enlarged to investments and finally loan services. Recently, a new trend appeared linked to the re-development by posts of own payment services as part of their electronic commerce offer. Whether the payment and other services should adopt the banking model is an on-going debate.

However, in particular with the demonstrated success of alternative payment services such as international remittances and M-Pesa, the mobile payment service provider in Kenya, an official of the Central Bank of Namibia commented: "Unbanked people want access to financial services that add value to their lives, and first of all to distance payments. The first priority of regulators aiming at enabling financial inclusion is therefore to differentiate the payment system from the present banking system and to create domestic systems that are innovative, reliable, secure, affordable and accessible to all" (di Sousa 2010).

9.5 Conclusion

Postal financial services institutions play a major role in access to finance and other public policies, e.g. trade facilitation and delivery of government services. However, there is little hard data and research evidence to argue this case with policy-makers and enable postal financial services institutions to play a full part in the reshaping of the international financial system and its regulation. Indeed, in the same way as the postal network was a major instrument for the development

of financial inclusion in the 19th and 20th centuries and a great innovator through the combined use of technology and physical access through the network, a number of emerging and developing countries are now leading in innovation and sheer market size, thus mirroring the changes in geopolitics.

Appendix. Examples of Countries where Radical Changes in the Way Postal Financial Services are Delivered

Data gathered from information presented at UPU and AFi (Bill and Melinda Gates Alliance for Financial Inclusion) workshops on financial inclusion through posts held in the UPU, Bern, on 9–10 November 2009, 23 April 2010, and 31 October to 1 November 2011. http://postfi.me.

Country	Bangladesh	Brazil	People's Republic of China	Italy
Name of Postal operator	Bangladesh Post	Correios	China Post	Poste Italiana
Name	As above	Banco Postal brand	Postal Savings Bank of China	Postabanca business unit
Status	Department within post	Bank agency of Banco di Brasil	Fully-fledged bank	Business unit
Website	www.bangladeshpost.gov.bd/	www.correios.com.br/eng/	www.chinapost.com.cn/36/	www.posteitaliane.it/en/
Population	161 million	191 million	1.351 million	59 million
Development (World Bank)	low income	upper middle income	Upper middle income	high income
% 15 year with bank account (WB)	40%	57%	64%	71%
% account holder in region (WB)	33%	57%	55%	
% account holders / development Level (WB)	24%	57%	57%	90%
Modernization kick off	2010	2002	1986 and 2006	1998
Key supervisor	Central Bank	Central Bank	Party + Banking Regulatory Com.	Gov. + Bank of Italia
Partnership / Stand alone	Leading mobile money consortium	Tender Bradesco (2002), Banco do Brazil (2011)	Learning partnerships	with ICT and financial providers
Product-service range	Multiple channel delivery	Multiple channel delivery	Multiple channel delivery	Multiple channel delivery
National/international	N + rural density	N + rural density	N + rural density	N + rural density

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Appendix *continued*

Country	Bangladesh	Brazil	People's Republic of China	Italy
Social/commercial	S + C	S + C	Commercial	S + C
Number of customers	Not known	10 million	450 million clients 850 million accounts	6 million accounts
Key of success	"Digital Bangladesh" Mobile money transfer—smartcard	Partner investing and complementary	Exponential growth, Innovation Internal educational process	PosteMobile, leading electronic commerce, social dimension (retired, benefits holders and migrants)

Country	Kazakhstan	New Zealand	Namibia
Name of postal operator	Kazakhstan Post (KP)	New Zealand Post	Nam Post
Name	As above	Kiwi Bank	NamPost Savings Bank
Status	Department	Fuly-fledged bank	Savings Bank and business unit
Website	www.kazpost.kz/en/	www.nzpost.co.nz/	www.nampost.com.na/
Population	16 million	4.4 million	2.1 million
Development (World Bank)	Upper middle income	High income	Low middle income
% 15 years with bank account (WB)	42%	99%	51% (government source)
% account holders in region (WB)	42%		24%
% account holders/ development level (WB)	57%	90.00%	28.00%
Modernization kick off	1999	2002	2007
Key supervisor	National Bank	Multiple	Multiple
Partnership/stand alone	Stand alone	Stand alone	
Product-service range	Multiple channel delivery	Multiple channel delivery	Multiple channel delivery
National/international	N + rural density	N + rural density	N + rural density

continued on next page

Appendix *continued*

Country	Kazakhstan	New Zealand	Namibia
Social/commercial	S + C	S + C + franchises	S + C
Number of customers	4,5 million accounts	700.000 clients	400,000 clients 150,000 accounts
Key of success	Combination of social security and pensions and accounts Communication campaigns	National sentiment, innovation	Trust, market research with the underbanked and technology (biometrics)

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10

Disruptive Technologies and Financial Inclusion: Lessons for Postal Savings Banks to Strengthen Their Financial Inclusion Role Using Financial Technology

Alexandre Berthaud

10.1 Introduction

As seen in earlier chapters, some of the most successful cases in postal financial inclusion worldwide are strongly linked with technology. From mobile financial services in Italy to the Postal Bank in Morocco, and the Banco Postal partnership in Brazil; all of them used technology to make the implementation successful. Actually, postal financial inclusion initiatives in the 21st century would not, for the most part, have been possible without technology. However, in these previous cases posts followed the proven models and footsteps of banks and other financial service providers and were hardly first-time innovators at the global level. This is true for all of the models described in the global panorama, from cash merchants, to postal banks and correspondent banking. Even some of the most innovative cases like Poste Italiane's mobile virtual network operator and its mobile financial service offering used technology that had been in the market for several years when the post implemented them. What makes postal financial inclusion so important is the sheer scale of postal operations and its massive network, which allows the propagation of the financial offering

to the last mile. However, in the recent past postal operators have not been at the forefront of innovation.

Today financial technology, or fintech as it is more commonly called, is using technology to disrupt the way finance is done. In so doing it is creating fierce competition for banks and other incumbent financial service providers such as microfinance institutions, money transfer operators, insurance companies and of course postal financial services.

If banks, with their massive operations, deep pockets and technology-savvy workforce, are under threat, what about postal operators who rely on postal financial services as a major part of their income, and which in most cases do not have the capacity to keep up with the pace of innovation? The main question that will guide this chapter and most likely the future of postal financial inclusion is: can postal operators harness the power of disruptive fintech innovations? And if not, will they survive the disruption as they survived most major revolutions in the 20th century?

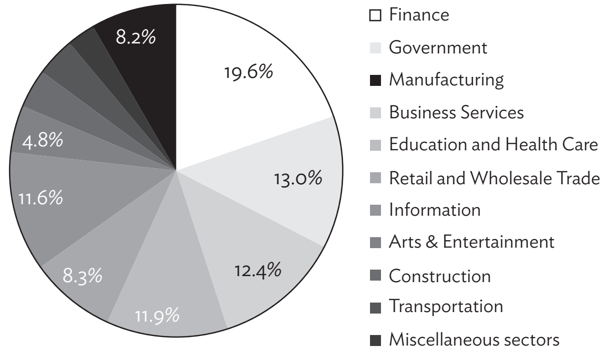
This chapter will start by presenting the state of the art in disruptive technologies called fintech and their current and predicted impact on financial inclusion in general. The third section will focus on the importance of fintech for postal financial inclusion through some concrete examples at the intersection of fintech and postal operators. Finally, in the fourth section we will discuss avenues for postal operators to take advantage of the fintech revolution before it is too late.

10.2 The Fintech Revolution

The fintech revolution refers to the disruption of the financial industry as we know it by fintech startups and companies.

Over the past 10 years many industries have been disrupted by emerging business models that use technology to outcompete incumbents that were expecting business to continue as usual. There are several very famous cases, starting with the media and advertisement businesses, which had to reinvent themselves or die with the advent of Facebook, Google Adwords and Twitter. The taxi sector was completely rethought worldwide thanks to Uber and a series of local clones. Before that, the offline travel agency business had been almost wiped out by internet providers such as Expedia or Lastminute. Retail was of course one of the largest industries to be disrupted, with Amazon and Alibaba revolutionizing it. There is a long list of entire industries forced to fully reinvent themselves with the advent of lean, technology-based

Figure 10.1 The importance of Financial Services in the US Gross Domestic Product



Source: Commerce Department, elaborated by the *Wall Street Journal*.

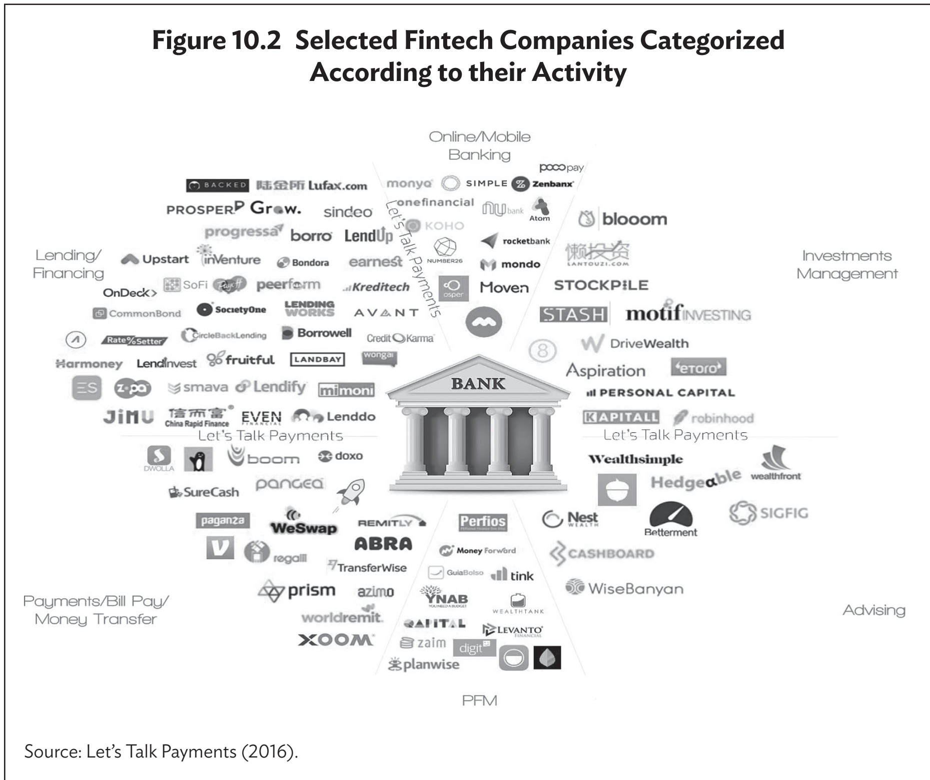
and adaptable startups who eventually become mammoths and market makers in their industry.

However, financial services is not just any industry. As can be seen in Figure 10.1 it is the largest industry in the US economy. Therefore, its disruption represents a big challenge not only for the industry itself but for the future of economies in Asia and the rest of the World.

The financial industry is not a unified sector as it encompasses many activities from banking to insurance and capital markets. Even within the retail banking sector, the scope of products and activities is wide, from payments to SME lending, from personal finance management to savings. In the financial sector, new entrants are not trying to compete with banks on all fronts. On the contrary, the vast majority specializes in a specific niche product and innovates. This high degree of focus coupled with high adaptability to volatile environments is what makes fintech startups strong competitors for banks. Figure 10.2 illustrates how fintech companies have positioned themselves to compete against universal banks on their different activities.

In order to better understand the adoption of fintech solutions. Ernst and Young surveyed more than 10,000 people in 7 developed economies across the world, including Singapore and Hong Kong,

Figure 10.2 Selected Fintech Companies Categorized According to their Activity

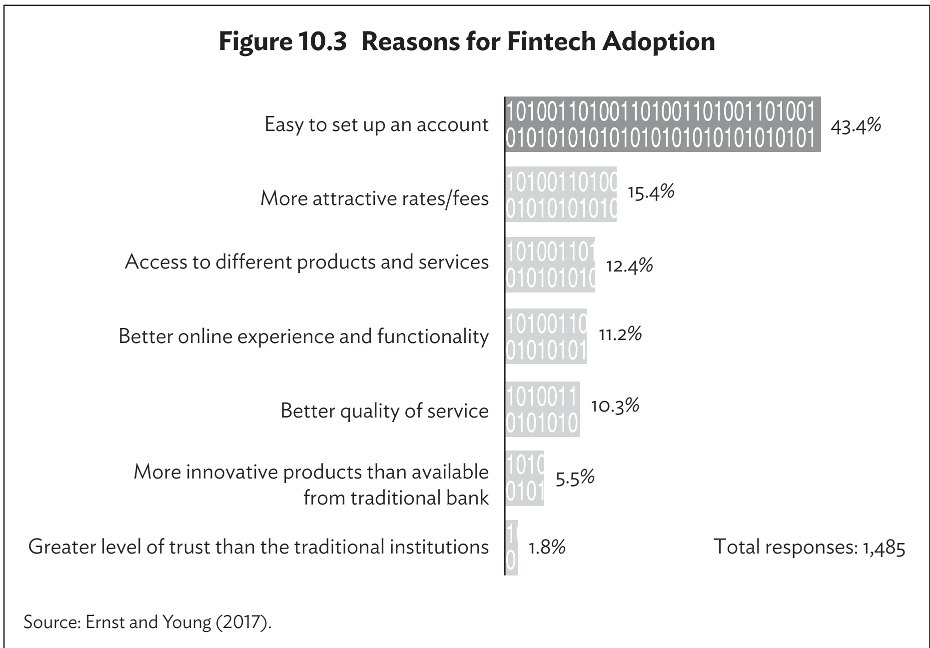


Source: Let's Talk Payments (2016).

China, for its Fintech Adoption Index (Ernst and Young 2016). The survey results are impressive. There are seven reasons (see Figure 10.3) that explain the fintech revolution, but the most important one is derived from the improved experience. Concretely 43.4% say it is easier to open an account with a fintech platform than the current offering of banks. The second most important reason to use fintech platforms is that they are cheaper than banks. Most of the other reasons relate to the level of service and convenience of fintech solutions. This does not speak so much of how well fintech performs but more to the issues with the bank offerings which are bureaucratic, expensive and tend to be below par.

Chris Skinner, one of the 40 most influential people in fintech according to the *Wall Street Journal*, recently wrote about incumbent financial service providers: "incumbents must be agile, nimble and digital, but they were built for being slow, risk averse and physical"

Figure 10.3 Reasons for Fintech Adoption



Source: Ernst and Young (2017).

(Skinner 2016). As we will see in later sections, if this is true of banks, it is even more the case for postal financial institutions.

10.3 Disruptive Technologies

There are at least four disruptive technologies in fintech that are worth mentioning because of their potential to change the way financial services are offered.

10.3.1 Crypto-Currencies

Crypto-currencies became famous through their biggest exponent, Bitcoin. Indeed, cryptographic currencies, or digital currencies as they are also known, are a store of value that has three main characteristics. (1) It is encrypted so only some people can "mine" them. (2) It is decentralized and therefore policy and politics do not have a say into how it is managed. (3) It is not a national currency and therefore can be used anywhere in the world and is freely traded.

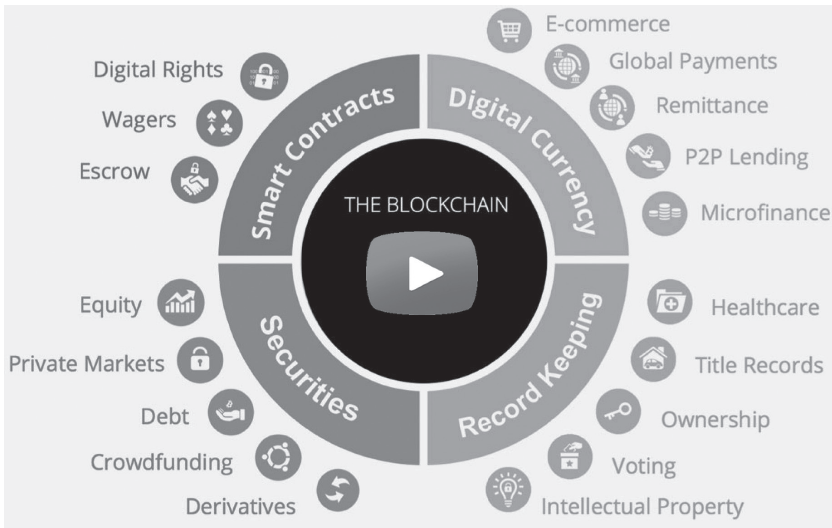
Crypto-currencies still have some limitations such as high volatility and the fact that they are not widely available or accepted. Also, the fact that they are several digital currencies vying for predominance is a limitation because the already small market for digital currencies is pulverized across several platforms.

10.3.2 Blockchain

Blockchain is probably one of the biggest trending areas in the financial industry in the last two years. Blockchain is often associated with crypto-currencies, which makes sense since blockchain is the infrastructure built to move crypto-currencies. What some have called the "rails" of Bitcoin. However, what is most exciting about it is that this new infrastructure is considered to be as disruptive as the internet was 30 years ago. Indeed, blockchain not only allows moving digital currencies, its most important features are smart contracts and its decentralized ledger system.

Figure 10.4 shows a series of use cases of blockchain's applications in digital currency, smart contracts, securities, and record keeping to

Figure 10.4 Blockchain Applications



Source: BTCS. http://www.btcs.com/index.php#merger-modal

illustrate the vastness of the disruption that can come to the financial sector and beyond if blockchain potential is realized.

10.3.3 Big Data and Artificial Intelligence

Artificial intelligence is built on the power of machines to learn, or machine-learning. Machines are capable of learning if provided with the correct set of data and in vast quantities. These large quantities of data are called "big data". In today's world where smartphones and connected devices are ubiquitous, every person and organization leave behind humongous amounts of data, called "data trails". These data trails can be combined to generate huge amounts of data that can be analyzed through algorithms. According to Robert Marr: "more data has been created in the past two years than in the entire previous history of the human race" (Forbes 2015). Thanks to the big data generated, artificial intelligence is no longer a science fiction theme but has become mainstream in the last 2 to 3 years. Actually, all of the largest technology firms in the world (Facebook, Apple, Google, Amazon, IBM, Microsoft) are currently investing large amounts of money into AI because of the potential it represents.

Although not developed for the purpose of finance, AI has significant implications for the world of finance and even more for financial inclusion because it opens up two main opportunities:

1. personalized services according to each customer;
2. reduced friction and lower costs by requiring fewer personnel to provide customer services.

There are different examples of artificial intelligence applications.

- Robo-advisors. These are automated financial advisers who can monitor events in stock markets and make recommendations to adjust the user portfolio (sell or buy) towards the user's financial goals. There are many startups working currently in this area where banks have lagged behind.
- Digital personal financial management. This one is particularly useful in emerging countries and lower income segments where financial education levels are low. These take the form of platforms that can respond to customers questions and offer financial solutions based on SMS interaction as well as smartphones. They reduce the cost of operating expensive call centers and direct interaction with customers at the branch, and are often more accurate than interactions with ill-prepared call center employees.

- Data driven underwriting: for both lending and insurance purposes AI powered by big data (see section below) can allow for a cheaper decision process and one that can work even with no-file or "thin-file" customers, which is particularly useful in emerging countries where access to loans and insurance is often limited.
- Finally, smart wallets are digital wallets that interact based on user generated data to learn from client's habits and promote more appropriate financial behavior, such as reducing impulsive spending and promoting savings habits.

10.3.4 Mobile Wallets

There is a technology that is much less futuristic than the previous but has probably already created a bigger impact on financial inclusion: mobile wallets.

Mobile wallets can refer to many different instruments depending on the context. It has become a buzz word that people use for very different purposes. For the purposes of this book we will define mobile wallets as a digital store-of-value that can be accessed from a mobile phone. Typically, mobile wallets imply that they can be opened easily without necessary going to a branch of a financial institution, and require reduced identification and know-your-customer processes.

The best-known cases of mobile wallets are the ones offered by mobile network operators independently of banks, M-Pesa in Kenya being the poster child of mobile wallets. Mobile payments and most importantly mobile wallets are having a tremendous impact on financial inclusion because of their viral growth in some of the countries with very low banking levels such as in Sub-Saharan Africa, specifically in East Africa, and in South Asia. According to the Global Findex 2014: "In 13 countries around the world, penetration of mobile money accounts is 10% or more. All 13 are in Sub-Saharan Africa. Within this group, the share of adults with a mobile money account ranges from 10% in Namibia to 58% in Kenya. And in five of the 13 countries—Côte d'Ivoire, Somalia, Tanzania, Uganda, and Zimbabwe—more adults reported having a mobile money account than an account at a financial institution. Account ownership in Tanzania increased by 23 percentage points to 40% in 2014, with mobile money accounts fueling all that growth." (Demirguc-Kunt et al. 2015).

However, mobile wallets are not limited to the mobile operator offering, actually some of the most successful mobile wallets can be found in Asia. B-Kash a product/company of BRAC Bank in Bangladesh was the fastest growing mobile wallet in the world in 2013 (CGAP 2014)

and will soon surpass Kenya's dominance in this area. In other parts of Asia, several mobile wallets have emerged independently of mobile operators, and even of banks, with great success. The most successful has been Alipay in the People's Republic of China with 450 million customers (Forbes 2016). However, in smaller countries mobile wallets have also found success, for instance TruePay in Thailand has 6 million users[9] and allows customers to charge their wallets from convenience stores and then pay for utilities and other services using the wallet.

One important point that must not be overlooked is that the fintech disruption is due to one key factor, the growth in smartphone penetration. As smartphones become ubiquitous, even in developing countries, the data they generate and the possibilities of offering tech-based services become greater. Emerging countries in Asia are catching up fast with developed economies in terms of smartphone penetration, which opens the door to new fintech innovations. However, are all of these disruptive technologies really going to help financial inclusion, or will they remain geared to better-off markets where margins are higher and context is friendlier to startups?

10.4 Can Fintech Really Solve the Financial Inclusion Conundrum?

One question that policy makers and practitioners should ask themselves is: does financial inclusion necessarily imply having a bank account?

Bill Gates certainly believes it is not the case. He is famous for saying back in 1994: "We need banking but we don't need banks anymore". The need for financial services will remain and in an interconnected world will actually grow, however what is not needed are the banking institutions. Someone else can do the job.

Another interesting point of view comes from a practitioner in the area of credit scoring; she states: "Financial inclusion is not only bringing the unbanked into the banking system, it's using other data—not financial data—from the unbanked to allow them to remain unbanked but still have access to things that are basic to their lives."[1] Mobile wallets are a good illustration of this, which despite not being a bank account allow the poor to carry on their micropayments and solve a key financial need. One can also think of access to microloans from mobile phones, as in the case of M-Shwari in Kenya or MoKash in Uganda. Two very successful product deployments where mobile money operators have teamed up

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[1] Maria Paula Oliveira, Strategic Programs Director, Experian Asia-Pacific quoted in Singapore Management University (SMU) (2016).

with a bank, Commercial Bank of Africa in both instances, to offer a savings and microlending product. In this case, the bank analyzes the mobile operator's big data to prequalify customers for microloans (Cook and McKay 2015). Thus, non-traditional information is used to qualify no-file or thin-file customers to become eligible for a loan.

10.4.1 Fintech Boosts to Financial Inclusion

Fintech presents several key advantages for financial inclusion when compared to incumbent financial institutions.

Nimble

Startups in the fintech space are typically leaner and more agile than banks and therefore can operate with lower costs structure. One of the major limitations of banks is that they have high operation costs derived from high salaries and the need to keep a physical network. Operation costs are a major disincentive for banks to enter the base of the pyramid since this segment is not as profitable and costs a lot to serve. By contrast, fintech companies, which are much more nimble, can cater to the unbanked market profitably, even in developing countries.

Unregulated

In most markets fintechs are still unregulated and therefore do not have to focus time, energy and resources on know-your-customer requirements and other anti-money laundering/countering the financing of terrorism procedures. One of the major limitations for banks and incumbents to offer financial services in unbanked segments is the lack of proper identification. For instance, mobile money innovation and adoption in Kenya ten years ago would not have happened in a highly regulated market. It was the lack of regulation that allowed it to happen. However, the unregulated nature is of course also an issue because of the risk of fraud to the unbanked, but we will keep this for the limitations section.

Mobile Phone Ubiquity

Fintech companies often rely on the wide availability of mobile phones, even among the unbanked. In developed and emerging markets, smartphones now represent more than 40% of total phone base meaning that many people have a super computer in their pockets. Thanks to smartphone ubiquity, part of the physical access barrier is lifted. Indeed, one of the two main barriers to financial inclusion is accessibility, the other being affordability. Accessibility refers to "the presence of accessible financial contact points in the countries and regions with the largest

unbanked populations. These contact points can take the shape of post offices, branches of commercial banks, MFIs and savings and credit cooperatives, ATMs, or banking agents." (Berthaud and Davico 2013).

In most emerging and developing countries accessibility is still a major issue. With the advent of smartphones, a wide scope of financial services can now be made available anywhere at any time of day or night.

Alternative Credit History

Information asymmetries are a major obstacle for financial inclusion. "Further, the lack of credit data and reliable financial records worsens the problem of information asymmetry that discourages banks from lending to poorer households and SMEs" (Yoshino and Morgan 2016). Several fintech startups are solving the asymmetry issue by leveraging on non-traditional information collected from the client. While most incumbent financial service providers base their decisions on past negative credit information and in the best case scenario on positive information received from utility companies among others, fintech startups have focused on finding business intelligence in every corner to inform their credit decisions.

Risk Taking

Recently created fintech companies have a strong incentive to take risks and do bold things because it is the only they can compete with large well-established institutions. This risk-taker DNA is positive for financial inclusion since fintechs are willing to tackle complicated environments in developing countries in order to find some niche markets for their products.

Client-Centric Approach

New startups focus on customer experience first and foremost. The lean startup methodology for instance pushes startup founders to build minimum viable products and loop through the build, test, measure phases as fast as possible (Ries 2011). Finally, lean startup recommends always talking to clients in order to improve the product. Most banking products are not built that way, oftentimes they are built from the top and then pushed through the channels. The lack of empathy for and understanding customers is a major issue among both banks and postal financial institutions.

Legacy vs. Agile Systems

Most banking core systems are 20 to 30 years old. These are rock-solid time-tested systems that have proven way work. However, replacing

legacy systems is a complex and long task. So, innovation is actually limited in many cases by the very IT systems banks use. Disruptive technologies are tested at the periphery and in most cases in partnership with some innovative startup. Innovation happens for the largest part on the front-end because the back-end is legacy-oriented.

Focus

Startups focus on solving one specific issue at a time and become experts in a very small part of the financial industry and can therefore innovate in ways that banks cannot.

From the above, external observers could think that fintech will solve the problem of financial inclusion and that therefore banks and, by association, postal banks and postal savings banks will lose their relevance in this field. Things are not that easy and one must also consider the downsides of fintech.

10.4.2 Fintech Limitations for Financial Inclusion

Trust

Trust is a major issue in emerging markets. In developed economies strong levels of regulation and especially enforcement have ensured that financial fraud and online fraud remain a very contained phenomenon. In emerging and developing countries this is not the case, and in most of these countries citizens have fallen prey to Ponzi scheme scams, unscrupulous savings institutions, card fraud, among many other issues.

Lack of Financial Education

The lack of regulation in the fintech space is, as has been mentioned earlier, a great opportunity to innovate. However, the combination of unregulated activities with low-financial literacy levels among unbanked and under-banked populations is a potential recipe for disaster. It can constitute a strong limitation as to the impact of fintech on financial inclusion.

Technological Literacy

Even though millennials are very technology aware in most markets, there is still an issue of technological literacy among older generations, which limits the penetration of new financial platforms among non-millennials.

Unfit technologies

Most fintech technologies are either business to business or not suited for unbanked areas. Indeed Bitcoins, blockchain, and AI were built for highly industrialized economies and not for unbanked areas. On the one hand, the unbanked in rural areas and marginalized areas typically

generate lower amounts of data compared to people in high connectivity areas. On the other hand, blockchain for instance is a technology that has a lot of potential for banks to make their back offices more efficient; however, the concrete applications in the daily life of the unbanked are still unclear. The benefits of these technologies for the end customer at the bottom of the pyramid remain limited.

Ecosystem Limitations

Venture capital and strong startup ecosystems are still very much limited to developed economies. As a result, most fintech companies are based in and focused on developed economies. Venture capitalists and angel investors in developing countries look for profitable companies in these markets and have less risk appetite than they would in the US, the People's Republic of China, Japan or Europe. This focus on quick wins limits the potential to scale of small innovative companies that know the unbanked market.

Lack of Infrastructure

Most fintech solutions require customers to have connectivity to 3G/4G and in unbanked areas the infrastructure is not necessarily there. Actually, in most rural areas in South and South East Asia, high-speed mobile internet is not necessarily widely available, thus reducing the potential of more advanced disruptive technologies.

Overall, fintech because of its innovative potential is a positive factor for financial inclusion, even if it is only because it brings competition to banks and postal financial institutions, who will in turn have to innovate to keep their market shares and remain alive. This should entice established financial service providers to adopt technology-based solutions to offer services to unbanked populations. However, all the fintech limitations stated above hint at the need to build partnerships with established and trusted financial institutions with a wide-ranging network, such as posts and postbanks. The next section will focus on the role that fintech and disruptive technologies can play for postal financial inclusion.

10.5 Importance of Fintech for Postal Financial Inclusion

If, overall, fintech is one the most notable opportunities for financial inclusion, it is still not clear at this point whether it will be a boon or a threat for postal operators.

Why is Fintech crucial for postal operators in Asia and the world?

Postal operators, especially in the developing and emerging world face a major issue which is the low level of technology-backed products and low computer-literacy sophistication of their workforce. In today's world, where Millennials across the globe want to have easy and fast access to services and can find those in the myriad of existing apps that cater to them, one can wonder where do posts fit. Basically, our hypothesis is that if posts do not jump on the fintech train right now, it will be too late. Therefore, it is not simply important, it is of vital importance for postal operators to join the fintech revolution, most likely as partners to disruptive Startups and entrepreneurs.

10.5.1 Typology of Postal Fintech

The postal world is almost as diverse as the fintech world, and therefore there is no one-size-fits-all partnership for postal operators to benefit from fintech. One of the major determinants of the model is probably the level of development of the postal operator. In countries where postal operators have large financial services operations and deep pockets, investing in startups that innovate in this space is probably one of the best ways to move ahead and surf on the fintech wave. It is a risky but potentially very rewarding way to test the water. In less-developed countries, commercial partnerships between postal operators and fintech can be much simpler and a better bet, which does not require significant investment and can allow them to not only keep track of banks but in many cases to be even ahead of their local competitors.

Partnering with Fintech

Fintech companies building disruptive technologies, despite their potential to be very large companies, are for the moment typically small and medium companies with limited capital, low regulatory compliance if at all, and little in terms of network to offer services on a face-to-face basis. By contrast, posts tend to be large enterprises combining wide and far-reaching networks of physical presence with under-utilized personnel, and in many cases a regulatory license to offer financial services. These complementary differences guide us to believe that there is a clear synergy for these two types of players to work together.

There are two main approaches in the fintech industry regarding the relationship with incumbent providers of financial services, mostly banks: it is either with or against, competition or cooperation. That is, many fintech startups believe that disruption can only come from

competing directly against banks by offering products aimed at taking part of their market share in a specific segment or domain. A case in point would be the remittance startup Transferwise, which competes directly with banks and MTOs in the profitable cross-border remittance market.

The remainder offer products that come as a layer on top of existing bank services and usually consider banks and financial service providers their clients and/or allies. For instance, Juntos (previously Juntos Finanzas) teams with banks to offer their robo-advisory service for clients to take better decisions with regards to their financial products.

A third possible approach, co-opetition, has only come recently and not necessarily as a conscious move, but as a natural result of market maturity. For instance, all of the large peer-to-peer lending startups such as Lending Club, Prosper and Zopa, compete against banks in their core-business of lending. However, most of the loans originating in these platforms actually come from institutional sources such as banks and other established non-bank financial institutions. What this means is that P2P lenders are competing and benefiting from the existence of the banks. Fintech and disruptive technologies in general are a highly dynamic space where actors keep adapting to the new conditions as they appear.

Given the very recent nature of the fintech industry, and its prominent focus on the developed world, there are still very few cases of collaborations between fintech startups and postal operators to offer innovative products for financial inclusion.

We will explore in detail four of them across different geographical regions.

1. Akiba and the Benin Postal Savings Bank in Sub-Saharan Africa. In Benin, the postal network is a key actor in financial inclusion. With 188 contact points, of which 106 are full-fledged post offices, it has a countrywide outreach, including in places that banks do not reach. However, its products are not demand-based, which limits its role as a catalyzer for financial inclusion. Main limitations that the financial institution has faced in overcoming this issue are the fraud risk triggered by the lack of real time control on field cash collections and technological limitations to develop a digital product of its own. In addition, the post also faces financial constraints, although in 2014 it achieved full operational self-sufficiency. Hence, the importance of the partnership with Akiba's mobile platform and advisory services, which allows a cost-effective branchless banking solution for the collection of deposits at the microentrepreneur doorstep to ensure savings' commitment.

Akiba, a financial technology start-up built a mobile App adapted to the needs of financial institutions interested in growing their savings base by serving informal savers. Thanks to its digital solution, Akiba seeks to build bridges between informal savers and the formal financial sector therefore contributing to financial inclusion.

2. Monetas and Tunisian Post in Middle-East and North Africa. Monetas, a fintech startup from Switzerland has partnered with the Tunisian Post and a local startup called DigitUs. The partnership will allow the Tunisian Post to improve its e-dinar mobile wallet product. The use of Monetas blockchain technology will upgrade the current product used by 600,000 clients to offer instant and low-cost payments for merchants and domestic remittances (Fintech Finance).
3. KazPost and Intervale in Asia. Kazakhstan Post offers a joint solution with Intervale, a Russian company that allows cross-border transfers from card to card and card to cash. This solution is especially useful for migrants living in Russia who want to send money to their families in Kazakhstan. The App is available for iPhone and Android Phones.
4. Post Office (UK) and Advanced Payment Services (APS) in Europe. In February 2015 APS announced its partnership with the Post Office. APS is a fintech company that offers alternative banking and payments solutions. It has issued more than 1.2 million of its Cashplus cards with more than £2.5 billion processed since inception. The alliance will allow the customers of APS to use the more than 11,500 branches of the Post Office all across the United Kingdom to deposit or withdraw money from their card at any of the post locations. It is worth noting that this is the first non-bank fintech provider to partner with the Post Office in the United Kingdom. This hints at the strength of postal networks as effective partners for fintech startups like APS (Financial Times).

There are two other avenues for postal operators to take advantage of the fintech wave.

Investing in and Accelerating Fintech Startups

For large postal operators who already operate a postal bank or a postal savings bank and fear being disrupted, one of the best strategies to stay on top of innovation is to create a venture fund to invest in promising startups. Most large banks in the developed world have started to adopt this strategy. Some of them, like Barclays Bank in the UK, have created

and funded an accelerator, others like Santander have created their fintech investment arm, called Santander Innoventures. In the postal world, there are few cases of such a model being put into practice. One important exception is the French Postal Bank, which created a boutique venture fund called XAnge Private Equity in 2004 (Investment Europe 2015). XAnge has invested in 57 startups since inception and its investment thesis was focused on digital solutions that are related to postal financial services activities. Xange has since then merged with Siparex and la Banque Postale lost its 90% shares. Instead the French Post now owns 20% of the merged entity. On top of investing through its investment arm, the French Post has launched in 2014 a mechanism called "Start'inPost" which is an accelerator for startups that want to do business with a subsidiary of the French Postal Group.[2] Even though few of the accelerated startups are fintech related, this is a matter of strategy. One case worth pointing out is Heuritech, a big data analytics startup that works with banks and has gone through the acceleration process at Start'inPost. The postal bank can benefit from the machine learning advances of the startup while the post provides a large amount of data for Heuritech to improve its algorithms.

The case of the French Post, which has been building an ecosystem of collaboration with Startups for more than 10 years, is a very rare case in the postal world but one that other posts could learn from. Indeed, by investing and accelerating promising startups, the post can benefit from the more advanced technologies and incorporate them into its operations without having to build them from scratch.

Adopting Fintech Technologies Directly

In some cases, postal operators are considering adopting fintech technologies such as blockchain and implementing them directly. One case in point is the recently published report by the Office of the Inspector General (OIG) of the United States Postal Service (USPS 2016) on the possible use of a blockchain in the postal sector in the US. One of the main applications of a blockchain presented in the report is to improve the back-end of payment solutions offered by USPS such as money orders and international remittances.

Although the creation of innovative solutions by the posts as a stand-alone would be welcomed, this option is probably the least likely. Indeed, the vast majority of posts do not have an in-house capacity for disruptive innovation. Therefore, partnerships and investing into promising fintech startups seem more realistic recommendations given the current state of affairs.

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[2] Start'inPost. http://en.startinpost.com

10.6 Conclusion

Innovations brought by financial technology are set to revolutionize not only banks but also postal banks and postal financial institutions in general. Technology translates into lower costs and increased accessibility of financial products and should in theory increase financial inclusion levels in Asia and the rest of the world. However, financial technology platforms face major limitations such as lack of trust, lack of a physical infrastructure and face-to-face interaction, which are clear limiting factors to its impact on unbanked areas. Posts, through their network and logistics, can add physical value to purely virtual solutions while inspiring trust among unbanked populations. Although partnerships seem to make sense, there are few examples of alliances between posts and fintech startups. The best partnerships are the ones where both partners, startups and posts stand on an equal footing to ensure long-lasting alliances. A combination of investment and operational alliance would be ideal since it would help align the objectives of both institutions.

Postbanks and posts in general need to be leaner, more innovative, risk taking, open to win–win partnerships with startups, lest they become the first to be “wiped-out” by the wave of disruptive innovations.

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Index

NOTE: Company and brand names are listed in *italics,* whilst figures, footnotes, tables, and appendices are denoted by an italic *f, n, t* and *app* respectively. Some phrases are abbreviated: AI = Artificial Intelligence, fintech = Financial Technology, BRICS = Brazil, Russian Federation, India, People's Republic of China, & South Africa

A

Abe, Shinzō, 84
Africa. *see also* Commercial Bank of Africa
- central banks, 293
- colonial influence on postal networks, 297
- financial regulation in, 150
- mobile payment services, 324
- postal savings banks, 300
- role of postal financial institutions, 292
- technology sector, 331–2

Al-Barid Bank, 155
- assurance, 158–9, 159*f*5.2
- compared to Algerian Post, 177
- compared to commercial banks, 172
- financial services, 158–9, 177
  - pensions, 158
- licensing restrictions, 156
- market figures, 173*f*5.5
- and postal network, 157
- staff, 157

Algeria, 162–5
- economic growth, 152–3
- financial institutions, 164
- financial services, 164–5
- postal network
  - account statistics, 154
  - compared to Al-Barid Bank, 177
  - courier services, 163–4
  - liberalizing of market, 177
  - pensions and benefits, 177
- postal regulation, 153
- regulation of financial services, 147, 162–4
  - establishing laws, 163, 164*n*12

Alibaba, 318
Alliance for Financial Inclusion, 179
Amazon, 318
- AI investment, 323

Arab Spring, 152, 160
Asia; emerging nations. *see also* Association of Southeast Asian Nations (ASEAN); developing world
- adoption of European regulations, 93–4
- and Asian financial crisis, 84
- development of financial systems, 95–104
  - need for, 95–6
- economic growth, 268
- economic stability, 107
- education and technical skill, 89
- fiscal policies, 93–4
- foreign exchange reserves, 93
- international agreements, 97
- international reserves, 91
- microfinance institutions, 117
- mixed economy, 94
- nationalization of banks, 98
- population statistics, 116
- postal savings banks, 80
- promoting growth, 94–5, 268
- reliance on foreign finance, 268
- taxation, 94–5

Asian Development Bank, 90
Asian financial crisis, 82
- and capital flow, 102
- effect on growth, 93, 96
- effect on international reserves, 91
- macroeconomic stabilization, 84–93
- monetary policy, 86–7*t*3.1, 88*f*3.1
- recovery, 93
- stability, 95

Association of Southeast Asian Nations (ASEAN) 82. *see also* Asia, emerging nations
- bilateral swap arrangements, 90
- digital service development, 167–8
- establishment, 167–8
- exports, 93
- information technology plan, 179
- members, 90–1
- monetary policy, 86–7*t*3.1, 88*f*3.1

ATMs (Automatic Teller Machines)
fees, 41–2
and financial inclusion, 123, 126
and growth, 117
and payment services, 54
rural areas, 126
in Tunisia, 162
use by postal savings banks, 60
Australia
savings accounts, 55
trade with ASEAN nations, 91
Austria
postal networks, 151
protectionism, 301
Austrian Postal Savings Bank, 290, 296
Austro-Hungarian Empire, 296, 297
financial influence on developing nations, 297

B

Banco Postal, 7, 23. *see also* Brazil
bank accounts, 192
branch demographics, 194–5
customer usage statistics, 196–7
and economic development, 194, 197–200
statistics, 220*t*6.11, 220*t*6.12, 221*t*6.13, 221*t*6.14, 222*t*6.15, 222*t*6.16, 223*t*6.17, 223*t*6.18
effect on financial inclusion, 209
financial inclusion objectives, 192
loans, 197
range of financial services, 192
services by GDP per capita, 218–19*t*6.10
work with private banks, 191
Bangladesh
central bank, 309
education, 89
gender analysis, 256
labor force, 89
microfinance, 304
mobile wallets, 324
UK influence on development, 297
Bangladesh Post, 304
bank accounts. *see also* checking accounts; savings accounts
costs, 40–1
gender ratio statistics, 247
as human right, 291
Bank Al-Magrhib
establishing acts, 156
promotion of financial inclusion, 156
Bank for International Settlements, 97, 150
Bank Indonesia, 94
repression of, 96
Bank of India, 64
regulation, 150
banks, commercial. *see also* central banks; names of specific banks; postal savings banks; shadow banks; state-owned enterprises
access, 40*f*2.2
centralization, 117
competition from tech sector, 319–20, 320*f*10.2
cooperation with post offices, 54, 56, 65–6, 65*f*2.13, 231
costs of service, 320
and financial sector in developing world, 97–8
gender discrimination, 230
gender statistics, 241*t*7.7, 247
in Japan, 269
bailouts, 280*t*8.6
failures, 278–81
vs postal savings, 277–83
lobbying, 293–4
and money transfer operators, 331
vs postal savings banks, 107
in post-colonial era, 98
and technology sector, 330–1
use of savings, 81, 107
Baradaran, Mehrsa, 41
Barclays, 332–3
Basel Committee on Banking Supervision, 97
Basel III Accords, 97
Belarus, 69
Belgium
development of post office, 296
influence on former colonies, 234, 297
postal networks, 151
bilateral swap arrangements, 90, 91
Bitcoin, 322, 328
Blockchain, 322–3, 328, 332
applications, 322*f*10.4
Body of European Regulators for Electronic Communication (BEREC) 152
Brazil, 9, 183–225. *see also* Banco Postal; Correios; Exporta Fácil
employment, 197, 199
entrepreneurship, 197–8
exporters, 203*f*6.6

exports, 200–8
creation of trade, 207–8
decline, 201
impact of postal networks, 201
laws, 192–3, 193*n*3
by region, 188*t*6.2
regression, 205*t*6.4
simplification, 62–3, 189*f*6.2, 193, 200–4, 224*app*6.2
size of market, 203*f*6.7
value, 202*f*6.4, 202*f*6.5
financial access by region, 188*t*6.3
financial and trade exclusion, 185–90
and information technology, 187
by region, 187*f*6.1
financial demographics by region, 188*t*6.1
financial inclusion, 191–3, 317
by agency, 214*t*6.6
by GDP, 215*t*6.7, 216*t*6.8, 217*t*6.9
statistics, 7, 23, 212*app*6.1, 213*t*6.5, 214*t*6.6
financial infrastructure, 186
foreign courier companies, 204
government investment, 184–5
income inequality, 185–6
and financial access, 195–6, 209
local economic development, 197–200
in rural areas, 200
sustainability, 200
micro-enterprises, 197, 200
pensions and benefits, 186
postal financial services, 150
Postal Law, 63
Bretton Woods Institution, 302
BRICS, 1
Development Bank, 90
Brunei Darussalam, 90
Burundi
female financial inclusion, 257
financial education, 262
gender analysis, 256
business models, 14*t*1.2, 41
digital services, 52
direct providers, 51–3
institutional arrangements, 44–8
mobile services, 49–53, 52–3
ownership, 48–9, 48*f*2.6
areas of responsibility, 51*f*2.7
support services, 50–1
types, 42–4, 45*f*2.3
usage statistics, 46*f*2.4

C
Cambodia, 90
Canada
financial inclusion, 69
financial regulation, 150
central banks
in Africa, 293, 310
of Bangladesh, 309
bilateral swap arrangements, 90
control of liquidity, 85
financial regulation by, 150
interest rates, 83, 97
and postal savings banks, 80–1, 231
checking accounts, 47, 55
different models, 55
gender statistics, 226, 230
Chiang Mai Initiative, 90–1
China, People's Republic of, 90. *see also* Postal Savings Bank of China
and the Asian financial crisis, 82–3
banking sector, 98
control of economy, 89, 96–7
credit policy, 81
economic growth, 91
education, 89
financial inclusion capacity index, 76–7
foreign exchange reserves, 89
foreign-owned financial institutions, 98
industrialization, 91
information technology, 320
as international market, 96
labor force, 89
loans and GDP, 102
mobile payment services, 325
postal account statistics, 36
postal reform, 117
protectionism, 301
shadow banks in, 102
Colombian postal network, 38
Commercial Bank of Africa, 326
cooperatives, 277
access, 40*f*2.2
credit, 191, 327
in Indonesia, 103, 105
Correios, 38, 49
banking services, 63
compared to other Latin American posts, 184
cooperation with banks, 49, 306
economic impact, 185
and export markets, 193, 201, 202–4

vs Exporta Fácil, 204*f*6.8
financial access, 189
financial inclusion policies, 193–208, 209, 306
data gathering, 194
innovation, 191
international competition, 204
offices and locations, 189–90, 190*f*6.3, 192
public trust in, 190
as trade facilitator, 184
Côte d'Ivoire, 324
credit, 2, 56–7. *see also* loans
bank/post office cooperation, 56
cooperatives, 191, 327
importance of access, 196–7
licensed credit, 57
microfinance institutions, 56
and mobile financial services, 327
unlicensed loans, 56
crypto-currencies, 321–2
Czech Republic, 151

D

deficit, 80, 82, 84, 99–100, 110
in developing world, 82
and growth, 107
and inflation, 93–4
of trade, 153
Deutsche Postbank, 299
acquisition by Deutsche Bank, 300
licensing, 299–300
market share, 300
developing world. *see also* Asia; emerging nations
budget deficits, 82
vs developed, 239, 240*t*7.5, 240*t*7.6, 241*t*7.7, 242, 248
financial inclusion, 291
statistics, 10
financial inclusion capacity index, 69–70, 70*f*2.15
gender and financial inclusion, 227, 247, 256, 262
statistics, 40
insurance in, 55
and mobile money networks, 49
postal networks, 1, 39, 154
unlicensed, 14, 244
regulatory frameworks, 147, 151
risk aversion, 292
rural populations, 184
digital services, 52. *see also* financial services; payment services; VISA
automation, 61, 62*f*2.11
connectivity, 60, 61*f*2.10
electronic postal orders, 54
e-loans, 197*n*5
in Germany, 299
and growth, 116–17, 295
importance to financial inclusion, 60–1
mobile wallets, 324–5
remittances, 129–30
telephone banking, 297
in Tunisia, 162

E

Ease of Doing Business Index, 132
economic inequality. *see also* poverty
in Brazil, 185–6
and financial access, 195–6, 209
and female financial inclusion, 246
and growth, 149
postal financial services, 292
statistical measures, 246
electronic payments. *see* digital services
emerging nations. *see* Asia, emerging nations of employment. *see also* labor market
and account ownership, 22, 39, 250
effect of financial access, 209
gender inequality, 226, 228
and inflation, 85
microfinance, 161
self, 161
unemployment, 89
European Financial Stability Mechanism, 93
European Regulators Group for Postal Service, 147, 152
European Union
agreements with Morocco, 155
deregulation of financial sector, 301
directives on banking, 291
financial regulation in, 150
market integration, 289–90, 297–8
Postal Directives, 297–8
postal networks as public services, 298
Eurozone. *see also* Maastricht Treaty
dealings with ASEAN, 91
as model of financial development, 106

exchange rate. *see also* Nominal Effective Exchange Rate (NEER); Real Effective Exchange Rate (REER)
  depreciation, 93
  and exports, 208
  fixed, 84, 89, 102
  flexible, 82, 90
  and foreign finance, 268
  and growth, 84
  and monetary policy, 89
  risk, 92
Expedia, 318
Exporta Fácil, 62–3, 193, 194, 201–4, 224*app*6.2
  vs Correios, 204*f*6.8
  statistical analysis, 225*t*6.19
  value of trade, 210
exports
  ASEAN countries, 93
  Brazil, 200–8
    decline, 201
    impact of postal networks, 201
    laws, 192–3, 193*n*3
    by region, 188*t*6.2
    simplification, 62–3, 189*f*6.2, 193, 200–4
external reserves, 91–3

F

Facebook, 318
  AI investment, 323
FEDEX, 289
financial inclusion, 7–29, 36–79. *see also* gender and financial inclusion; Global Findex; *Global Panorama on Postal Financial Inclusion, 2016* (periodical)
  access, 38–9, 39*f*2.1
    in Brazil, 194–200
    by type of institution, 40*f*2.2
  affordability, 40–1
  in Asia, 123–4
  in Brazil, 7, 191–3
  business models, 14*t*1.2, 33*app*1.2, 41–53
  capacity index, 68–78
    considered factors, 68
    in developing world, 69–70, 70*f*2.15
    global leaders, 68–9, 69*f*2.14
    and income, 70–5, 71*f*2.16, 72*f*2.17, 73*f*2.18, 74*f*2.19, 75*f*2.20
    by region, 75–78, 76*f*2.21
  competing authority, 148*f*5.1
  and costs, 303
  by country, 11*f*1.1, 13–15, 24–8*t*1.4, 30–2*app*1.1
  and creation of trade, 208
  definitions, 34–5*app*1.3, 37
  demographics, 36–7, 117
  in developing Asian nations, 108–9*t*3.3
  eligibility, 39–40
  emergence as priority, 301–3
  global, 36
  government policy options, 303
  IMF measures of, 15
  individuals, 9–13, 17–22*t*1.3
  during Industrial Revolution, 290
  and inter-institution cooperation, 8
  in Japan, 291
  mathematical formulae, 15–16
  and mobile wallets, 325
  need for regulatory coordination, 118
  postal networks as aid, 174
  postal savings banks, 80
  role of postal networks, 262
  role of regulation, 147–80
    case studies, 153*t*5.1
  statistics, 10, 13
  success factors, 57–67
    connectivity and automation, 60–1
    efficiency, 60
    government support, 61–2
    marketing, 66–8
  success stories, 317
  technology
    importance of, 329–34
    as solution, 325–9
  unbanked population, 1
  World Bank measures of, 15
financial services. *see also* digital services; payment services
  as % of postal revenues, 290
  in Asian postal networks, 124–31
  and diversification of post offices, 128
  and economic development, 95
  funding expansion of, 131–3
    socio-economic indicators, 142–4*app*4.3
  and gender, 231–4
  and mobilization of savings, 95
  and post offices, 47–8
  vs postal & courier services, 131
  recent developments, 303–7

reforms, 307–8, 312–14*app*
regulation, 64*f*2.12
adaptation to trends, 151
after financial crisis, 301
in developed economies, 151–2
historical regional differences, 150
ideological approach, 149
information technology, 151
lack of data, 148*n*1
lack of study, 147
by the state, 149
and risk, 95
size, by country, 100–1*t*3.2
in United States, 319*f*10.1
financial technology (fintech). *see also* Blockchain; crypto-currencies; Fintech Adoption Index; information technology
adoption of, 334
competition with banking sector, 319–20, 320*f*10.2
investment, 332–3
limitations, 328–9
lack of infrastructure, 329
lack of public trust, 328
need for developed economy, 329
rural areas, 328
tech literacy, 328
platforms, 319–20
benefits, 320, 326–8
reasons for adoption, 321*f*10.3
regulation, 326
revolution, 318–21
as solution to financial inclusion, 325–9
Finland
postal savings history, 8
protectionism, 301
Finland Post
withdrawing of financial services, 298
Fintech Adoption Index, 320
fiscal policy, 93–5
and Asian financial crisis, 86–7*t*3.1
formulae, 93
objectives under exchange rate regime, 89
foreign exchange reserves
People's Republic of China, 89
reasons for increasing, 90–2
and speculation, 92–3
France. *see also* French Post
anti-discrimination laws, 257
development of post office, 296
financial inclusion statistics, 69
financial regulation, 151, 309
gender analysis, 256
influence on former colonies, 147, 234, 297
post office credit, 57
protectionism, 301
French Post, 151
account migration after financial crisis, 303–4
financial arm, 304
investment in technology, 333
financial products, 152
innovation, 296
minimum deposit amounts, 262
public trust in, 302
subsidies, 152

G
Gabon
gender analysis, 256
postal network, 67
Gates, Bill, 295
on fintech revolution, 325
gender and financial inclusion, 39, 40, 226–67
account shares, 237–62, 263
correlation analysis, 237–48, 238–9*t*7.4, 240*t*7.5, 240*t*7.6, 241*t*7.7, 243*t*7.8, 245*t*7.9, 247*t*7.10
developed vs undeveloped countries, 240*t*7.5, 240*t*7.6, 241*t*7.7
postal financial services, 231–4
qualitative analysis, 256–62 259–61*t*7.13
regression analysis, 248–55, 251–2*t*7.11, 253–4*t*7.12
costs, 229
cultural norms, 229
data, 234–7
demand, 244–7, 247*t*7.10
in developing countries, 256, 262
and education, 246
employment, 242
female specific services, 256–7
income and property, 228
legal restrictions, 229–30
literature, 228
and marketing, 256
post office use, 117, 227
and branch density, 241, 243*t*7.8, 245*t*7.9
statistics, 236*t*7.2, 237*t*7.3

Post Offices vs financial institutions, 263
in rural areas, 227, 229–30
statistics, 227, 238*t*7.4
supply, 229–30, 241–4
unlicensed savings banks, 244
gender inequality
anti-discrimination laws, 257
childcare and domestic labor, 229
discrimination, 230
and education, 227, 229
in labor market, 226
life expectancy, 246
and loans, 226
metrics, 244*n*2
physical segregation, 229
property rights, 228
Germany. *see also* Deutsche Postbank
protectionism, 301
public trust in postal network, 302
reunification, 299
Gladstone, William, 290, 296
Glass-Steagal Act, 1934, 98
global financial crisis
effect on financial regulation, 149, 301
effect on postal financial services 300
and stability, 95
Global Findex, 58. *see also* financial inclusion
gender data, 234, 257
on mobile money accounts, 324
usage of data, 10, 28
Global Panorama on Postal Financial Inclusion, 2016 (periodical) 2, 36–79
Google
Adwords, 318
AI investment, 323
Great Depression, 302
Greece, 235, 298
GSM Association, 38

H
Hong Kong, 96
Human Development Index, 132

I
India. *see also* Bank of India
economic growth, 91
economic reforms, 97
education, 89
financial inclusion capacity index, 77
gender analysis, 256
industrialization, 91
insurance, 55
labor force, 89
postal network, 58
financial services model, 64
postal reform, 117
protectionism, 301
UK influence on development, 297
Indonesia, 90. *see also* Bank Indonesia
and the Asian financial crisis, 83
banking reforms, 102–4
cash-based economy, 106
Chiang Mai bailout, 90–1
colonial era, 103, 104
compared to other ASEAN nations, 99
digital remittance services, 129
Dutch influence on development, 297
education, 89
financial regulation, 97, 99
fiscal policy, 94
foreign exchange reserves, 93
foreign-owned financial institutions, 98
labor force, 89
loans and GDP, 102
population, 106
postal network, 104–5
market share, 124–5
postal reforms, 117
postal savings, 81
credit, 105–6
insurance, 105, 106
traditional cultures, 98
Industrial Revolution, 289–90
and development of postal networks, 295
financial inclusion during, 290
industrialization
and Asian financial crisis, 96
of People's Republic of China, 91
of India, 91
inflation
in Algeria, 153
determining rate, 88–9
and fiscal policy, 83, 93, 94, 97
in Indonesia, 94, 97, 105
and interest rates, 84–5
and macroeconomic stability, 85–8
market-based, 82
and taxation, 83

information technology, 8–9, 317–37. *see also* Blockchain; crypto-currencies; financial technology (fintech); Fintech Adoption Index; telecommunications industry
artificial intelligence, 323–4
and ASEAN Community, 179
big data, 323–4
and expansion of financial services, 132, 310
financial inclusion, 1
innovation, 290, 318
and liberalization of postal finances, 297
mobile wallets, 324–5
in rural Brazil, 186–7
smartphones, 325, 326–7
insurance, 55–6
against bank runs, 104
deposit system, 95
developed vs developing world, 55
in Morocco, 158
postal savings, 105–6
Integrated Index for Postal Development, 154
interest rates
central bank control, 83, 97
and growth, 84
in Indonesia, 99
and inflation, 84–5
international, 91–2
in Japan, 80, 91, 278, 284
negative, 80–1
and postal savings banks, 107
reduction of, 96
subsidies, 80, 99
in Viet Nam, 167, 170
International Labour Organization (ILO) 55
International Monetary Fund (IMF) 38, 90
Financial Access Survey, 15
in Morocco, 155–6
Iraq, 297
Ireland
EU judgments on postal finances, 298
financial inclusion, 10
Italy. *see* Poste Italiane

J

Japan, 90. *see also* Japan Post Group
agriculture, 277
bank failures, 278–81
bailouts, 280*t*8.6
banking limitations, 269
and Basel III Accords, 97
development of post office, 296
economic growth, 271, 274
electronic payment services, 165, 169
financial inclusion, 10, 268–86, 291
capacity index, 69, 77
financial regulation, 97
Fiscal Investment and Loan Program, 106, 268, 271–2
abolishment, 283
funds, 275–7
government bonds, 283–4
household savings, 270
housing loans, 274–5, 275*f*8.4, 276*f*8.5
industry
infrastructure, 272–4
investments, 274*t*8.2
policy, 272
subsidies, 273*t*8.1, 274
insurance, 55
interest rates, 80, 91, 278, 284
market separation, 290
Ministry of Finance, 268
as model of financial development, 1, 106
postal financial inclusion, 2–3
postal network, 277
financial stability, 150–1
postal reform, 117
protectionism, 301
regional banking statistics, 277–8, 281, 282*t*8.7
social history, 270
social welfare system, 271
three arrows economic program, 84
trust funds, 107
Japan Post Group, 80
branch network, 284
vs commercial banks, 277–83 278*t*8.4
demand for, 279*t*8.5
development, 269–71
establishment, 283
investments, 283
privatization, 290–1
profit margins, 283, 284*t*8.8
reforms, 283–4
size, 268, 269*f*8.1
subsidiaries, 283
usage, 272*f*8.3

K
Kazakhstan, 306
  financial regulation, 309
  mobile monetary transfer operators, 332
  postal payment services, 129–30
  remittances, 125
Kenya
  microfinance, 325
  mobile wallets, 324, 325
  payment systems, 149
  postal network, 49, 50*n*4
  savings accounts, 55
Kiwi Bank, 305, 309
Korea Post, 304
Kyrgyz Republic, 125

L
labor force
  of ASEAN members, 89
  effects of surplus, 91
labor market. *see also* employment
  in Brazil, 197–8, 199
  gender inequality, 226
Lao PDR, 90
  money transfer operators, 126
  postal network, 125
Lastminute, 318
Latin America
  postal markets, 302
  postal network comparisons, 184
Latin American Reserve Fund, 93
Lebanon, 297
Lien Viet Postbank, 168–70
  central bank regulation, 169
  digital banking, 169
  financial services, 168–9
  loans, 169*f*5.3
  mobile services, 178
  performance statistics, 175*f*5.6
loans. *see also* credit
  as % of GDP, 102
  in Brazil, 197
  and gender, 226
  in Japan, 268, 274–5, 275*f*8.4, 276*f*8.5 278, 283
  P2P lenders, 331
  and technology sector, 331
  unlicensed, 56
  in Viet Nam, 154, 169*f*5.3, 171*f*5.4
Luxembourg, 10

M
Maastricht Treaty, 93–4. *see also* Eurozone
Maejima, Hisoka, 271
Maghreb Post, 154
  electronic services, 155
  financial inclusion, 174
  financial subsidiary, 155
  founding, 154
  monopoly, 155
Malaysia, 90
  banking sector, 98
  foreign-owned financial institutions, 98
  loans and GDP, 102
  postal savings, 81
  state control of economy, 96–7
Mali, 298
marketing
  customer needs, 66–7
  data analysis, 67
  financial inclusion, 66–8
  and gender, 256
  importance, 66
  of insurance, 158
  products and brands, 67–8
  of remittances, 120–1, 124, 133
  tools, 67
Marr, Robert, 323
Mauritania, 256
McKinsey Global Payments Map 121*f*4.1
microfinance institutions, 7
  access, 40*f*2.2
  in Asia, 117
  in Bangladesh, 304
  in Brazil, 191
  in People's Republic of China, 307
  credit, 56
  and employment, 161
  and gender inclusion, 262
  in Morocco, 158, 174
  remittance market, 119–20
  and ROSCAs, 262
  in Tunisia, 160
  in urban areas, 119
mobile financial services. *see* digital services
mobile money agent networks, 126
mobile network operators, 129, 324–5
monetary policy. *see* fiscal policy

money transfer operators (MTO) 2
and banks, 331
costs, 126
dominant services, 130
in Indonesia, 125
in Laos, 126
MoneyGram, 130
Mongol Postal Bank, 36
Mongolia, 36
Monterrey Consensus, 2002, 302, 307
Morocco. *see also* Al-Barid Bank; Bank Al-Magrhib; Maghreb Post
banking market, 177
economic growth, 152–3
establishment of postal bank, 156–7
and the EU, 155
financial inclusion strategy, 155–6, 317
financial regulatory framework, 154–5
microfinance institutions, 158, 174
mobile banking, 178–9
postal network, 53
compared to Vietnam's, 172–4
marketing, 67
poverty, 153
regulation of financial services, 147
remittance inflows, 154
Myanmar, 90
postal network, 125

N
Nairobi Postal Strategy, 303
Namibia, 305–6
central bank, 310
credit, 56
financial inclusion, 36
mobile wallets, 324
National Postal Operators. *see* post offices
Nepal, 125
Netherlands, 301
development of post office, 296
influence on former colonies, 297
liberalization of postal network, 298–9
postal financial inclusion, 150
New Zealand Post Office, 305
Nominal Effective Exchange Rate (NEER) 92
nongovernment organizations (NGOs) 257
Norway, 301

O
oil market, 152
Okun's Law, 85, 89
developed economies, 89
Oliveira, Maria Paula, 325*n*1

P
Pakistan, 235
payment services, 54–5. *see also* digital services; financial services; remittances
and ATMs, 54
bills and government payments, 54–5
electronic postal money orders, 54
"giro" system, 290, 296
global map, 121*f*4.1
innovations, 290
international remittance, 54
mobile wallets, 324–5
and telecoms industry, 298
types of payment, 54
Peru, 38, 204
Philippines, 90
banking sector, 98
foreign-owned financial institutions, 98
population density, 106
Phillips Curve, 85
Poland, 256
Portugal, 48
postal networks, 151
post offices. *see also* business models; digital services; financial inclusion; postal networks
account statistics
by country, 11*f*1.1
gender ratios, 247
in Asia, 116–17
automation, 61
benefits of modernization, 136
business development, 133
business models, 14*t*1.2, 41
and central banks, 8, 231, 293
client diversity, 263
compared to other financial institutions, 38
access, 40*f*2.2
costs of developing, 60
as direct providers, 51–3
diversification, 127–8, 128*t*4.4
diversity of, 42

early history, 1, 8, 295–7
contributing factors, 295–6
products offered, 296
financial management, 133
financial products, 53–7, 231
checking accounts, 55
credit, 56–7
female specific, 256–7
insurance, 55–6
payment services, 54–5
savings accounts, 55
financial vs courier services, 47–8, 131
and gender, 227
employment, 242
global reach, 38
importance to global finance, 36–7
inter-institutional cooperation, 65–6, 65*f*2.13
in the late 20th century, 297–301
liberalization of, 297–301
money transfer orders, 130
vs other financial institutions, 117
performance indicators, 140–1*app*4.2
private vs public ownership, 294
public trust in, 190, 296, 302
real estate locations, 127
regulatory framework, 132–3, 330
role in financial inclusion, 262
and rural financial inclusion, 117
stability during financial crises, 150–1
staff training, 133
as state-owned enterprises, 293–4
as support services, 50–1
technology, 133, 330–2
partnerships, 330–1, 332
universality of, 36
postal money orders
history of, 129
international, 129
market share, 129
modernization, 149–50
treaties regarding, 296
postal networks. *see also* post offices; individual countries
access to, 38–9
in Asia
challenges to, 127
customer numbers, 131
financial services, 124–31
limitations, 125
size, coverage and density, 124–7, 126*t*4.3
underutilization, 135
as asset to financial inclusion, 174
connectivity, 60
density, 58–9, 58*f*2.8, 59*f*2.9
in developing world, 39
need for reform, 117
efficiency, 60
global coverage, 58
global statistics, 38
history of financial inclusion, 1
importance of infrastructure, 297
importance to financial inclusion, 57–60
vs other financial institutions, 126
remittance products, 129–31
role in tackling financial inclusion, 1
Postal Savings Bank of China, 306
microfinance, 307
social objectives, 306–7
postal savings banks. *see also* savings accounts
account statistics, 232–3*t*7.1
in Africa, 300
in Brazil, 9
business model, 8
and central banks, 231
compared to other banks, 107
cost efficiency, 281–3
in developing world, 234
development of, 104–7, 291
costs, 104
in Japan, 269–71
and financial inclusion, 80, 110, 310
in Indonesia, 104–5
interest rates, 107
licensed vs unlicensed, 234 299–300
gender differences, 244
licensing, 13–14, 14*n*10, 231–2
liquidity, 80
partnerships with commercial banks, 231
as payment points, 107
receiving remittances, 130–1
in rural areas, 234
and stability, 2
Poste Italiane, 48
composition, 304–5
digital platform, 53
financial crisis, 300
liberalization, 304–5

mobile services, 317
public service obligation, 152
public trust in, 302
sale of, 151–2
share sales, 307
PostFinance, 56
Postransfer, 129
poverty
and financial inclusion, 149
in Morocco, 153
reduction of, 95, 178, 192, 194
statistics, 153*t*5.1
and trade, 207
Prescott, Edward, 297
protectionism, 301–2
PT Pos Indonesia, 104

R
Reagan, Ronald, 291, 307
Real Effective Exchange Rate (REER) 92
remittances, 116–46. *see also* McKinsey Global Payments Map; payment services; postal money orders
Asian market, 118–23
as % of GDP, 119*t*4.1
cash vs cashless, 134
costs, 119–20, 122*t*4.2, 125
digital services, 134
estimated size, 120
growth, 118
migrants, 118, 134
cash-out, 126
first global system, 1
key data, 137–9*app*4.1
marketing of, 120–1, 124, 133
microfinance institutions, 119–20
national differences, 130
range of services, 135
role in larger economy, 120–2
worker inflows, 154
Republic of Korea, 90. *see also* Korea Post
banking sector, 98
financial regulation, 97, 309
foreign-owned financial institutions 98
gender analysis, 256
loans and GDP, 102
protectionism, 301
retail industry, 318–19
online, 2
RIA Money Transfer, 130
risk
assessment, 151–2
developed vs developing countries, 329
in developing world, 292
diversification, 95
and exchange rate, 92
and financial development, 95
and fintech platforms, 328, 330
licensed credit, 57
management processes, 64, 90
and remittance market, 121
and state-owned enterprises, 99
Romania, 151
Rotating Savings and Credit Associations (ROSCAs) 258–9, 258*n*3
and microfinance, 262
Royal Postal Savings Bank, 8
rural areas
access to technology, 186–7
economic development
in Brazil, 197–200
and remittances market, 118
financial services, 307
financial technology platforms, 328
gender and financial inclusion, 227, 229–30
Japan, 277, 290–1
migration to urban centres, 230
postal access, 122, 257–8
postal savings accounts, 308
and postal savings banks, 234
vs urban, 13, 22, 126*t*4.3
Russian Federation
checking and savings accounts, 55
financial crisis, 292, 306
government investment, 308
public trust in post office, 302
Russia Post, 305

S
Santander, 333
savings accounts, 55. *see also* postal savings banks
in Japan, 269–70
mobilization of, 81, 95, 107
Senegal
credit and loans, 56
postal network, 52–3, 60
Serbia, 69–70
shadow banks
vs capital market, 102
in People's Republic of China, 102

definition, 81*n*1
vs postal savings banks, 107
Shimaji, Raiden, 270
Singapore, 90
digital remittance services, 129
information technology, 319–20
as international market, 96
international markets, 94
state-owned enterprises, 94
SingPost, 52
Skinner, Chris, 320–1
Somalia, 324
South Africa
gender analysis, 256
Post Office, 305
state-owned enterprises, 83–4, 94–5, 293
in Algeria, 176–7
in Indonesia, 94, 96, 99
in Malaysia, 96–7
and market development, 176*f*5.7
in Northern Africa, 154
in Russian Federation, 308
in Singapore, 94
in Tunisia, 176–7
in Viet Nam, 170, 177
Stiglitz, Joseph, 301–2
Suharto, 96, 99, 103
Sweden, 298
Swiss Post
account migration after financial crisis, 303–4
account statistics, 304
composition, 304
and financial crisis, 300
Switzerland, 301
credit and loans, 56
financial inclusion statistics, 69
financial regulators, 152
public trust in postal network, 302
regulation of postal financial services, 151
Syria, 297

T
Taft, William Howard, 62, 296
Tajikistan postal network, 125
Tanzania, 324
tariffs, 301–2
taxation
in emerging nations, 94–5
and gender, 229
and inflation, 83
Taylor, J.B. 84
Taylor's Rule, 84, 89
technology. *see* information technology
telecommunications industry, 1–2, 298
and payment services, 297, 324–5, 325–6
Thailand, 90
banking sector, 98
Chiang Mai bailout, 90–1
loans and GDP, 102
mobile payment services, 325
population density, 106
savings accounts, 55
Thatcher, Margaret, 291, 307
time-use studies, 229
TransferTo, 129
Tunisia
ATMs, 162
economic growth, 152–3
electronic payments, 162
financial inclusion strategy, 160–1, 174
financial services, 162
regulation of, 147, 159–60
gender analysis, 256
mobile banking, 154, 178
postal law, 160
postal network, 51
banking license, 161
regional comparisons, 160
technology sector, 332
Turkey, 235, 297
Twitter, 318

U
Uber, 318
Uganda, 324, 325–6
unemployment. *see* employment; labor market
United Arab Emirates, 154
United Kingdom
development of post office, 296
EU judgments on postal finances, 298
Girobank, 296
history of post office savings, 36, 270
influence on former colonies, 297
as model for financial development, 1, 97, 297
post office, 1
account statistics, 12*t*1.1
advanced payment services, 332

lack of financial services, 296
savings accounts, 290
protectionism, 301
United Nations
Blue Book, 302–3
Department of Economic and Social Affairs, 292, 295
development goals, 294, 294*n*4
International Conference on Financing for Development, 392
Sustainable Development Goal, 122
aim, 123
and regulation of financial services, 149
United States
Community Reinvestment Act, 302
financial regulation, 98
financial services and GDP, 319*f*10.1
postal history, 62
postal savings, 302
protectionism, 301
United States Postal Service (USPS) 289
lack of financial services, 296
Universal Postal Union (UPU) 1, 8, 28, 55
branch density, 241
on business models, 42
designated operators, 37
financial inclusion statistics, 13
financial inclusion strategy, 303
financial services statistics, 290*n*2
founding, 8, 290
postal money orders, 129
publications, 37
research on infrastructure, 297
UPS, 289
urban areas
bank account statistics, 234, 237*t*7.3
branch density, 242
Brazil, 197, 208
financial inclusion, 10, 229
gender statistics, 248, 249–50
in Indonesia, 103
Japan, 279
and microfinance institutions, 119
migration from rural areas, 230
postal access, 122
and postal business model, 42
postal coverage, 124
real estate value, 103, 279, 281*f*8.6
vs rural, 13, 22, 126*t*4.3
statistical bias, 89
USSR, 296, 297. *see also* Russian Federation

V

Valiant Bank, 56
Viet Nam, 90, 165–74. *see also* Lien Viet Postbank
account statistics, 154
banking sector, 98
economic growth, 147, 152–3, 165
financial inclusion strategy, 166–7, 174
financial institutions, 167
interest rates, 167, 170, 178
loans, 154
mobile banking, 178
regulation of financial services, 147, 165–6
remittance inflows, 154
Vietnam Bank for Social Policies, 170–2
electronic payment services, 171
establishment, 170
loans, 171–2, 171*f*5.4
state ownership, 170
Vietnam Post
compared to Morocco's, 172–4
compared to other ASEAN postal networks, 154
courier services, 166
state ownership, 166, 177
Vietnam Postal Savings Company, 166
VISA, 52

W

Wall Street Journal (periodical), 320
Western Union, 130
on EU payment directives, 294
modernization of money orders, 149
in Morocco, 158
workforce. *see* labor force
World Bank
Development Indicators, 15
Financial Sector Assessment Program, 156
gender data, 234
lack of interest in post offices, 297
and Lien Viet Postbank, 169
in Morocco, 155–6
on postal networks, 58
on remittance market, 118

study on postal networks, 292–3
Women, Business and Law database, 228
World Savings Bank Institute (WSBI) 293–4, 293*n*3
on financial inclusion in developing world, 295
financial inclusion initiatives, 303
World Trade Organization (WTO) 83
WorldRemit, 129

Y
Yemen
financial inclusion, 258
gender analysis, 256

Z
Zambia, 57
Zimbabwe, 324

Postal Savings

Reaching Everyone in Asia

Rapid economic growth in Asia has been going hand in hand with increased savings. However, many Asians still lack access to bank accounts. Another problem is that domestic savings are often invested abroad, not domestically. An improved mobilizing of domestic financial resources is therefore crucial to secure funding for the continuation of Asia's growth. Asia thus urgently needs to explore new strategies to improve financial access. One important option is postal financial inclusion. This volume explains the benefits and needs of postal financial inclusion in Asia, presents different strategies of postal financial inclusion ranging from a simple model of postal savings to full-fledged banking services, assesses national regulations needed to expand postal financial inclusion, studies the challenges and opportunities arising from new technologies, and derives policy recommendations that are relevant to developing Asia in terms of promoting postal financial inclusion in the region.

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The Asian Development Bank Institute, located in Tokyo, is the think tank of the Asian Development Bank. The institute aims to identify effective strategies to improve policy and development management in Asia and the Pacific. We work with an extensive network of partners in the region and globally to influence policies on poverty reduction, inclusive growth, the environment, regional cooperation, infrastructure development, middle-income countries, and private sector development.

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