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FS SERIES #6: DEVELOPING CORPORATE BOND MARKETS IN EMERGING ECONOMIES

PRIMER

DECEMBER 2009

This document was produced for review by the United States Agency for International Development. It was prepared by Chemonics International Inc. for the Financial Sector Knowledge Sharing Project, delivery order number EEM-E-03-05-00006-00.

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

CONTENTS

Acronyms i
Introduction ii
Executive Summary iii

Primer 1

A. Definition and Description of Financial Intermediation Using Capital Markets 1
- A1. Overview of Capital Markets and the Financial Sector 1
- A2. Overview of Bond Markets 3
- A3. Issuers 4

B. Essential Legal Infrastructure 16

C. Essential Financial Infrastructure 18
- C1. Issuers and Institutional Investors 18
- C2. Regulated Exchanges, Regulators, Broker-Dealers, Depository, and Custodian 21

D. Summary of Lessons Learned and Approaches Used 23

E. Case Studies and Lessons Learned for Replication in Emerging Economies 30
- E1. Case I: Kazakhstan 30
- E2. Case II: Ukraine 34
- E3. Case III: Moldova 38
- E4. Case IV: Jordan 40

F. Summary of Pertinent Policy, Regulatory, Institutional Market Infrastructure, and Capital Market Issues as Enablers for Corporate Bond Issuances 44
- F1. Policy Initiatives 44
- F2. Legal and Regulatory 45
- F3. Market Infrastructure 46
- F4. Issues for Capital Market Development 47

G. Final Note: Impact of the Financial Crisis 48

Annexes
- Annex A. Glossary 50
- Annex B. Bibliography 63

ACRONYMS

AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
ABS	asset-backed security
AIMR	Association for Investment Management and Research
BD	broker-dealer
CML	certified mortgage lending
CMO	collateralized mortgage obligations
COTR	contracting officer's technical representative
DCA	Development Credit Authority
GDP	gross domestic product
IAIS	International Association of Insurance Supervisors
IAS	international accounting standards
IFI	International Financial Institute
IFRS	international financial reporting standards
IG	investment-grade
IMF	International Monetary Fund
IO	interest-only
IOSCO	International Organization of Securities Commissions
IPO	initial public offering
KASE	Kazakhstan Stock Exchange
KMC	Kazakhstan Mortgage Company
LIBOR	London Interbank offered rate
LTV	loan-to-value
MBS	mortgage-backed security
MSOW	model scope of work
NBFI	non-bank financial institutions
NBK	National Bank of Kazakhstan
NSC	National Securities Commission (Kazakhstan)
NYSE	New York Stock Exchange
OECD	Organization for Economic Co-operation and Development
OTC	over-the-counter
PO	principal-only
QSPE	qualified special-purpose entity
REMIC	real estate mortgage investment conduits
RMBS	residential mortgage-backed security
SEC	U.S. Securities and Exchange Commission
SIFMA	Securities Industry and Financial Markets Association
SME	small- and medium-sized enterprises
SOW	statement of work
SPV	special-purpose vehicle
TNA	training needs assessment
USAID	United States Agency for International Development
USG	United States government

INTRODUCTION

The United States Agency for International Development (USAID) Bureau for Economic Growth Agriculture and Trade (EGAT) created the Financial Sector Knowledge Sharing Project (FS Share) to collaborate with USAID missions to develop effective and efficient financial sector programs that increase access to financial services and develop well-functioning markets worldwide. USAID awarded Chemonics International, Inc. the FS Share delivery order under the Financial Sector Blanket Purchase Agreement. FS Share has a three-year period of performance, July 2008 through July 2011.

Through the FS Share Task Order, USAID/EGAT and Chemonics proactively collaborate with missions to identify financial-sector priorities and develop strategies and programs for growing the financial sector. FS Share identifies financial-sector best practices and aggregates them through model scopes of work (MSOW), primers, diagnostic tools, best practice case analyses, and other tools. These deliverables are disseminated to USAID missions for use in financial-sector programs. FS Share can assist with implementation and connect mission staff to external resources on best practices. In response to mission demand, FS Share delivers presentations and other knowledge-sharing endeavors.

Objective of this FS Series

The objective of this FS Series, *Developing Corporate Bond Markets in Emerging Economies* is to provide U.S. government (USG) program designers with a basis of technical understanding of corporate bond issuances and approaches to developing a sustainable corporate bonds market in emerging economies. The FS Series includes a Primer, a Diagnostic Checklist, and an MSOW. The primer introduces financial intermediation using capital markets, provides an analysis of lessons learned and approaches from existing literature, resources and the first-hand experience of the authors, and presents four representative case studies. The diagnostic checklist is designed for USG programmers to use to make a preliminary evaluation as to whether the fundamental legal and regulatory, market, and governmental support pre-conditions are in place for developing a viable and sustainable corporate bond market. The MSOW provides sample language to integrate into effective programming. **This is the primer.**

This FS Series was developed by FS Share subcontractor PRAGMA Corporation. The FS Series was reviewed and edited by Chemonics International.

FS Share Rapid Response Hotline

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EXECUTIVE SUMMARY

A. Development of Corporate Bonds in a Post-Crisis Environment: Challenges and Opportunities

The authority for developing corporate bond markets in emerging markets stems from a thorough understanding of how bond markets work, an understanding of the preconditions necessary to establish such a market, and how to apply the building blocks of market development to ensure sustainable growth. It also comes with tacit acknowledgement that, though the American financial system has weaknesses, its strength is that we learn from our mistakes.

Specifically, this primer describes the relationship of the bond market to the financial sector and its importance in financing long-term corporate growth. The primer describes the universe of bonds, differentiates the kinds of corporate securities that can be issued, and provides a detailed description of each. It includes a description of the preconditions needed to sustain a corporate bond market and what to do if these are missing. Equally important, the primer is designed to help USG programmers determine if the essential preconditions exist to support corporate bond development or if they need to be established before designing such a program.

The preconditions are drawn from case studies of corporate bond development in Kazakhstan, Ukraine, Moldova, and Jordan, and experiences in other countries. Preconditions include a strong level of counterpart commitment and political will; macroeconomic stability; an existing government securities market; a strong banking system; institutional investment capacity; enabling legal and regulatory infrastructure; depository/clearance and settlement capacity; and interested and creditworthy issuers. Issuance usually starts with short-term private placements and builds over time. Pillar II pension funds and insurance companies are key to building such markets, which is a complex process that requires time and financial commitment (Harwood, 2000, p. 1).

The primer concludes with a summary of pertinent issues and considerations essential to the design, development, and sustainability of corporate bond markets worldwide.

B. Factors for Sustainable Markets

Many economists say that macroeconomic stability must exist in emerging economies before any real economic development can take place. This is largely true, but many emerging economies do not have the benefit of such stability. When such conditions do exist, implementation is mostly technical, facilitated by committed governmental counterparts and persistent interventions that have the support of private-sector constituencies.

These macroeconomic preconditions include controlled inflation; minimal or no fiscal deficits; reductions in public debt; exchange and interest rates whose volatility has been reduced to levels comparable to the rest of the world; and an increased stock of international reserves to cushion the economy and that are not susceptible to macroeconomic swings. Investors must also regard the future, beyond a six-month horizon, fairly predictable and stable before shifting into longer-term instruments (Valle Borraez, Batlay, and Togo, 1998, p. 1).

It is rare to find all these preconditions in place. However, assuming some level of macroeconomic stability exists, there are a few basics that contribute to sustainability:

Committed Counterparts. The No. 1 priority is to identify senior government officials, preferably the minister of finance or governor of the central bank, and secure their support and commitment for developing the domestic corporate bond market (Bank for International Settlements, 2006, p. 6). Other important counterparts include the chairman of the securities commission and its commissioners, the insurance regulator, the pension regulator, and the stock exchange chairman. (There is sometimes a unified regulator who oversees these functions; this can streamline the market-development process.) Additionally, support from market participants such as the bankers' association, the mortgage association, the association of investment companies, and other financial-sector trade groups can be crucial. Committed counterparts are key to sustainable markets. Without them, the development of the corporate bond market will likely be impeded or, at worst, not develop at all.

Legal and Regulatory Basis. It is important to enable legislation such as a law on securities that establishes bonds as legal instruments or a joint-stock company law that allows companies to issue bonds as a percentage of their capital. This must be accompanied by a law that guarantees security interest in collateral, ensuring that bond holders have priority rights on collateral in the event of default. Security interest is at the heart of fixed-income development; it is covered in Section A.

Public Debt Management That Submits to Market Discipline in Domestic Markets. Investors usually first invest in domestic government securities because they are perceived as safe. Domestic securities markets at first usually constitute a country's primary markets, with retail and institutional investors buying for their own account. As circulation builds, a secondary market develops with trade executed on exchanges or through an institutional dealer, or over-the-counter (OTC) network. A domestic government securities market also brings settlement, custody, and delivery mechanisms to world standards, which is a prerequisite for any trade in fixed-income instruments (Yoshitomi, 2000, p. 69). The challenge is for governments to construct and maintain[1] a long-term government yield curve of at least five to seven years that can be used as the "risk-free" benchmark for the pricing of all other securities. This is described in more detail in Section C, Essential Financial Infrastructure. A developed domestic government securities markets is the *sine qua non* for the corporate bond market. A corporate bond market is not sustainable without one.

Strengthened Investor Base. Absence of demand is the biggest stumbling block to market development, so increasing the number of market participants — issuers, investors, and intermediaries — is a priority. Banks are usually the first institutional investors. Countries with privatized pension systems (Pillar II) have built-in demand that spurs rapid development of financial instruments. In fact, after Pillar II is completed, the biggest challenge for pension funds

[1] The "construction phase" includes issuance of laddered maturities and their successful placement in the market. The "maintenance phase" includes a regular auction calendar of pre-announced amounts for the dealer community with subsequent secondary-market trade.

is to find enough suitable financial instruments in which to invest. Typically, the accumulation of money for investment far outpaces the supply, leaving pension funds with no other choice than investing in other countries. Because insurance companies, the third type of institutional investor, differ (i.e., life, property, casualty, disability, and health), so do their investment time lines and willingness to assume risk. Nevertheless, there is great demand for fixed-income instruments, especially for those with longer-dated maturities. Mutual funds are the last type of institutional investor. Mutual funds typically invest more in equities than in fixed-income, but usually keep a sizeable amount of investable assets in short- and medium-term fixed-income instruments.

In summary, it is essential to concentrate on building demand because investor concerns drive the markets. Addressing these concerns will help focus development activity at all levels.

Essential Financial Infrastructure. There are some fundamental pieces that markets need to ensure sustainability: financial regulation for securities and banking; a strong banking system with deposit insurance; a domestic government securities market; depository, custody, clearance, and settlement services; broker–dealers (BDs); stock exchanges; use of international accounting standards (IAS) or international financial reporting standards (IFRS); and dissemination of information by credit-rating agencies. The latter is vital to making informed decisions when allocating capital. For a financial system to be effective, it must avoid adverse selection and moral hazard resulting from imperfect, asymmetric information; for a corporate bond market to develop, information must be shared among intermediaries and investors (the market) (Yoshitomi, 2002).

PRIMER

A. Definition and Description of Financial Intermediation Using Capital Markets

A1. Overview of Capital Markets and the Financial Sector

Capital markets are the world's markets for **stocks** and **corporate bonds** that enable corporations to raise the **long-term funding** required to increase production or expand operations. As a rule, after an initial public offering (IPO) of shares, corporations prefer issuing debt (bonds) to issuing additional stock because debt does not **dilute** existing shareholders' earnings per share. In theory, markets limit the amount of debt a given corporation may issue by monitoring its debt-to-equity ratio (**leverage**) and **liquidity ratios**; higher ratios lower the value of the stock or increase the credit premium (interest rates) on new debt, or both.

The capital markets are a subset of a broader **financial sector**, which in addition to stocks and corporate bonds includes sovereign and sub-sovereign bonds, money market instruments, and bank assets (loans). According to International Monetary Fund (IMF) data, the value of the world's financial sector at the end of 2007 was $241.1 trillion, of which capital markets (in the table below, **Stock Market Capitalization** plus **Private Debt Securities**) accounted for slightly less than half, or $116.7 trillion. At $175.9 trillion, the world's total debt markets (including banking assets) were 2.7 times larger than equity markets at the end of 2007.

Selected Indicators on the Size of the Capital Markets, 2007

(In billions of U.S. dollars unless noted otherwise)

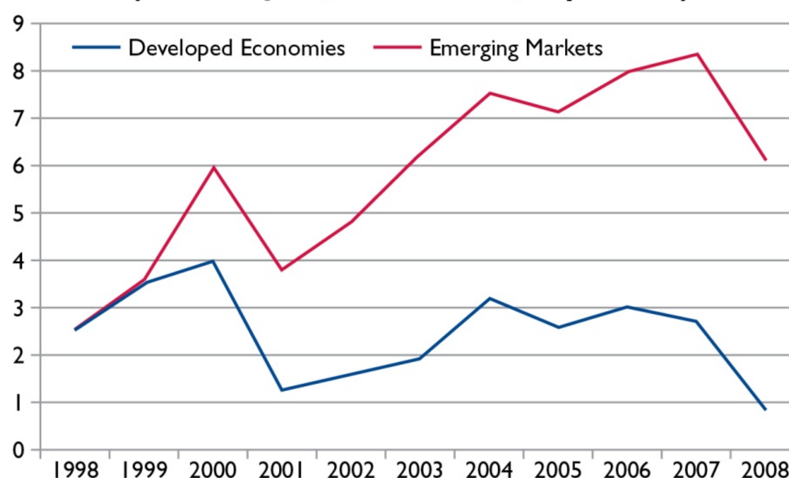
	GDP	Total Reserves Minus Gold	Stock Market Capitalization	Debt Securities: Public	Debt Securities: Private	Debt Securities: Total	Bank Assets	Bonds, Equities, and Bank Assets
World	54,840.9	6,449.1	65,105.6	28,629.3	51,585.8	80,215.1	95,768.5	241,089.3
European Union	15,741.1	279.7	14,730.9	8,778.3	19,432.3	28,210.5	48,462.0	91,403.5
Euro Area	12,220.6	172.1	10,040.1	7,606.4	15,397.8	23,004.2	35,097.1	68,141.5
North America	15,243.6	100.5	22,108.8	7,419.2	24,491.9	31,911.1	13,851.9	67,871.8
Canada	1,436.1	41.0	2,186.6	823.3	763.6	1,586.9	2,657.8	6,431.3
United States	13,807.6	59.5	19,922.3	6,595.9	23,728.3	30,324.2	11,194.1	61,440.6
Japan	4,384.4	952.8	4,663.8	7,147.7	2,066.0	9,213.7	10,086.9	23,964.3
Memorandum Items:								
EU Countries								
Austria	371.2	10.7	236.4	217.3	438.4	655.6	615.9	1,508.0
Belgium	459.0	10.4	404.4	506.7	547.5	1,054.2	2,324.4	3,783.0
Denmark	310.5	32.5	290.9	93.3	613.9	707.2	1,082.4	2,080.6
Finland	246.2	7.1	359.1	130.1	121.7	251.8	303.4	914.3
France	2,593.8	45.7	2,737.1	1,447.2	2,923.8	4,370.9	10,230.4	17,338.4
Germany	3,320.9	44.3	2,105.2	1,700.3	3,902.3	5,602.7	6,600.1	14,308.0
Greece	312.8	0.6	265.0	453.8	134.0	587.8	513.0	1,365.7
Ireland	261.2	0.8	143.9	58.9	518.6	577.5	1,630.7	2,352.1
Italy	2,117.5	28.4	1,072.5	2,019.0	2,183.9	4,202.9	4,336.0	9,611.5
Luxembourg	49.7	0.1	166.1	0.0	94.6	94.6	1,347.6	1,608.3
Netherlands	777.2	10.3	574.5	315.6	1,698.4	2,014.0	3,869.0	6,457.6
Portugal	223.7	1.3	147.2	174.0	269.9	443.9	280.4	871.5
Spain	1,440.0	11.5	1,799.8	580.0	2,564.1	3,144.2	2,979.4	7,923.4
Sweden	453.8	27.0	576.9	168.6	493.1	661.6	694.3	1,932.8
United Kingdom	2,803.4	49.0	3,851.7	913.5	2,928.0	3,841.5	11,655.0	19,348.2
Emerging Market Countries	17,270.8	4,034.7	20,950.2	5,001.3	2,795.6	7,796.9	18,258.1	47,005.2

Source: International Monetary Fund (IMF), 2009a

Measuring the financial sector using market capitalization and the value of outstanding debt securities necessarily focuses on **issuers** (i.e., governments and corporations). Equally important participants are, of course, **investors,** who are usually divided into two broad categories, **households** (i.e., individuals) and **institutional investors**. Institutional investors are banks and non-bank financial companies that offer an assortment of investment products to households (e.g., deposits and money market accounts, life insurance policies and annuities, pension funds, and mutual funds). These products — their cost and returns — are, in one way or another, **derivatives** of the financial sector's basic instruments (i.e., stocks and bonds); through them institutional investors have become the professional managers of household wealth and as such wield enormous, sustained buying (or selling) power in capital markets. The ultimate investor in the financial sector, however, is the household.

In 2008, as a result of the financial crisis, the world's stock markets lost $28.5 trillion — almost half — of their market capitalization. Capital markets today are therefore smaller than they were at the end of 2007, and the value of the world's private debt securities is, at this writing, greater than stock market capitalization. This abrupt change in the structure of the world's capital markets illustrates that markets at all times reflect changing economic circumstances. There is no fixed ratio of capital markets to gross domestic product (GDP), either for individual countries or for the world as a whole; nor is there a standard ratio between the values of stock market capitalization and outstanding debt securities.

Figure 1. Economic Growth: Developed vs. Emerging Market Economies (Year on year, 1998 – 2008, in percent)



Source: IMF, 2009b

However, the amount of outstanding private debt securities as a percentage of GDP in emerging market economies is significantly less than that in developed economies. This suggests that developing corporate bond markets in emerging market economies may accelerate **sustainable** rates of growth. (Lipsky, n.d.)[2]

[2] IMF Research indicates that over the last 30 to 35 years, emerging economies have grown close to three times faster than emerging economies not actively participating in financial globalization (Lipsky, n.d.).

In fact, since 1999, emerging market economies have been growing at much faster rates than developed economies and, by 2006, accounted for more than 50 percent of world GDP growth. However, much of the growth resulted from **foreign direct investment** in commodity- and export-related sectors and, to a lesser extent and later, **speculative hard currency flows** into banking and real estate. Both direct and speculative foreign investment fueled emerging market growth, but is not sustainable at the rates during the period in question. Furthermore, though foreign investment clearly promoted economic growth, in many emerging market economies it actually retarded development of the domestic corporate bond markets on which future growth will have to rely once the tide of foreign investment ebbs.

A2. Overview of Bond Markets

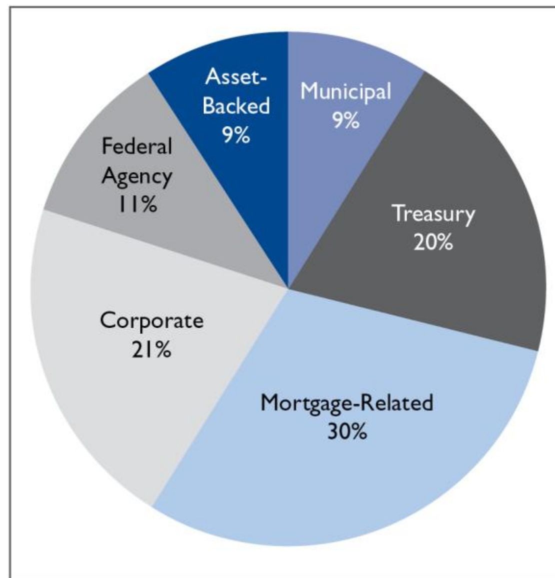
At $29.8 trillion, the U.S. bond market is the world's largest and most diversified, with virtually every type of bond represented. Its size and scope make it unique; it is important to remember that some non-U.S. bond markets do not have such a wide array of bonds.

Regardless, the U.S. bond market provides a good guide to issuers and the types of bonds in the world's domestic bond markets. How bonds are distributed among issuers in the U.S. market (i.e., the percentage of the market each issuer represents) should not be used as a model for the structure of all other national bond markets. Again, there is no fixed or ideal structure; bond markets respond to different economic stimuli at different times, and their composition constantly changes.

Furthermore, the distinction between what is corporate and what is government is not always clear. In the U.S. bond market, for example, at first glance it appears that government issues (i.e., treasuries, municipals, and federal agencies) account for 40 percent of the total. (See Figure 2.) However, two federal agencies, Fannie Mae and Freddie Mac, are corporations whose shares trade on the New York Stock Exchange (NYSE). Additionally, most of the more than $5 trillion in bonds the two agencies issued are **mortgage-backed securities** (**MBSs**). These are not included in the federal agencies or corporate categories; they are considered "mortgage-related."

MBSs are **securitizations**; they are not bonds in the traditional sense. They are bond-like **structured finance** products whose issuers may be corporations (called **qualified special purpose entities**, or QSPEs) but whose balance sheets and charters are distinctly different from that of the company sponsoring the issue. Securitization is discussed in greater detail in subsection A3a.

Figure 2. Composition of the U.S. Bond Market (End 2008, in percent of total)



Source: Securities Industry and Financial Markets Association (SIFMA), 2009

A3. Issuers

Sovereigns. National governments issue bonds to finance national budget deficits, which arise when tax receipts fall short of government spending in a given period. A bond issued by a national government is called a **sovereign bond**, regardless of the currency in which it is issued. They are unsecured, backed only by the purchaser's "full faith and trust" in the national government. In most countries, sovereign bonds are issued by the **ministry of finance** or equivalent body. U.S. sovereign bonds, or "treasuries," are issued by the U.S. Treasury. In Britain, the Bank of England issues sovereign bonds, or "gilts."

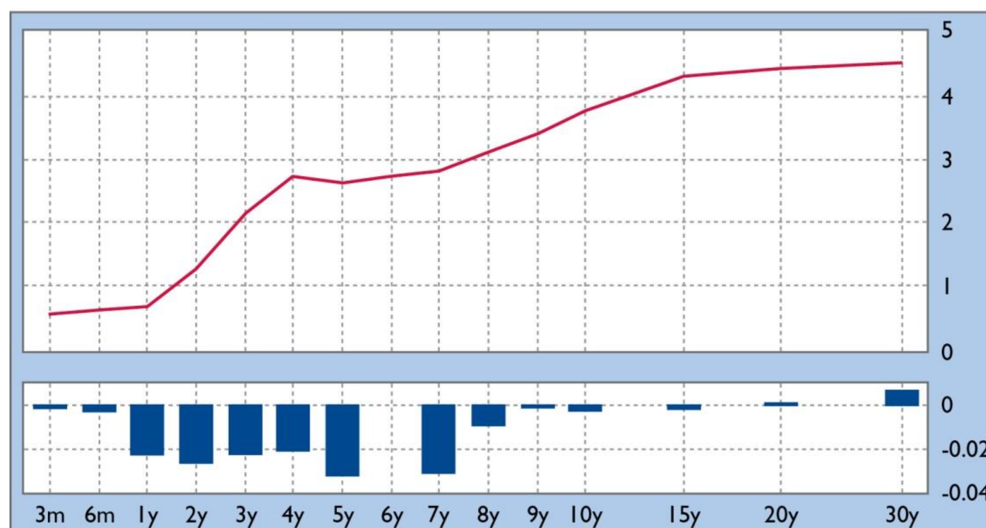
The U.S. Treasury issues short-term bills (**T-bills**) in maturities ranging from 90 days to one year; treasuries with maturities from two to 10 years are called **notes**. Maturities longer than 10 years are traditionally called bonds. The governments of most developed countries issue securities at various maturities, including at least some long-dated maturities (i.e., 10 years or longer).

Securities issued by **national** or **central banks** are not sovereign bonds. With the exception of the **U.S. Federal Reserve System**, most central banks issue very short-term securities, called **sterilization notes**, whose purpose is to offset excessive growth in money supply caused by hard currency inflows. The maturity of sterilization notes varies from country to country, but in recent years the trend has been toward shortened maturities — seven to 14 days — so that a new issuance does not interfere with bank reporting dates. The charters of most central banks nevertheless authorize maturities of up to one year.

In addition to financing government budget deficits, sovereign bonds perform a critical function in national financial sectors: They establish what the Capital Asset Pricing Model calls the **risk-free rate of return.** Unlike corporations, governments cannot declare bankruptcy so, in theory, there is no **default risk** on the bonds they issue. Following that line of reasoning, sovereign bonds should offer the lowest yield of any **fixed-income instrument** available in the sovereign's currency. By extension, this means that all other fixed-income instruments in that currency (e.g., bank deposits and corporate bonds) carry an implicit risk of default and should yield more than the sovereign bond of equivalent maturity.

In countries where the sovereign issues securities at various maturities, it is possible to construct a **yield curve** consisting entirely of risk-free rates. The government yield curve is the **benchmark** against which all other fixed-income securities in the government's currency are priced, removing the uncertainty of price discovery that would otherwise complicate non-sovereign issuance, especially at longer maturities.

Figure 3. The UK Gilts Yield Curve (on 23 June 2009)



Source: Bloomberg, June 23, 2009.

Municipals. Bonds issued by states, municipalities, and state- or city-owned utilities are called **municipals** ("munies," for short) or **sub-sovereign bonds**. Municipals are issued as **general-obligation bonds** when they are to be serviced and repaid out of ordinary tax receipts or as **revenue bonds** when the proceeds of a specified activity (e.g., a utility) will service and retire the debt. In the United States, municipals are often guaranteed by a third party called a **monoline insurance company**.

Municipal bonds are issued in many countries. The practice is treated in greater detail in the FS Share publication "Enabling Sub-Sovereign Bond Issuances."

Federal Agencies. As mentioned earlier, federal agency bonds blur the distinction between government and corporate securities. This is not as important as it sounds, however, and it was not always the case. Created in 1938, the Federal National Mortgage Association, or

Fannie Mae, was for 30 years the only USG agency chartered to provide finance to private banks engaged in mortgage lending. Fannie Mae bought conventional mortgages from banks, financing the purchases by issuing its own securities — hence the term "agency securities." Fannie Mae was privatized in 1968; today, the Government National Mortgage Association (Ginnie Mae) provides a government guarantee on Federal Housing Administration (FHA) and Veterans Affairs (VA) mortgages. Fannie Mae and Freddie Mac guarantee qualifying mortgages from banks and thrifts.

There are several critical concepts here. First, in most countries the value of the housing stock is greater — in some cases, many times greater — than market capitalization of the domestic stock market. Housing is big business, and the mortgages that finance it have become standardized debt instruments that, after **origination**, may be bought and sold in a **secondary mortgage market**.

Second, mortgage lending creates some technical problems for banks, especially smaller local banks and thrifts, where mortgage demand is greatest. This illustrates the need for a system of mortgage bank refinance. The first problem is that mortgages are long-term loans that may stay on a bank's balance sheet for many years; each new mortgage requires a bank to add to its capital base in accordance with bank regulations governing capital-to-asset ratios. This is called the **capital constraint problem of mortgage lending**. The second problem is that banks are forced to fund long-term mortgages out of short-term deposits, creating what is called **maturity mismatch**. Widespread maturity mismatch caused thousands of small banks and thrifts to fail during the U.S. savings and loan crisis (1982-1990).

The last critical issue is that investors perceive that a bond issued by a government agency carries an implicit government guarantee whether it does or not. In practice, that perception means that government agency bonds will be priced at yields only slightly higher than those of the sovereign bond itself. And that, in turn, means that mortgages will also be priced at interest rates only slightly higher than the yields on the government agency bonds. Cheap mortgages are of course critical to governments, whose top domestic priorities include home ownership and affordable housing.

Equally important, however, is that investors continued to believe agency bonds were guaranteed by the USG even after certain agencies had been privatized. In September 2008, in the wake of the subprime mortgage crisis, Fannie Mae and Freddie Mac were placed under conservatorship of the Federal Housing Finance Agency and the U.S. Treasury pledged $200 billion to keep them solvent.

For demographic, historical, and technical reasons, the U.S. federal agency model has not been widely emulated. The technical reason is probably most important: A government guarantee, real or perceived, is not the only way to secure low-cost mortgage bank refinance. Experience in Europe demonstrates that privately issued bonds, also backed by mortgages, secure equally low rates relative to the sovereign without the benefit of housing agencies or government guarantees. Called **covered bonds**, these securities are discussed below.

The federal agency model remains a viable approach to the problem of mortgage bank refinance, and there are several non-U.S. national institutions, or "agencies," similar in structure and concept. In 1986, the Malaysian National Bank participated in the creation of **Cagamas National Mortgage Company**, of which private banks owned 80 percent. In 2001, the National Bank of Kazakhstan (NBK) established the **Kazakhstan Mortgage Company** (KMC), which is still 100 percent owned by the NBK. In 2002, KMC's bonds were officially designated "agency securities," with the advantage that domestic banks may post KMC bonds as required reserves with NBK. In 2005, the Ukrainian Council of Ministers created the **State Mortgage Institution**, which is 100 percent owned by the Ministry of Finance.

Corporate Issuers. A corporation is a legal entity whose **liabilities** are separate and distinct from those of the individuals who form it. This concept is enshrined in the legal system of virtually every country in the world, accounting for the different designators of incorporation (e.g., Ltd., S.A., Inc., and LLC). Bonds are often among corporate liabilities. Corporate bonds have a long history.

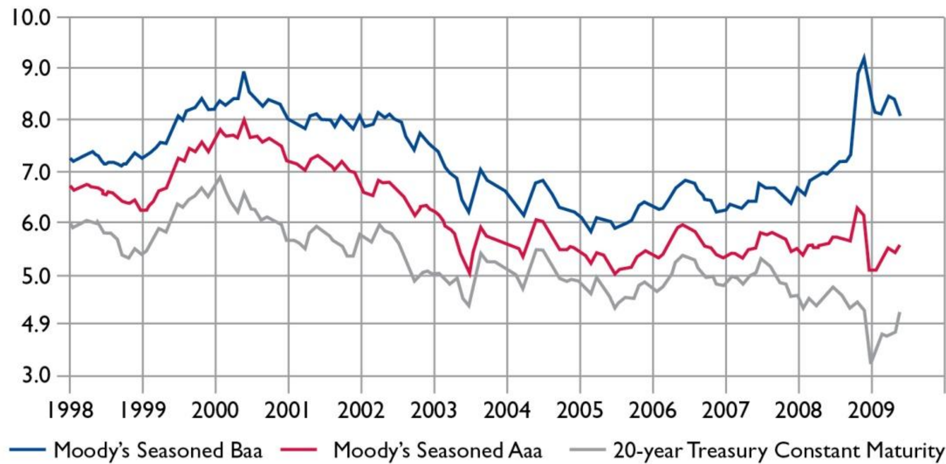
Corporations issue bonds to finance increased production or expanded operations. For example, a manufacturer may add a new production line or a retail chain may open new stores. As a rule, corporations issue bonds because the all-in cost of bond issuance is less than a bank loan or **loan syndication**. Some countries' laws limit the value of outstanding bond issuance to a percentage of a company's total capital. Many require shareholders to approve bond issues.

Companies can declare bankruptcy and be forced into liquidation. In the case of liquidation, bondholders become creditors whose claims must be settled before shareholders may collect what remains of **bankruptcy estate** (i.e., the company's ending book value or net worth). Bondholders may not receive the full face value for their bonds, in which case they are said to have agreed to a "haircut."

Corporate bonds are issued for terms of up to 30 years. As General Motors, Chrysler, and many airlines illustrate, past successes do not guarantee the future. The specter of potential default and bankruptcy hangs over all corporate bonds, giving rise to two important bond market phenomena: **credit spreads** and **credit ratings**.

A credit spread is the difference between the yield of a given corporate bond and the yield of the sovereign of the same maturity at a given point in time. Bonds with narrow spreads to the sovereign are considered less risky, the sovereign being "risk-free." As shown in Figure 4, spreads can vary significantly over time. Viewing corporate yields in relation to the sovereign's makes it clear that investing in corporate bonds entails two distinct risks: **interest rate risk**, as denoted by sovereign yields, and **credit risk**, as denoted by corporate yields. Slightly modified, the same credit spreads become the cost basis for credit default swaps.

Figure 4. Corporate Credit Spreads (January 1999 – May 2009)



Source: Data from US Treasury and St. Louis Federal Reserve databases, 2009.

There are hundreds of corporate issuers and thousands of outstanding corporate issues in the largest bond markets, making it difficult for investors to identify and track investment opportunities as they arise. The sheer size and diversity of modern bond markets created a need for companies that do nothing but track, perform **due diligence** upon, and evaluate issuers and issues. These companies are called **rating agencies**. The three largest — Moody's, Standard and Poor's (S&P), and Fitch Ratings — operate internationally, rating both sovereign and corporate issues on an alphabetic (S&P and Fitch) or alphanumeric (Moody's) scale from the least risky (AAA/Aaa) to "in default" (CCC-/Caa3). Issues rated above BBB-/Baa3 are called **investment-grade** (IG); lower-rated companies are called "speculative," **high-yield**, or "junk." Many institutional investors (e.g., pension funds and "conservative" fixed-income funds) invest only in bonds rated IG or higher.

Credit spreads and credit ratings characterize individual bonds or, as in Figure 4, groups of bonds with identical ratings. It is sometimes useful to use broader, less technical characterizations to describe an entire bond market. (For example, market performance is often discussed in terms of two broad segments: financial and non-financial issues). But it is also useful to analyze the corporate bond market by industrial sector (e.g., utilities, transportation, and telecommunications). Bond markets with a greater number of issuers from the industrial sector are more diversified. As the Capital Asset Pricing Model demonstrates, diversification invariably works in the investor's favor. While systemic (market) risk cannot be diversified away, portfolio returns can be optimized if the risk of a particular investment can be quantified. Diversification contributes to risk management that mitigates losses when they occur and enhances returns with market conditions are favorable.

A3a. Types of Bonds

A bond is a contract in which the seller (**issuer**) promises to pay the buyer (**bondholder**) a specified amount (**face value**) at a specified date in the future (**term**) and, until said term passes, make periodic payments of interest at a specified rate (**coupon rate**). The bond may

place other conditions, called **covenants**, on the issuer. Any deviation from payment amounts or schedules or any violation of the bond's covenants constitutes **default** on the part of the issuer. All bonds — sovereign, sub-sovereign, and corporate — share these features. The coupon rate, however, may be **fixed** or **floating**. With a floating framework, the coupon rate may be **indexed** to a benchmark rate or subject to change solely at the **option** of the issuer.

Bonds, however, are differentiated by legal constructs called **credit enhancements**. The purpose of credit enhancements is to improve the bondholder's chances of recovering his investment in the event of the issuer's default, bankruptcy, or liquidation.

Unsecured Bonds. Unsecured bonds are called "plain vanilla." There are no credit enhancements, and security of the bondholder's investment rests entirely on the financial condition and good faith of the issuer. Sovereign bonds and bonds of IG issuers are typically unsecured. Credit ratings may enhance the value of the bond, but they offer no recourse or compensation should issuers default.

Secured Bonds. Currently, two types of security are practiced in bond markets: third-party guaranties and security interest.

Third-Party Guaranties. Guaranty is more secure than security interest under most legal jurisdictions because its execution does not usually require adjudication in courts of law. From the investor's point of view, guaranty means no involvement in potential bankruptcy and liquidation procedures. (In bond parlance, guaranties are said to be **bankruptcy remote**.) For this reason, third-party guaranties are — and should be — expensive.

A third-party guaranty is the promise by a party unaffiliated with the issuer, called the **guarantor** or **surety,** to pay bondholders the full amount due in the event the issuer defaults. The guaranty is established on the basis of an agreement among the issuer, the guarantor, and the beneficiary (i.e., the bondholder). In this arrangement, the guarantor has (or is perceived to have) a higher credit rating than the issuer, which might not be rated at all. The guarantor effectively lends his rating to the issuer for a fee, which may be compared to the discount on **bankers' acceptances** of letters of credit or a **bank guaranty**. The cost of a guarantee can figure significantly in the non-interest costs of issuance.

Third-party guaranties for municipals bonds are common in the United States, less so elsewhere. In the U.S. system, however, the guarantor is a specialized insurance company known as a **monoline insurer**, which, by law and charter, cannot write other kinds of insurance. Monoline insurers also guarantee emerging market corporate (primarily bank) issues in international markets. (As a result of the financial crisis, the credit ratings of several major monoline insurers have been downgraded and others have ceased operations. It remains to be seen if monolines will be able to return to their former levels of activity.)

Partial guaranties are also available. USAID, for example, offers qualifying issuers a guaranty of 50 percent of the face value of an issue through its internal guarantee facility, the Development Credit Authority (DCA).

Security Interest. **Security interest** (also called pledge) is collateral, a claim to property that secures repayment of debt. Security interest is created by a **security** (or pledge) **agreement** between the issuer and the bondholders. The property may be **real** (e.g., real estate) or **personal** (i.e., any asset other than real estate).

A security agreement in and of itself does not guarantee security. First, to prevent the issuer from pledging the same asset or assets to another party, the pledge agreement must be registered with the appropriate governmental **pledge registry**. (Which pledge registry to use depends on the nature of the property.) Then, in the case of nonpayment or other default, the actual seizure of pledged property may be subject to adjudication or court procedure. In the case of bankruptcy and liquidation, execution of pledge is subject to bankruptcy procedures and protocols. Unsecured bondholders become ordinary creditors whose claims on bankruptcy estate are honored in the order prescribed by bankruptcy statutes; secured bondholders are pledgeholders and, in jurisdictions where bankruptcy statutes respect security interest**,** pledgeholders' claims are met in first priority ahead of all other creditor classes.

Pledge of Real Property. In theory, a pledge of real property may secure a corporate bond issue. It is not, however, a common practice in developed markets because plant and equipment have higher collateral value for banks than bondholders. Banks have lawyers and departments specialized in and devoted to the foreclosure and liquidation of real assets; bondholders do not have the administrative infrastructure necessary to deal with seizure and liquidation and, even as pledgeholders, find themselves at the mercy of bankruptcy administrators, hired counsel, and the bankruptcy process itself, the costs and relative inefficiencies of which must be factored into the value of collateral. Additionally, in the final analysis, a bond secured by real property is essentially a commercial mortgage — and commercial and residential mortgage lending is best left to mortgage lenders.

There are, of course, exceptions; there are corporate bonds secured by pledges of real property, especially in emerging market economies where legislation might not accommodate or adequately support pledge of other assets.

Pledge of Financial Assets. Under the laws of all countries, financial assets (e.g., bank loans, leases, receivables, securities) are **personal** (or **moveable**) **property,** and claims to the future cash flows associated with these assets can be assigned, sold, or pledged like real property.

Financial assets nevertheless differ from real property, and a pledge of financial assets requires special treatment. Real property consists of fixed, quasi-permanent structures or equipment which, once pledged, is likely to remain essentially unchanged. Conversely, financial assets, like credit card receipts or mortgages, are subject to borrower default or prepayment and are, therefore, impermanent. However, financial assets are fungible; that is, any mortgage may be replaced by any other mortgage of like amount and maturity. Fungibility allows issuers to form a **pool** of like assets whose individual components may change from time to time while the pool itself retains a specific value and other characteristics. A pledge of financial assets differs from a pledge of real property in that,

instead of attaching specific assets on the issuer's balance sheet, it attaches a pool of like assets with general characteristics — for example, mortgages with a specified total value.

In English common law, this type of security interest is called **floating charge**; in civil-code countries, it is called **aggregate pledge**. Again, even when registered in the appropriate registry, this type of pledge better secures a bank loan or syndication than a bond unless, like banks, bondholders have some means of auditing the pledged asset pool.

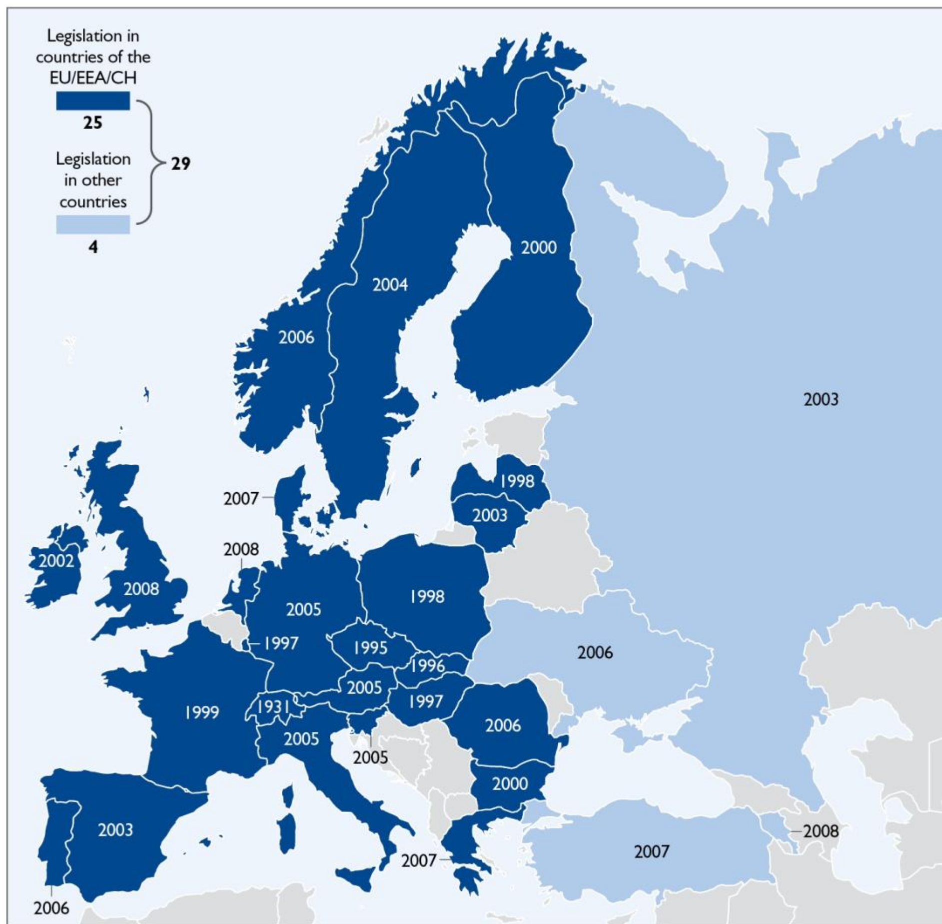
Bondholders are a group of unaffiliated, largely anonymous investors with no formal grounds for association, other than in a case of bankruptcy. Investors are also free to sell their investments at any time, so individual investors in a given bond may change from time to time without notifying other investors. Even if a covenant in a bond secured by pledge of financial assets gives investors the right to periodically audit the issuer's asset pool, individual investors who undertook such an audit would do so at their own expense and without obligation to share the audit's results with other investors, even if they knew who those other investors were.

There are bonds secured by pools of financial assets and with covenants granting investors the right to periodically monitor the asset pools. For this purpose, the issuer (or the national regulator) retains an unaffiliated third party, called a **trustee** or **bondholder representative**. These bonds are called **covered bonds**.

With approximately $3 trillion outstanding, covered bonds are the largest single class of corporate bonds in Europe. More than half of the covered bonds outstanding are backed by mortgage pools. Though covered bonds may be structured without the benefit of separate legislation, most European countries now have laws governing their issuance. (See Figure 5.) The term "covered bonds" has come into use only in the last 10 years; the bonds are known by different names in different countries: *pfandbriefe* in Germany (where they originated in 1769), *cedulas* in Spain, and *obligations foncieres* in France. There are slight variations from country to country but, according to the European Covered Bond Council, all covered bonds share four features:

1. The bond is issued by a credit institution that is subject to public supervision and regulation.
2. Bondholders' claims against the cover pool of financial assets have priority over the claims of unsecured creditors.
3. The credit institution has an ongoing obligation to maintain sufficient assets in the cover pool to satisfy bondholders' claims at all times.
4. The obligations of the credit institution in respect of the cover pool are supervised by public or other independent bodies (European Covered Bond Council, 2009).

Figure 5. European Covered Bond Legislation by Country



Source: European Covered Bond Council, 2008.

Points 1 and 2 are clear: The issuer must be a bank or regulated non-bank financial institution (NBFI), and the laws of the country in which the issuer operates must respect security interest.

Point 3 refers to the fungibility of financial assets and the issuer's obligation to maintain the value of the asset pool at a level sufficient to cover the face value of the bond. A pool whose individual components are periodically changed to maintain a specified value (or other key characteristics) is called a **dynamic pool**, as opposed to a **static pool**, whose original components are not replaced in the event of default or prepayment. Law or covenants may also limit the face value of the bond to a percentage of the asset pool's value. The face value of certain Spanish *cedulas*, for example, cannot exceed 60 percent of the asset pool's value. This feature, called **overcollateralization,** is a common credit enhancement, though the amount of overcollateralization varies significantly by country.

Point 4 states that, in addition to regulation by a national supervisory body, the issuer's asset pool is itself subject to audit or monitoring by some other public organization or an independent trustee.

Covered bonds are Europe's preferred mortgage refinance security. Approximately $1.7 trillion of European mortgages back outstanding covered bonds in 15 countries. The bonds are considered very safe investments, their yields trading at from eight to 20 basis points over sovereign rates in the countries in which they are issued. Volume and security notwithstanding, from the point of view of mortgage banking, covered bonds are not ideal instruments of mortgage refinance.

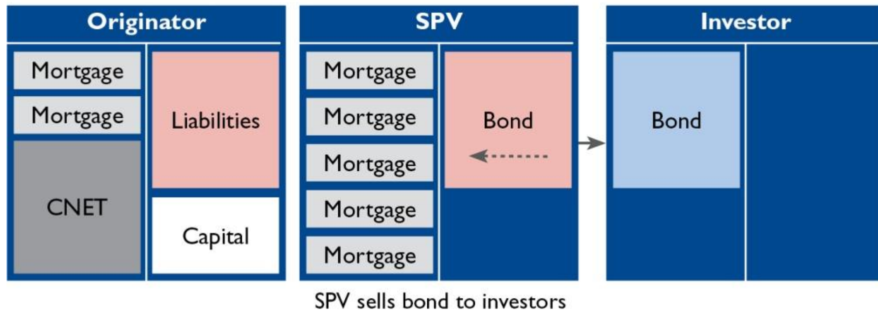
It was noted in subsection A3 that mortgage lending creates two problems for lenders: maturity mismatch and capital constraint. Covered bonds clearly redress the maturity mismatch problem — as would, for that matter, an unsecured bank issue — but their issuance does not improve a bank's capital position. This is because mortgages in a mortgage pool remain on the bank's balance sheet, and the bank is required to maintain Tier One capital reserves against them, albeit at reduced, "risk-weighted" rates. There is, however, an instrument that addresses both problems: the MBS, which is a securitization.

Securitization. Securitization is the technique used to structure a class of securities called **asset-backed securities** (ABSs), of which MBSs make up the largest subset. The first MBS was issued by Ginnie Mae in February 1970. The technique was developed specifically for the purpose of solving the problems of maturity mismatch and capital constraints for mortgage lenders; it has been adapted to other kinds of financial assets, including credit card receivables, car loans, and student loans. The heaviest concentration of ABSs is in the United States, but they are now routinely issued in other countries. The following discussion will refer exclusively to MBSs as they have been traditionally structured in the United States.

An MBS is not a bond in the traditional sense, but rather a structured finance product with two distinguishing structures. The first of these structures is called **a special purpose vehicle** (**SPV**). The mortgage lending organization, or **originator**, does not issue bonds. Instead, the originator identifies a specific mortgage pool among the mortgages on its balance sheet and sells the pool to the SPV, which is established by a trustee for the express purpose of domiciling the mortgage pool and issuing bonds backed by them.

Sale of the mortgage pool to the SPV triggers several important events. The first is regulatory. Because the mortgages in the pool are removed from the originator's balance sheet, the originator is no longer obliged to maintain risk-weighted reserves against the former assets. Thus, the sale reduces the originator's capital requirements, eliminating the capital constraint problem associated with those assets. Second, by selling the mortgage pool to the SPV, the originator simultaneously reduces the number of long-term assets on his balance sheet, eliminating any maturity mismatch associated with those assets.

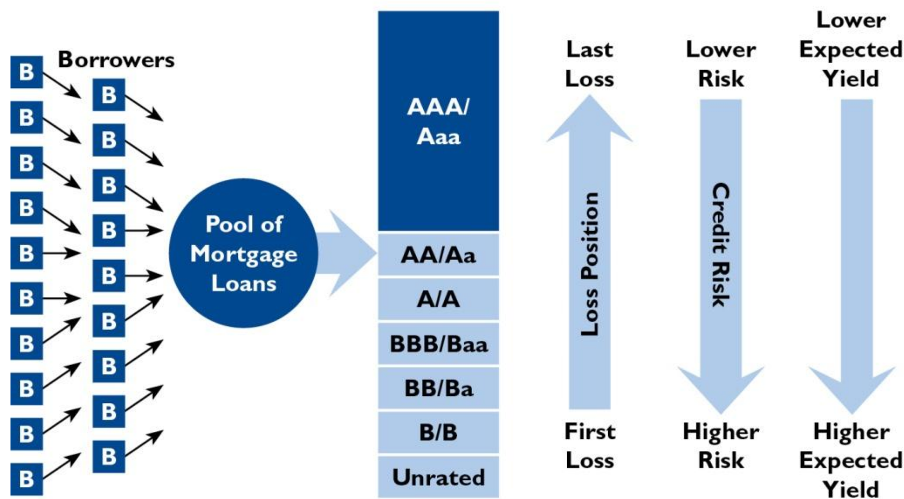
Figure 6. Securitization
Ginnie Mae or Private-Label Pass-Through



Third, because the SPV's balance sheet is separate and distinct from the originator's, the assets are no longer subject to claims by creditors if the originator files for or is otherwise forced into bankruptcy. Furthermore, because the SPV is not engaged in activities other than domiciling the mortgage pool and issuing bonds backed by the mortgages, it does not incur other liabilities that might cause it to file for or be forced into bankruptcy. Thus, the SPV and the assets domiciled on its balance sheet become bankruptcy remote. (See subsection A3a.) This means investors who buy a security issued by the SPV will never be embroiled in bankruptcy proceedings or have their claims challenged by unsecured creditors.

Last, because the originator has sold the assets to the SPV, it no longer bears any responsibility or risk for them. The mortgage pool in the SPV is static, and mortgage payments are guaranteed against default by the agencies (i.e., Fannie Mae, Freddie Mac, and Ginnie Mae). Mortgages that prepay, however, are not replaced and the cash flows associated with prepayment are "passed through" to investors in a **pass-through agreement**. Pass-through agreements pay monthly interest and principal, including any prepayments. (See Figure 6.)

Figure 7. Different Risk and Return for Different Investors



Source: Commercial Mortgage Securities Association (CMSA), n.d.

Prepayment makes the actual maturity of an MBS uncertain, which makes the securities unsuitable for all investors. To remove the uncertainty, issuers resort to the second distinctive feature of most MBSs, **tranching**. Here, the same mortgage pool backs several classes, or **tranches**, with staggered maturities. (See Figure 7, p. 14.) MBSs structured this way are called **collateralized mortgage obligations** (CMOs) or **real estate mortgage investment conduits** (REMIC). The first CMOs were issued in 1992.

The simplest CMO structure is called a **sequential pay CMO**. It has three or more tranches, all of which receive interest payments. However, only the first tranche receives principal payments until it is fully retired, typically in two or three years. After the first tranche is retired, the second tranche begins receiving principal payments until it is fully retired, and so on. CMOs can be "sliced and diced" to distribute payments in almost any combination, including **interest-only** (IO) tranches and **principal only** (PO) tranches. Some CMOs have as many as 50 different tranches.

There are approximately $8.9 trillion of MBSs outstanding. Box 2 summarizes the differences between MBSs and covered bonds.

Box 2: Comparison of Key Features — Covered Bonds vs. Securitization

Feature	Covered Bonds	ABS/MBS
Structure	Balance sheet funding; issuer obligated on cash flows	Off balance sheet; sale treatment; capital reduction
Asset management	Dynamic cover pool and asset eligibility maintenance	Static asset; pool and asset deterioration risk
Prepayment risk	Reduced through asset substitution	Full pass-through to bond holder
Bondholder recourse	Dual recourse (assets & issuer)	No recourse to originator; MBS has guarantor
Bond governance & disclosures	Independent trustee and asset monitors; sometimes greater loan level data	Frequently comingles roles; blended average pool data
Asset value protection	Overcollateralization and asset replacement; general reps and warrants	Generally reps and warrants
Compliance review standards	Heavy legal, regulatory, and trust compliance	Heavy legal; lighter on asset monitoring and trust compliance

Source: Covered Bond Investor, 2009.

Sukuk Bonds. Some background information is necessary before defining sukuk bonds. As explained in subsection A3a, a bond pays investors a fixed interest rate, or coupon rate. This is explicitly prohibited in Islamic finance, for two primary reasons. First, a company is obligated to pay investors the coupon rate, regardless of financial circumstances (e.g., a general economic downturn or the company is not profitable). Second, bonds issued by non-Muslim companies (i.e., the majority of all bonds) do not comply with ethics under Shariah law. For these reasons, the debt market has never taken off in countries with majority Muslim populations.

A sukuk, generally referred to as an **Islamic bond**, is actually an investment certificate, by which the investor has a share of an asset that generates profits or revenue. The type of certificate or sukuk can vary from lease-based (*Ijara*) to project finance-related (*Istisna*). Sukuk bonds are also global Islamic bonds issued in compliance with Shariah law, the key pillar from which Islamic finance derives its unique characteristics. The Shariah injunctions require that Islamic financial transactions be accompanied by an underlying productive activity. (In Islamic finance, there is always a close link between financial and productive flows.) Moreover, there is an explicit sharing of risk by the financier and the borrower; Islamic financial institutions will share the profit or the loss incurred by the entrepreneur. This arrangement requires appropriate due diligence and integration of the risks associated with the real investment activity into the financial transaction. In this arrangement, the real activity is expected to generate sufficient wealth to compensate for the risks (Ayub, 2008, pp. 21-34).

In contrast, conventional instruments usually separate risk from the underlying assets. As a result, risk management and wealth creation may, at times, move in different directions. Conventional financial instruments also allow for the commoditization of risk, which has caused risk to proliferate multiple layers of leveraging and led to disproportionate risk distribution. This can result in higher systemic risks, increasing the potential for instability in the financial system.

Transparency is a tenet of Islamic financial transactions, and all Islamic financial services providers are obligated to meet certain standards. The profit-sharing feature of Islamic financial transactions imposes a high level of disclosure in the financial contract, in which the accountabilities of the involved parties are clearly defined. Such disclosure allows the market to assign the appropriate risk premiums to companies and encourages market discipline. Transparency also provides a strong incentive for Islamic financial institutions to adeptly manage risks. Shariah law, therefore, provides built-in checks and balances that foster stability in the Islamic financial system.

Sukuks may be rated. Today, investors may receive periodic payments that are compared with or linked to an outside rate, such as the London Interbank offered rate (LIBOR) or the U.S. prime rate. It is also increasingly apparent that the pricing and structuring of sukuk bonds are becoming similar to conventional bonds. Accordingly, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) published its accounting standards for investment in sukuks and defined eligible asset classes (Taylor Wessing LLP, 2008, p. 9).

B. Essential Legal Infrastructure

Bonds as Financial Instruments. Bonds can present legal complications. This is especially true in civil-code jurisdictions where, generally, there must be specific enabling legislation for most types of commercial activity. Another reason is that bonds — especially secured bonds — are governed by legal constructs whose original legislation was drafted for other financial activities. Pledge law is a good example. The most common pledge of moveable (personal) property is an automobile secured by a bank loan. In the pledge agreement for a car loan, there is one automobile, one lender (pledgeholder), and one borrower (pledge

giver). A mortgage-covered bond is governed by the same law, but may have more than one pledged object and multiple, unidentified pledgeholders. A law written primarily to support transactions such as car loans may not adequately address the issues involved with a covered bond. Therefore, the first step of a program to develop corporate bond issuance must be to review the laws necessary to support it.

Unfortunately, bond-related legislation is not uniform or standardized, and its quality varies considerably from one law to the next, even in the same jurisdiction. It is also likely that local lawyers needed to conduct the review will understand little about bonds in general and absolutely nothing about bond mathematics. (Law that contradicts mathematics is difficult to enforce.) The legal review should therefore be conducted by a committee of at least two local lawyers, a local financial analyst, and an expatriate bond expert.

The following is a general outline for a review. It refers to laws for which every local jurisdiction should have an equivalent.

Definition of Bonds for Laws "On Financial Markets," "On Securities," and "On Joint Stock Companies." Bonds should be defined in the "On Financial Markets" or "On Securities" laws. The laws should require corporations to register bond issues with a local regulatory body (e.g., the national securities commission) and require that body to draft regulations governing the issuance of corporate bonds. Neither the law nor the regulations can require all corporate bonds to be traded on a local exchange without disallowing **private placement**. Neither the law nor the regulations can mandate interest rates or any other conditions of corporate bonds.

The law "On Joint Stock Companies" should expressly empower corporations to issue bonds; it may limit the number of bonds a corporation has outstanding to a percentage of its **total capital**. Typically, the limit is 100 percent.

Security Interest. The law "On Pledge" should allow multiple pledgeholders and aggregate (or master) pledge. The law must obviously not state that financial assets are moveable property. However, the review should ensure that the definitions of "assets" and "moveable property" cannot be construed as excluding financial assets. The law may not require registration of moveable pledge, but should not prohibit it.

The law will probably require physical signature of the pledge agreement; it may allow a **representative** of the pledgeholder to be the signatory. Alternatively, the law "On Representation" (or the statutes of the civil code governing representation) may allow a representative with valid power-of-attorney to sign documents, such as pledge agreements, on behalf of a legal entity or individual.

The law "On Bankruptcy" (or the statutes of the civil code governing bankruptcy procedure) must require creditors' claims to be settled before shareholders may recover any proceeds from bankruptcy estate. The law must either exclude pledged assets from bankruptcy estate or require settlement of pledgeholders' claims before those of any other creditor class. In most jurisdictions, it is the latter.

When used in reference to covered bonds, the term “trustee” is misleading and should be replaced with “bondholder representative.” Though many civil code jurisdictions will not have a law “On Trust,” they will have a law “On Representation” under the legal aegis of which the bondholder representative may act. Here, “representation” refers to limited power-of-attorney.

The need for power-of-attorney arises because the law “On Pledge” usually requires the pledge agreement to be signed. For secured bonds, this creates two problems. First, the physical signature of a pledge agreement would significantly complicate the trade of a bond by requiring a new signature every time the bond changes hands. Second, in many jurisdictions the pledge must be in place (i.e., registered) before the bond can be sold, meaning there are no bondholders to sign the pledge agreement. A bondholder representative solves these problems.

Signature of the power-of-attorney (representation agreement) can be solved by substituting some other legal act. For example, if the bond prospectus so states, the act of purchasing a bond constitutes acceptance of the representative (bondholder representative) proposed in the prospectus. Most laws “On Representative” include provisions allowing power-of-attorney to be granted where signature is physically impossible but eminently reasonable.

Bond Regulation. The purpose of bond regulation is to confirm that both the issuer and the proposed issue accord with the law. Bond regulation establishes procedures for registering new issues with the regulator; it usually requires the issuer to submit the indenture of the proposed bond issue and three (or more) years of audited financial statements for review. Registration can proceed only after the regulator has reviewed these submissions and found the issuer eligible to issue under the law.

Bonds are contracts and treated as such under the law, relieving the regulator from further action in cases of nonperformance or default. Bond defaults are usually resolved in courts, often as a part of bankruptcy proceedings.

C. Essential Financial Infrastructure

C1. Issuers and Institutional Investors

The biggest and most important issuer in most economies is the government, which sells securities to finance its budgets. Ministries of finance, charged with funding budgetary deficits, must raise money to meet funding needs — in the most cost-effective way and at minimal risk.

Governments in emerging markets are faced with difficult choices, many political, when issuing debt. Whether to accept the cost of market pricing or use regulation to compel entities to buy government securities as part of their reserve requirements is one such choice. Choosing the latter may mute political criticism and place securities below current market prices, but it also causes institutional investors, such as commercial banks, to ignore the market and deprive the government of much-needed investment. Making this choice is especially difficult if inflation is high and markets rates are higher; in these circumstances,

development of the government securities will stagnate and market participants will look for market-driven alternatives.

If a government chooses market pricing, however, it can begin to develop its securities market, an important first step toward creating a corporate bond market. First, to convince investors it is able to prudently manage its finances, the government must adopt a transparent debt-management strategy and explain how it plans to manage its fiscal obligations and borrowing risks. It must decide how funding announcements will be made, the number of securities it will auction, and when they will mature (i.e., how often and on what dates). It may also create a debt management office to manage the auctions.

Distribution is essential to the process. The government may select primary dealers, who will receive privileged access to information about the issue in exchange for committing to purchase a certain number of securities. (Primary dealers often buy most of the issue then resell to other market participants at a small mark-up.) None of this would be possible, however, if the ultimate investor did not have confidence in the financial infrastructure supporting the issuance and the government's ability to repay. Such confidence also presupposes suitable clearance, settlement, and depository capacity.

Governments usually issue short-term securities to plug budgetary gaps while anticipating revenue from other sources, such as taxes. Banks buy these issues because central banks recognize them as the most secure form of reserve collateral and they can easily be liquidated through sale to other banks or in repurchase agreements with other banks or the central bank itself. As confidence and liquidity grow in the market, governments can consider issuing laddered benchmark issues (e.g., three-, five-, seven-, and 10-year bonds) as part of its overall debt-management strategy for building a yield curve that can serve as reference pricing of all other fixed -income securities.

These factors make government securities markets the most important component of fixed-income markets. Government securities facilitate the growth of educated market participants who accrue experience by investing and trading in fixed-income government securities and help institutionalize necessary infrastructure, including exchanges, clearance and settlement, depositories, intermediaries (i.e., BDs), and the need for operational transparency, information, and compliance. These are necessary preconditions for a corporate bond market.

After a government securities market is functioning, identifying potential issuers of corporate bonds (e.g., an industrial supplier or a financial institution) assumes a high priority — and it is usually an easy task. The difficulty lies in evaluating a corporation's capacity to issue and how it will use its investment proceeds.

A corporation must understand the benefits of bond markets, otherwise it might not submit to the scrutiny of an evaluation. In particular, it must understand how bond markets work and why bonds are an attractive financing mechanism, especially compared with bank financing or issuing equity. Banks usually lend against fixed assets and for short periods (i.e., 90 days or fewer). However, issuing a bond is more complex. Investors must analyze the caliber of management, the company's balance sheet, and its income statements to determine if

operations generate cash flows sufficient to support interest payments and principal payback. Because investors need information to make informed decisions, issuance of corporate bonds contributes to disclosure and transparency and highlights the importance of using IFRS when reporting financial data.

Corporate issuers are either privately owned or publically held. If the latter, the educational effort is usually much easier because the reporting elements (i.e., mandatory disclosure) to the securities commission and, if listed, to the stock exchange are already in place. Because most banks are publically held, disclosure and financial reporting is part of their culture. Therefore, a bond issue, especially one that is associated with refinancing part of its portfolio, is a more comfortable process for banks. Bond issues of privately owned companies are usually smaller and more complex to arrange, mostly due to management's unfamiliarity with financial reporting requirements, disclosure, and operational transparency. In these cases, bond issues are likely to be small — and at rates surpassing deposit rates but lower than bank lending rates — and privately placed with investors who know the corporation's share of its market segment and its management's reputation.

In developed countries, investment by institutional investors, including trusts and foundations, is common. This is not the case in emerging economies, where banks, pension funds, insurance companies, and collective investments (e.g., mutual funds) are the primary institutional investors. Investors' willingness to assume risk depends on whether they are investing for their own proprietary account or on behalf of others; after individuals, the most risk-adverse investors are asset managers who manage pension money. The amount of risk for pension funds is further influenced by the regulator, who will determine what kinds of investments are allowed and what percentage of total investment a particular class of asset can comprise. A common term in this process is IG (investment-grade), which can mean different things depending on the methodology used in the determination. Fitch, S&P, and Moody's each has its own methodology and labeling to denote what constitutes IG. Regardless, the term inevitably applies to fixed-income instruments or instruments with bond-like safety.

Pension fund asset managers in emerging economies rarely invest in equities or other asset classes whose values fluctuate, preferring instead the assurance of earning interest and repayment within a fixed time frame. Investing for three to five years is not uncommon. Consequently, because corporate bond issues are conservative in their design, institutional investors are always looking for domestic bonds with the best yield and lowest risk. At the early stages of market development, such investors are usually "buy-and-hold," meaning they keep bonds until they mature, collecting quarterly or semi-annual interest payments. However, in later stages of development, such bonds may have bid-and-ask quotes on organized exchanges that will inevitably reflect the market rates, which may be higher or lower. In such cases, asset managers may be able to establish a market value for their bond portfolio, though trade (i.e., liquidity) in the issue is likely to be thin. A trading system for efficient quotes and subsequent liquidity takes many years to develop. Market intermediaries facilitate trade between issuers and investors and may themselves function as an institutional investor until sale at a profit is possible. In the early stages of market development,

interventions of this kind introduce liquidity and represent the beginning of secondary market trade.

C2. Regulated Exchanges, Regulators, BDs, Depository, and Custodian

The role of exchanges, BDs, depositories, and custodians is often taken for granted, not fully appreciated when they are working but disastrous when one ceases to function.

In terms of market development, it is not clear which component of infrastructure is most important and should be developed first. Organized exchanges are important because this is where securities in developed economies are bought and sold; but success or failure in emerging economies depends on market participants using the exchange. An exchange is organized by members who agree to be bound by certain rules and regulations to facilitate price discovery and trade in a fair and open way with acceptable transaction costs. In many emerging markets, however, trades are negotiated over the phone before the price is reported to the exchange for posting. Ideally, an exchange has bids and asks with minimal spreads displayed for all listed securities, providing retail and institutional investors an equal opportunity to purchase or sell securities, with settlement predicated on delivery versus payment (DVP).

Exchanges are usually regulated by securities commissions that have specific ideas about how to protect the public from abuse. Therefore, a priority may be to develop reasonable regulations governing how exchanges conduct their affairs with the public. Supporting a securities commission's membership in the International Organization of Securities Commissions (IOSCO) would provide a window on world standards of practice.

Licensed and regulated by the securities commission, BDs are intermediaries who buy and sell securities for themselves, clients, or the institutions that employ them. They often negotiate prices over the phone in what is commonly known as an OTC market. They may also be members of an organized stock exchange and be required to make two-sided markets in specific securities. In many ways, they are the lifeblood of the market. They are professionals with a code of conduct who mediate between buyer and seller when securities are first issued and, later, when investors want to sell before maturity. BDs help facilitate secondary market trade.

Neither exchanges nor BDs can function without clearance and settlement. Usually, after a trade, which is a contract, is entered into, it must match the price and conditions upon which both parties agreed. This is referred to as **clearance**. Once a transaction is verified, money and securities must change hands within a certain period — usually three days for equities, less for money instruments. This is referred to as **settlement**, which may involve documents (e.g., money and stock or bond certificates) or be concluded electronically (which makes clearance and settlement nearly simultaneous). Some firms provide clearance and/or settlement services. In essence, a clearance and settlement system is designed to mitigate risk. The longer it takes for a trade to settle, the greater the chance something will go wrong. This is why IOSCO and other bodies such as the Group of 30 (see text box on p. 23) recommend clearance and settlement systems move to a delivery versus payment system in an electronic format that includes electronic book entry. Such a system is fast, efficient,

secure, and cuts transaction costs. And because many emerging economies are newcomers to clearance and settlement, there is no old infrastructure to replace. Instead, new computer systems and software can provide state-of-the-art technical solutions from the outset.

In 1988, in response to the 1987 stock market crash, the Group of 30 issued its Principles of Clearance and Settlement (1988):

1. "Each clearing and depository Facility1 ("Facility") must have express minimum standards for member access to its core services. Both the Facility and its participants have a legitimate need to restrict Facility membership to protect their own creditworthiness. Important criteria for membership include financial integrity, proven operational skills, and high ethical standards.

2. Facilities should have sufficient financial and operational capacities. Facilities that have adequate financial capacity can limit liquidity pressures that result from participant defaults and ensure that even if defaults occur, settlement will be completed on schedule. Likewise, adequate operational capacity can prevent liquidity problems and reduce credit risks resulting from delayed settlement of transactions.

3. A regulatory framework for the operation of Facilities should be established. Each Facility should be subject to direct governmental oversight or self-regulation subject to governmental oversight, including periodic examinations (depending on the stage of market development, it may be appropriate to permit the establishment of only a single clearing and depository organization).

4. Facilities should issue clear guidelines, rules, and procedures. The terms on which members can obtain access to the Facility's services and the circumstances under which a member's access to those services can or will be revoked should be publicly disclosed.

5. Facilities must maintain adequate systems capacity to process reasonably anticipated volume, including projected peak volume demands and must be capable of protecting against reasonably anticipated internal or external threats to the integrity of their operations. Facilities should use automated systems that permit electronic processing of data, payments, and securities deliveries. During times of high trading volume, technology often is essential to efficient clearance and settlement. The elimination of physical delivery of stock certificates is essential to automating clearance and settlement systems because physical movement of certificates to transfer ownership is inefficient."

Custodians also play an integral part in the process. A custodian accepts delivery of paper or electronic securities for safekeeping and administration. (Electronic book entry has replaced paper securities in most markets.) Additionally, custodians very often provide clearance and settlement services, enhancing the efficiency of the process. Some central depositories require investors to use custodians for the purchase of government securities or corporate bonds traded through a stock exchange, though there is no hard-and-set rule. Many regional banks offer clearance, settlement, and custody services similar to those of the central depository.

The Group of 30

The Group of 30, a private-sector group that studied the state of clearance and settlement in the world's principal securities markets, issued a report in 1988 recommending that: (1) trade comparison between direct market participants should occur by the day following the date of execution; (2) indirect market participants should be members of a trade comparison system that achieves positive affirmation of trade details; (3) each country should have an effective and fully developed central securities depository; (4) each country should implement a netting system; (5) a delivery versus payment system should be employed as the method for settling all securities transactions; (6) countries should adopt a same-day funds payment method for settlement of securities transactions; (7) a rolling settlement system should be adopted by all markets so that final settlement occurs on the third day after the date of execution; (8) securities lending and borrowing should be encouraged as a method of expediting the settlement of securities transactions; and (9) each country should adopt the standards for securities numbering and messages developed by the International Standards Organization. Efforts are underway in most countries to comply with the Group of 30 recommendations.

Source: Group of 30, New York and London, *Clearance and Settlement in the World's Securities Markets* (March 1989). See also *International Organization of Securities Commissions, Clearing and Settlement in Emerging Markets — A Blueprint*, 109-112 (October 1992).

D. Summary of Lessons Learned and Approaches Used on USAID and Non-USAID Programs

Analysis of lessons learned offers insight into the problems faced in setting up corporate bond markets. In almost every instance, something can be done to advance market development; the challenge is to determine what steps need to be taken and how to implement them. The examples below were compiled from the experiences of Asian countries that set up corporate bond markets after the banking crisis in the late 1980s, Eastern European countries that emerged from communism, and the Middle East.

Macroeconomic stability matters. High inflation and high interest rates are indicators of economic and political problems, and few companies want to borrow money or issue bonds (which by their very nature are commitments at high rates) when interest rates are high. Consequently, time horizons are very short — 90 days or fewer. At the same time, lenders and investors are not always comfortable when high rates of return mirror risk and the chance of default increases. Also, it can take several years for conditions to stabilize. It is very difficult to start a market or even sustain it under these conditions. In Ukraine, when inflation approached double digits and interest rates skyrocketed, corporate bond issuance and market development came to a virtual standstill. This has happened in other countries when inflation approached or exceeded 10 percent (Kahn, 2002, pp. 19-21).

Committed counterparts, in nearly every case, can make the difference between success and failure or delay. In countries where commitment begins with top leadership and is conveyed to the ministerial level, interventions are effective and reforms get enacted, particularly when

key ministers are enlisted as partners to champion and implement reforms. In Kazakhstan, for example, the governor of the Central Bank, with a mandate from the bank's president, worked with USAID to set up daughter companies, including the KMC and National Actuarial Center, to implement reforms. It is also helpful to establish and foster relationships with key financial regulators to discuss reforms and specific objectives to be achieved within well-defined time frames.

A domestic government securities market is also essential. In particular, governments need to be encouraged to issue securities domestically because domestic borrowing builds financial infrastructure, budgetary discipline, and market intermediaries — all essential components of a corporate bond market. Because market participants believe government securities carry the least risk, their pricing constitutes the reference from which all other types of securities are priced.

Before designing any corporate bond project, it is important to determine what kind of government securities market exists and what steps are necessary to make it better. To properly manage the budgetary process, a ministry of finance must prepare a national debt strategy that the government will adopt. Constructing a long-term yield curve should be one of the strategy's primary objectives. Also, the strategy must require the ministry of finance to design a mechanism for managing the process of issuing debt that uses dedicated professional personnel and procedures that integrate financial intermediaries and investors at the least possible cost. Transparency and predictability in what the government needs to borrow and dialogue with market participants are fundamental aspects of building the market for primary placement and, ultimately, secondary market trade. Most important, the ministry must subordinate its concerns regarding the cost of issuance and accept market pricing. In Ukraine, the minister of finance's reluctance to accept market pricing compelled the ministry to pre-announce its market coupon, usually at significant discounts to the rate of inflation, and only state-owned institutions required to own government securities for reserve purposes participated in the auctions. As a result, the government securities market languished as investors refused to participate. The situation changed after the ministry on numerous occasions failed to place its debt securities in the market and experienced difficulties borrowing in the sovereign debt markets.

Close coordination with the central bank should be another priority. There is often tension between a central bank and ministry of finance because the former conducts monetary policy while the latter manages the budget and functions as the depository for ministry funds. A central bank may have to raise rates to control the money supply because of inflation at a time when the ministry of finance is trying to raise money in the market at as little cost as possible (IMF/World Bank, p. 104). In such a scenario, interventions are needed to facilitate coordination between the two institutions.

Occasionally, countries have budgetary surpluses that complicate development of the government securities market. Countries must issue debt, even when there is not a budgetary need; naturally, ministries are reluctant to issue debt securities when they do not need the money, especially when they must pay interest. Nevertheless, developing the yield curve is so important to building the fixed-income market that governments must accept that issuing

debt securities is necessary for market development. Such was the case in Kazakhstan, where the central bank governor could not convince his counterpart at the finance ministry to issue longer-dated securities. Understanding the importance of the yield curve to market development, the central bank began issuing three- and five-year bonds, which could then be used by the dealer community in constructing a yield curve for reference pricing — even though such dealings interfered with the bank's responsibility for monetary policy.

Quasi-governmental and agency corporate issues, as well as issues by large corporations, can be proxies while a government yield curve is being constructed. In countries where state-owned corporations issue corporate debt, these securities can be used as a proxy for government debt until other securities are available (Knight, 2005 & 2006, p. 12). In Ukraine, for example, the finance ministry had issued only short-term treasury bills with maximum maturities of two years. The fully state-owned mortgage institution began issuing three-year corporate bonds backed by a state guarantee; market participants valued these securities as proxy for state debt, but still assigned a risk premium due to the structure and uncertainty of its collateral pool. Still, the issues gave the yield curve additional information for referencing pricing. In Kazakhstan, the KMC, operating with agency status, began refinancing its portfolio by issuing three- and five-year mortgage-covered bonds. Such issues carried risk premiums similar to other government-backed entities in developed economies and served as a substitute for missing government securities. While not optimal, reliance on such issues can temporarily substitute as a yield curve while interventions for building the government debt market and corporate bond market are underway.

The recent hiatus in the international bond markets has also demonstrated the unquantifiable risk of borrowing in hard currency. Ukraine borrowed billions of U.S. dollars at low rates, but when the national currency devalued against the dollar and the loans came due, the cost of buying dollars to repay the loan wiped out any savings. This ended up costing the state much more than if it had borrowed in its national currency. Though low international borrowing rates are seductive, they can be destructive. For this reason alone, countries need a dependable and liquid source of investment to fund their budgets. Borrowing in domestic currency eliminates the unquantifiable cost of currency exposure.

As institutional investors, banks, pension funds, insurance companies, and mutual funds drive market development. A strong and sizable banking system operating in accordance with Basel II is a key starting point (Braun and Briones, 2006, p. 12). Banks are usually already operating in varying forms of compliance, depending on central bank supervision. However, because of their sheer size, pension funds are the most potent source of investment capacity; if Pillar II pension funds do not exist, one option to consider is converting the pay-as-you-go system to mandatory, privately managed contributions, which will quickly accumulate large sums of money for investment. For the first five to seven years of operation, pension funds are typically very risk-adverse, investing in only fixed instruments. This investment profile fuels demand for bonds and the design of new financial instruments. In Kazakhstan, Pillar II pension funds had too few financial instruments, and asset managers were driven off shore to invest. Additionally, even though Ukraine's Pillar II is due to be operational in 2010, the accumulations will soon outpace the availability of financial instruments and force investment off shore. In Jordan, the social security system must invest

only internally. With no corporate bond market to speak of, it has been forced to invest in asset classes with more risk, such as real estate development projects and equity in privatized companies.

It is never too early to begin designing new financial instruments in anticipation of Pillar II start-up, because accumulations will soon outstrip supply. Insurance companies also provide impetus for bond market development and, in the absence of a Pillar II pension system, should be looked at carefully. The type of insurance company (e.g., life, property, casualty, disability, health) will determine the type of bonds in which companies will invest. For example, a life insurance company will need a mix of short-term and long-term assets in its portfolio to manage its liabilities because life insurance payouts can be predicted using actuarial models. In such cases, payouts are less frequent (but in larger amounts) and a life insurance company can afford to adopt a buy-and-hold approach for longer-dated securities that offer more yield. Property, casualty, and health insurance companies will need portfolios composed of short- to medium-term securities (for liquidity) that can be easily sold to manage more frequent payouts. In some countries, companies must get permission from the insurance regulator to invest in new kinds of financial instruments, such as asset-backed or mortgage-covered bonds.

Mutual funds are another option for fixed-income investment, though they are not always available in developing market economies. Such funds are usually growth-oriented and can invest nearly two-thirds of their capital in equities. Mutual funds also have no way of predicting redemptions, meaning time horizons are short and liquidity is at a premium. Nevertheless, once a mutual fund industry starts growing, it will likely contribute to the growth of secondary market trade.

Mortgage-covered bonds are most appropriate for pension funds and insurance companies. Mortgage portfolios sold as corporate securities constitute one of the largest asset classes of fixed-income instruments available for investment. While many countries have succeeded in developing primary markets for mortgages, underwriting standards vary. In mortgage loans, loan-to-value (LTV) ratios determine suitability for refinancing. As noted in Section A, banks may refinance their mortgage portfolios through either securitization or by issuing mortgage-covered bonds. Mortgage-covered bonds are especially suited for pension funds and insurance companies because they do not pass through any of the pre-payments, slow pays, or defaults that residential mortgage-backed securities (RMBSs) do when borrowers either repay or have problems paying. In a mortgage-covered bond, the issuing financial institution has an obligation to replace an impaired mortgage with a performing one; therefore, the pool is always collateralized by performing assets — usually 120 percent of the face value of the issue (another feature of mortgage-covered bonds being overcollateralization). For pension funds, which must make payouts against expected income, not having to deal with unpredictable prepayments or slow or no payments is a key investment parameter. For institutional investors with low tolerance for risk and obligations to make payments, mortgage-covered bonds make it easier to match assets with liabilities. Therefore, where primary markets exist, development emphasis should be on mortgage-covered bonds, especially when development of a domestic bond market is the objective. In Kazakhstan, ABSs followed the successful introduction of mortgage-covered bonds.

Financial institutions will be interested in both as refinancing mechanisms (Arner, 2002, pp. 511-514)

The Sanctity of Pledge. The laws of virtually all developed countries either exclude pledge from bankruptcy estate or, as in the United States, give pledgeholders priority over other creditor classes. Pledge is the cornerstone of secured lending, and secured lending is the unshakable foundation on which widespread, robust financial intermediation is built.

From the creditor's point of view, pledge must be able to survive unimpaired all possible financial and legal events, including bankruptcy of the borrower, for the lifetime of loan; an impaired pledge is, in fact, no pledge at all. Anyone or anything that comes between the pledge and the pledgeholder to any degree, at any time, or for any reason during the term of the loan is impairment. Therefore, the first step in undertaking a program to develop corporate bond issuance is a review of the laws needed to support it.

As pointed out in Section B, bond-related legislation is not uniform or standardized, and the quality of the legislation varies considerably from one law to the next, even in the same jurisdiction. It is also likely that local lawyers needed to conduct the review will understand little about bonds in general and absolutely nothing about bond mathematics. (As mentioned previously, law that contradicts mathematics is difficult to enforce.) The legal review should therefore be conducted by a committee of at least two local lawyers, a local financial analyst, and an expatriate bond expert. In Ukraine, a leasing company conducted the country's first domestic asset-backed securitization using its variant of a domestic SPV in the absence of a securitization law.

Getting Started. If possible, holding a conference or forum to explain the benefits of corporate bond markets within the first 100 days of start-up is the best way to begin. In Kazakhstan, Ukraine, Moldova, and Jordan, a conference or forum dedicated to discussing how bond markets worked kicked off the campaign to bring together all relevant players (i.e., government, issuers, investors, intermediaries, service providers, and regulators). Such events serve to focus all participants on the benefits of bond issuance and necessary priorities for establishing the market. Perfect laws and regulations are not needed to start. In Kazakhstan, the first corporate bond was issued with imperfect bankruptcy statutes and covered bonds were issued without a mortgage-covered bond law. Such issues highlighted the need for amendments to existing law or, in the case of mortgage-covered bonds, a specific law that excluded mortgage collateral used as pledge in a bond from bankruptcy estate. It was enough to start the market. In Ukraine, a leasing company conducted the country's first domestic asset securitization using its variant of a domestic SPV to issue in the absence of a securitization law.

Use of pilot projects uncovers what legal and regulatory changes or additions are necessary, what investors are looking for, and what levels of risk premium (i.e., interest) they are prepared to accept. Taxation treatment will also affect the appeal of bonds to investors. Typically, banks will be the first to engage in issuing a pilot bond, especially if it involves housing finance. This was the case in Kazakhstan, Ukraine, and Moldova. Depending on the branding of the bank, pilot issues will be small and of medium duration. If an unknown

corporation is issuing, the duration of the pilot will be short and very likely privately placed. Using working groups to work closely with regulators will minimize registration hurdles without sacrificing prudential norms. The first corporate bond in Kazakhstan was issued for $74,000 and 90 days, at rates nearly 8 percent below prevailing bank lending rates. The issue helped identify investor concerns about the deficiencies in the bankruptcy law as it related to their claim on assets. After the bonds were redeemed, USAID hosted a major press event to highlight the positive outcome. It is important to always take advantage of opportunities to communicate such milestones to the market.

Over-collateralizing and guarantees can be useful in first-time issues. Investors need as much assurance as can reasonably be provided that they will get their money back. To the extent possible, specific collateral should be used that can be easily valued to equal the face value of the bond, and then exceeded by at least 20 percent. In the case of Vita, a sunflower oil processor, finished bottles of cooking oil valued at wholesale prices 120 percent of face value were set aside in a secure warehouse to ensure repayment. Once creditworthiness is established, such extreme measures can led to general obligation bonds that use all the corporation's assets to collateralize the bond. Another alternative is to use guarantees, which are very useful in a new market, though there are several hurdles to overcome. USAID's DCA requires that market failure must be demonstrated before its guarantee can be employed. Also, first-time borrowers do not necessarily have the premiums for the guarantee, which may have to be paid from mission funds. Another problem is that the perception of U.S. deficits and creditworthiness may reduce the guarantee's utility. The first mortgage-covered bond in Kazakhstan was collateralized at 120 percent of face value; 50 percent of the bond's value was guaranteed by DCA — an explicit guarantee by the U.S. government. Investors did question what authority DCA had to issue the guarantee and the how the guarantee would be employed in the event of default. Such explanatory details were incorporated in the investment memorandum. The issue was also rated by S&P, which took note of the guarantee in its rating assignment. In summary, over-collateralizing and/or using guarantees and getting the issue rated are important steps to consider for successful placement.

International rating and domestic rating agencies help to differentiate creditworthiness for investors, especially in emerging markets. Nearly every country engaged in market-building would like to have Moody's, S&P, or Fitch establish an outpost or joint venture in their market to issue ratings, but this is unlikely to happen. (Over the course of a decade, USAID made numerous and unsuccessful attempts to get one of these agencies to establish joint ventures with local credit-rating providers in Kazakhstan and Ukraine.) Rather than attempting to work with one of the "big three" agencies, it would be beneficial to work with a local credit-ratings provider to build independent and credible capacity to issue ratings so the market and the securities commissions will recognize the provider as an issuer of ratings. Until then, however — and in order to establish credibility with investors — USAID may have to underwrite the cost of using Moody's, S&P, or Fitch to rate a pilot issue, particularly when the proceeds of the bond issue are insufficient to justify such an outlay for the issuer. Usually, only one or two are necessary before the market recognizes the value of using ratings.

Other Lessons Learned. In many countries, pegging currencies to hard currencies (e.g., the dollar or euro) has been a mixed blessing. Problems can occur if the market value of the local currency drops in relation to the currency or currencies to which it has been pegged. This happened in Asia when the value of the Thai baht plummeted against the dollar, precipitating a massive decline in the stock market that rapidly spread to other Asian economies. In the wake of the Asian economic crisis of 1997-98, analysts determined weaknesses in banking systems, which contributed to the severity of the crisis, were brought on by insufficient capital-adequacy ratios, undue concentration in industries, explicit and implicit guarantees by government, and inadequate provision for future losses. Asian countries responded with a concerted effort to develop local corporate bond markets, one reason being that corporate bonds require prudent cash-flow management versus banks loans made on the basis of expected revenue growth (Endo, 2001, p. 240). Corporate issuers have an incentive to be transparent about their financial conditions to encourage market participants to invest in and trade their securities. Such markets homogenize risk, making economies less dependent upon banking systems with poor lending practices and lax oversight.

Developing domestic government and corporate bond markets in local currency helps to minimize the currency mismatches that can cause economic stress. Consequently, "de-dollarization" and/or "de-euroization" through the issuance of local currency bonds is likely to resonate with policy makers, who believe such de-linkages are in the country's interest. This should result in increased support for market development from senior officials.

Top-down concentration on infrastructure does not work. Too often, creating markets was regarded as a technical building exercise, a simple matter of following a set plan: set up regulators and regulations, incorporate exchanges, introduce trading and clearance systems, and give regulators and market participants some education. Proponents of this approach believe the market will spring to life once the systems are plugged in and the doors are opened for business. However, this build-it-and-they-will-come approach does not work. It has been tried before and the markets did not operate; there were no issuers, no investors, and no intermediaries to transact. No market participation means there is no market (Harwood, 2000, p. 6).

Once a market's core elements are in place, organized exchanges can be a great help toward growth. For example, an exchange may require board-listed companies to have minimal capitalization, three years of profitability, and audits conducted in accordance with IAS by one of the "big four" accounting firms. Investors know that such listings have met minimal requirements set by the exchange. Such listing requirements are not a substitute for due diligence and research — investors have an obligation to make an informed decision by reading the investment memoranda and ratings — but they do foster transparency.

Islamic finance and its potential for growth cannot be overstated. The sukuk market is fast emerging as the most significant form of Islamic financing and continues to receive strong interest as an avenue for fundraising and investment; it has been gaining growth momentum, increasing at an average annual rate of 40 percent. Significantly, 90 percent of sukuk issuance is corporate issuance. In Malaysia, the issuance of sukuk has surpassed that of conventional bonds for three consecutive years, with the annual turnover in sukuk trading in

the secondary market at about RM135 billion ($38.1 billion) (Aziz, 2008). Strong demand for sukuks has also been spurred by the high levels of surplus savings and reserves in Asia and the Middle East (Moody's Reports, 2006).

With virtually all Shariah compliancy issues resolved by Islamic scholars, it is now the job of practitioners to design products that conform to the concerns of Shariah (Ayub, 2008, p. 466).

Any corporate bond development program should seriously consider if the design of a sukuk market is an appropriate addition for the recipient country or, in some cases, preferable to conventional design. Information about other projects' experiences with sukuk markets is an invaluable resource; if possible, it would be useful to meet at least every two months to share experiences and find solutions to impediments.

E. Case Studies and Lessons Learned for Replication in Emerging Economies

E1. Case Study I: Kazakhstan

As of July 2009, outstanding domestic corporate bond issuance stood at $11.7 billion (Kazakhstan Stock Exchange, 2009). The appearance and dynamic growth of the debt securities market in Kazakhstan must be attributed, in large measure, to a USAID-sponsored initiative emphasizing the development of debt securities rather than equities, and to the NBK, which lobbied and maneuvered for the development of private pension funds. Without the private pension fund system, there would have been neither domestic institutional money to invest in fixed income nor the professional money managers to invest it.

Background

In the late 1990s, the concentration of the country's capital stock in a few strategically important, capital-intensive industrial enterprises was not conducive to rapid privatization. The investment picture in Kazakhstan was made worse, at least temporarily, by the August 1998 treasury default in Russia. In 1999, Kazakhstan was again forced to devalue to bring the tenge-ruble exchange rate back into equilibrium; as a result, commercial bank deposits and the money supply shrank. Shell-shocked by Russia's default, foreign investors fled markets in Kazakhstan in droves. This, coupled with the Asian crisis, aptly illustrated the destabilizing capability of underdeveloped debt markets. Asian domestic debt markets were slow to develop due to the predominance of banking systems, fiscal surpluses, and the lack of disintermediation. The disruption in capital flows eventually engulfed the region, having negative consequences for the economic, political, and social order in many countries. It also served as another reason for the flight of foreign capital investment from Kazakhstan. Through a quirk of geography, Kazakhstan was situated between two seismic financial meltdowns. Foreign investors did not differentiate.

With the value of bank deposits almost halved by devaluation and the loss of foreign funds, the largest stock of capital in Kazakhstan became "mattress money," which is not for investment. Pension funds, on the other hand, are (Lucterhand and Moody, 2002).

Pension Funds and Risk

The mandates and objectives of private pension funds, insurance companies, and investment funds differ, often markedly, from those of commercial banks. Pension funds and insurance companies tend to have longer investment horizons and greater need for risk diversification and, therefore, on the whole, they exhibit a broader appetite for the risks corporate debt entails. From the developmental point of view, however, regardless of the future benefits private pension funds and insurance companies might provide, their greatest benefits to an emerging economy are the initial ones: breaking the commercial banking system's monopoly on debt and lowering the cost of corporate (and eventually personal) borrowing. Kazakhstan has privatized its pension fund system. More specifically, legislation enabling the creation and operation of private accumulation pension funds and mandating workers' contributions to them was adopted by Kazakhstan's parliament in 1997. Modeled on the Chilean experience, the system in Kazakhstan that appeared in 1998 consisted of a government-funded and -operated solidarity (i.e., pay-as-you-go) system, a government-operated accumulation pension fund (that was privatized in 2003), and 15 private pension funds serving approximately 5.4 million contributors. The government solidarity system will continue to pay pensions prorated to time of service prior to 1998.

USAID was not the first to realize that pension fund accumulations represented a new source of private investment funds or that, at projected rates of growth, they would soon rival mattress money as the largest stock of capital in Kazakhstan. However, it was perhaps the first to understand that pension funds are primarily fixed-income investors. The first priority of accumulation pension funds is capital preservation; therefore, pension funds must largely forego speculative capital gains in favor of predictable future income streams. Fixed income instruments were the only investments asset managers in Kazakhstan should consider (Lucterhand and Moody, 2002).

Fixed-Income Conference

In April 1999, a little more than a year after the appearance of Kazakhstan's private pension funds, USAID sponsored a fixed-income conference in Almaty. The conference generated enormous interest, and attendance was greater than expected. Guest speakers from England, Russia, the United States, and Europe addressed a range of issues related to both public and corporate finance, including the principles of fixed-income portfolio management.

One objective of the conference was to introduce potential corporate issuers to the alternatives to commercial bank loans and acquaint them with the processes and procedures of issuance. Another obvious objective was to demonstrate to pension fund asset managers that corporate bonds could easily be as well-underwritten as bank loans. The conference helped USAID focus its attention on the organizational structure needed to promote the development of a debt securities market in Kazakhstan. The organizational structure was similar to that of an investment bank. The primary functions were corporate finance, new product development, and advocacy of legal structural reform (Lucterhand and Moody, 2002).

In fact, USAID had since 1996 been working with the Kazakhstan Stock Exchange (KASE), the National Securities Commission (NSC), and the NBK to develop the legal basis for corporate bond issuance and the prudential norms, regulations, and exchange listing requirements that would govern issuers and investors. While far from perfect, the law "On the Securities Market," adopted in 1997, proved an adequate legal platform for the corporate issues that eventually came to market. After the fixed-income conference, Pragma's corporate finance consultants began working with potential corporate issuers, helping them prepare the *usloviya vypuska* (bond indentures) and investment memoranda required by the NSC and KASE.

Bonds and Banks

Predictably, Kazakhstan's early corporate issues were very similar in size, structure, and term to commercial bank working capital loans (i.e., small amounts, unsecured, and short-term). Like the interest rates on commercial bank loans, the coupon yields these early bonds carried were initially relatively high, although they were, on average, eight full percentage points lower than comparable commercial bank loans. In fact, the spread between corporate bond yields and rates on commercial bank loans was so wide that local commercial banks became corporate bond issuers early on, refinancing their loan portfolios at the domestic investment rate.

Further, all issues (i.e., both bank and non-bank corporate) were — and with few exceptions remain — indexed to the dollar. Approximately 70 percent of all financial transactions in Kazakhstan are still dollar-denominated or dollar-indexed, suggesting that the investment community overcame any aversion to corporate debt well before conquering its fear of devaluation. While de-dollarization was not an initial objective of bond market development, it did become one in due course. Lowering the cost of corporate borrowing was an objective, as was extending the yield curve. In issuing bonds, banks actually refinance at terms longer than those of their deposit base, thereby reducing potential maturity mismatches between assets and liabilities. Corporate bonds not only lower interest rates — they also make for stronger banks.

Pledge and Bankruptcy

In a little more than three years, dollar-indexed yields on corporate bonds fell by almost 50 percent and the average maturity grew from a little more than one year to about four and a half years. As teaching tools go, default is decidedly pricey; but absent default, it is hard to teach issuers and investors the value of security interest. Still, security interest exists. As of January 2003, pilot issuers KMC and Lariba Bank, a small commercial bank in Almaty, had placed about $4.5 million of MBSs with pension funds and commercial banks. More accurately termed "mortgage bonds," both issues were secured by mortgage pools, the aggregate outstanding balances of which were 120 percent of the bonds' face values. Both issues featured the additional credit enhancement of a "bondholder representative," the local version of a trustee. (The term "trustee" could not be used because of certain deficiencies in Kazakhstan's trust and pledge laws.) The Lariba issue enjoyed yet a third credit enhancement: a USAID DCA guarantee on 50 percent of the bond's face value (Lucterhand and Moody, 2002).

Both issues got preferential price treatment from investors. The dollar-indexed Lariba issue was priced to yield 7.99 percent — 297 basis points below the trade-weighted average yield for existing unsecured three-year maturities. KMC's inflation-indexed, floating-rate issue fared even better — 9.99 percent in tenge terms, or about 6.29 percent on a dollar-indexed basis at the time of issue — 467 basis points (4.67 percent) below existing unsecured three-year yields. The yields that investors willingly took thoroughly demonstrated the value of secured interest and credit enhancement. It appears investors generously rewarded the issuers for collateralization (though mortgage-backed, the issues were not pass-throughs or securitizations), using trustees, having detailed default provisions, Lariba's DCA guarantee on 50 percent of the value of the bond, and other inducements. In essence, investors viewed this pilot issue as overcollaterized (by design) and accepted markedly lower yields in comparison with other securities in the market at the time that did not have these features.

Corporate bonds are not only financial instruments; they are contracts (indentures) between legal entities and, as such, their terms and conditions must comport with the law of the land. On the matter of security interest (i.e., pledge), Kazakhstan's Civil Code contradicted itself. The statutes on pledge granted security interest while the statutes on bankruptcy took it away. As it was written, Kazakhstan's law did not support security interest.

Under Kazakhstani law, pledge did not survive bankruptcy unimpaired. The law neither excluded pledge from bankruptcy estate nor granted pledgeholders priority over all other creditor classes in the settlement of bankruptcy estate. In bankruptcy of a non-bank legal entity, pledgeholders' claims were met in third order of priority; in bankruptcy of a bank, sixth order. From the creditor's point of view, pledge must be able to survive unimpaired all possible financial and legal events, including bankruptcy of the borrower, for the lifetime of loan; an impaired pledge is, in fact, no pledge at all. As previously mentioned, anyone or anything that comes between the pledge and the pledgeholder to any degree, at any time, or for any reason during the term of the loan is impairment (Lucterhand and Moody, 2002).

The penalty for impairing pledge is lack of economic growth. The laws of virtually all developed countries either exclude pledge from bankruptcy estate or, as in the United States, give pledgeholders priority over other creditor classes. Lawgivers of developing countries must understand that pledge is the cornerstone of secured lending, and secured lending is the unshakable foundation on which widespread, robust financial intermediation is built. (Lucterhand and Moody, 2002)

In Kazakhstan, there was tension between those who believed in protecting the socially disadvantaged from the impact of bankruptcy and the reformers who understood that Kazakhstan needed programs to help the disadvantaged and weak. But they also understood that such programs should not be embedded in bankruptcy law, and their benefits should not impair pledge.

Conclusion

Privatization of pension funds proved key to development of the bond market. In particular, the risk-adverse nature of pension funds accelerated the development of fixed-income instruments such as corporate and mortgage bonds.

None of this would have been possible had not a legal working group, chaired by the NBK, drafted amendments and additions to Kazakhstan's law that redressed deficiencies in numerous statutes, including those governing the treatment of pledgeholder claims in bankruptcy proceedings. With the pledge issue, the parliament had the opportunity to either add a chapter to or end the story of the emergence of debt markets in Kazakhstan.

E2. Case Study II: Ukraine

In late 2004, USAID began its work to develop a fixed-income market in Ukraine. At first, USAID tried replicating its earlier success in Kazakhstan by identifying a committed senior official who could function as an engine of reform as the central bank governor had done in Kazakhstan. This was a difficult task. The political turmoil resulting from the Orange Revolution and three subsequent changes in government resulted in a revolving door of ministers at finance and economy. Only the head of the central bank remained, and he was interested in the conduct of monetary policy, not reform. USAID sponsored a trip for the former governor of the central bank of Kazakhstan to meet with his Ukrainian counterpart to discuss how the central bank might play a role in reform. However, the central bank showed no interest.

USAID decided to concentrate on several fronts simultaneously: working with municipalities to issue pilot bonds; working with banks, intermediaries, trade associations, and the securities regulator to secure passage of a mortgage-covered bond law that would facilitate issuance of a pilot mortgage-covered bond; drafting a business plan in collaboration with the Ukrainian Association of Banks to establish a credit bureau; and developing the capacity of financial leasing companies. USAID also worked to develop the primary market in mortgages by introducing a program of certification for mortgage lending officers. The certification program included detailed courses on how secondary markets work and a comparative analysis of RMBS and issuance of covered bonds. Such a certification underscored the importance of using ironclad underwriting standards when collateralizing mortgage bonds for issuance in the secondary mortgage market.

International Mortgage Conference

In March 2005, USAID sponsored a two-day international conference that focused on development of the secondary mortgage market. The conference highlighted benefits of refinancing, emphasizing the role of market participants, underwriting standards, legal and regulatory requirements, and the importance of ratings. The conference set in motion the essential elements for the regulator to consider and gave banks the opportunity to express their concerns. Most important, the conference clarified the challenges of issuance facing the industry and the agenda necessary to succeed. It also showcased that USAID was taking a lead role in the donor community's previously splintered and disorganized approach to the subject: it was proposing a centuries-old approach to issuing mortgage bonds more commonly found in Europe and an approach to risk more appropriate to pension funds and insurance companies.

Mortgage-Covered Bonds Lead to Development of a Domestic Government Securities Market

In the corporate sector, and in response to passage of the covered bond law, USAID worked with two banks and the securities commission to issue and successfully structure and place mortgage-covered bonds. The pilots identified strengths and weaknesses in the legal and regulatory process, and with internal bank procedures. USAID worked with the banks and the securities commission to streamline the regulations and introduced amendments to the law to clarify the legal process in the event of default to the bondholders. It chose mortgage-covered bonds because of its experience introducing them in Kazakhstan and because pension funds (Pillar II expected in 2010) need secure financial instruments in which to invest. Unlike MBSs, there has never been a default in covered bonds since they were introduced in Prussia in 1769. The pilot also illustrated the difficulty in pricing such obligations in the absence of a government yield curve. During seminars for investors, different government yield curves were overlaid with yields for covered bonds from neighboring countries, including Kazakhstan, Hungary, Spain, and Germany, to dissuade a government benchmark as reference in calculating the risk premium investors would need to purchase the securities.

The difficulties in pricing these pilots helped focus USAID on the need to develop a yield curve for reference pricing of corporate debt instruments. USAID identified key individuals[3] in the debt-management department and worked very closely with them and senior Ministry of Finance officials to design and promote adoption of the Concept for Development of the Government Securities Market in Ukraine. The Concept included development of a clear debt-management strategy, the use of primary dealers, pre-announced auction dates with clear and predictable amounts for sale, relevant maturities for construction of a yield curve at market rates, coordination with the National Bank on management of Treasury balances, and introduction of a repo market in government securities. It also referenced establishment of a separate debt-management office for sovereign and domestic issuance. Though the minister of finance’s resistance to using market rates to fund the budget constituted a formidable obstacle, the Concept was adopted by the Cabinet of Ministers in March 2009.

The Role of Ratings

The pilots also exposed the issuers to the rigors of the analytic process, because each of the pilots was rated by an international agency. The depth of inquiry helped the issuers understand how their portfolios might perform under various stress scenarios. While the rating process helped investors understand what they were buying, the issuers benefitted perhaps even more. By the time the analysis was complete, bank personnel thoroughly understood their mortgage portfolios, how to manage them better, and the cost/risk/gains impact to their business models.

[3] Cabinet of Ministers Resolution 316-P March 25, 2009

Mandatory Ratings Can Impede Market Development

By 2002, a domestic rating agency had been formed and recognized by the securities commission as an authorized agency. This agency benefitted from having a monopoly on providing national-scale ratings due to a securities regulation that laid out capital requirements and a minimum time to have been in business. No other statistical agency could comply with these requirements. Because the securities commission required all issues to be rated in accordance with a national scale approved by the Cabinet of Ministers, only ratings from this one agency were acceptable. Though there was great resistance, USAID succeeded in getting the securities commission to accept any rating issued by one of the internationally recognized agencies. While this did open up some competition, the international ratings were expensive. USAID commissioned a white paper on how to establish a competitive domestic ratings industry in Ukraine; it argued against using mandatory ratings and requiring issuers to get ratings when markets can more effectively demonstrate the value of a rating. Regardless, the commission insisted on using mandatory ratings to protect investors. Market participants had little faith in the ratings issued by the domestic agency, recognizing that a corporation getting such a rating was only complying with the regulations for the least amount of money. Consequently, USAID conducted a tender among the three international firms to provide a rating for each of its three municipal pilots with the costs borne by the implementing partner through its project. USAID also continued to press for less stringent requirements to form a domestic statistics agency approved to issue ratings. Today, the domestic corporate and municipal bond market has grown large enough to support several rating agencies.

Too Many Credit Bureaus

Meanwhile, in the absence of a fully functioning credit bureau, the banking sector expanded into retail lending without a clear understanding of the risks. This lending also extended to mortgages, where it was not uncommon to see 100 percent (LTV) loans made against residential properties. More than 75 percent of loans were in dollars. When the local currency, the hryvnia, collapsed in response to the global financial crisis and the domestic political crisis, many retail borrowers were unable to repay their loans in hard currency which, in turn, put pressure on banks to increase loan loss provisions and increase capital. Even though the credit bureau law was passed in 2005, it took a long time to convince banks that sharing loan performance data to build data bases was in their best interest. In fact, suspicion was so high among banks that five credit bureaus came into being, though only three formed credible data bases. Such duplication of effort retarded collection of data in one central bureau and delayed the introduction of credit scoring and a host of other products that banks could have used to ration credit.

Besides data, the key to building a successful credit bureau is an experienced international operator who can design products, introduce credit scoring, and support their distribution. In the end, credit bureaus are businesses just like any other. Ultimately, Ukraine is likely to have two bureaus, because two of the three now share the same international operator and most will probably merge. Ukraine’s credit bureaus appeared too late to be of much value for retail and small- and medium-sized enterprise (SME) lending.

Impact of the Financial Crisis on Bond Market Development

Ukraine has been severely hit by the global economic downturn. The IMF recently estimated that Ukraine's economy would contract by 12.2 percent in 2009. Interestingly, in the early days of the Orange Revolution, foreign ownership of banks in Ukraine increased dramatically and was thought at the time to be a good thing. Later, the depth of the crisis would affect the ability of European banking parents to capitalize their subsidiaries, shaking the confidence of many depositors. At the same time, the retail lending binge collapsed when the economy began to contract. Press coverage of troubled banks became a nightly affair. Export prices for steel and commodities plummeted. Gas wars with Russia, tension over membership in the North Atlantic Treaty Organization (NATO), and ineffectual political leadership took their toll.

The impact on the bond market was nearly immediate. Pending municipal issues with interest caps set and approved by city councils were shelved due to the rapid rise in domestic rates. Mortgage rates also soared, limiting the pool of borrowers and virtually eliminating the need for banks to refinance their mortgage portfolios for relending. Ukrainian banks were also party to lax underwriting standards that precluded many mortgages from being used as collateral for covered bonds.

In the international capital markets, credit default swaps for Ukraine reached heights that were previously unimaginable, fueled by fist fights on the floor of the Rada and overt tension between the president and prime minister. Ukraine stopped borrowing abroad; the inability to finance internationally facilitated the adoption of the Concept to Develop the Domestic Government Securities Market.

Recovery of the corporate, municipal, and government bond markets will take time and will likely remain tethered to international commodity prices, the presidential election in 2010, and economic recovery in Europe. Nevertheless, demand resulting from the introduction of Pillar II pension funds in 2010 should help to revitalize a market that started with great promise but stalled when the economy stopped growing.

Conclusions

Changes in macroeconomic conditions affected Ukraine's market development. Just as the pilot's follow-on municipal and mortgage bond issues were being prepared, a rapid increase in inflation hampered issuers' ability to meet expected returns for investors who wanted yields above the rate of inflation. Had this not happened, Ukraine's bond market would have been ready for accelerated growth. Moderate rates of inflation will accommodate development.

Committed counterparts were essential to success. Even though a champion of reform did not emerge, persistence in working with deputy ministers and commissioners at the securities regulator paid off. One direct result was adoption of the Concept to Develop the Domestic Government Securities Market. Market participants and the securities regulator were also critical in developing the mortgage-covered bonds and municipal bonds market.

Even without Pillar II pensions as institutional investors, Ukraine's population of 47 million, its large GDP, and relatively large banking system provided sufficient investor (e.g., banks, insurance companies, and mutual funds) capacity to start the market. For smaller economies, creditworthy issuers and institutional investor (e.g., a strong banking system and Pillar II pension funds) capacity are essential for markets to develop.

A government yield curve facilitates bond market development: Pricing of Ukraine's municipal and mortgage-covered bonds was complicated by the absence of a long-term (i.e., at least five to seven years) government yield curve, because investors needed a pricing reference to fix risk premiums. This absence added uncertainty and inefficiency (i.e., delays) to the market. Persistent interventions made the difference in getting the minister of finance to acknowledge that market pricing was essential for development of the government securities market.

Multiple components allow flexibility in allocating technical resources. Even though interventions were constant, there were delays in response time. The ability to concentrate on one component while waiting for results on another affords maximum utilization of technical expertise.

Development of bond markets takes time. (The pilot municipal and corporate issues in Ukraine occurred over five years.) It is complex and can be expensive, and the need for interventions is continuous. Therefore, time lines for implementation must be realistic.

E3. Case Study III: Moldova

The poor state of relevant law and regulation and the National Commission for Financial Markets' lack of knowledge about bonds and bond markets have hindered development of a corporate bond market in Moldova. The laws and regulations date from the mid-1990s, when lawmakers and regulators were most concerned with preventing Ponzi schemes such as the infamous MMM affair in Moscow.[4] For example, the civil code requires all transactions involving corporate bonds be conducted in cash (i.e., specie) and Article 29 of the Joint Stock Companies Law limits corporate bond issuance by any one company to the amount of its paid-in capital. USAID identified 10 other oddities and antiquities in the civil code and laws related to bond issuance. Regulation, likewise, is cumbersome, convoluted, and confusing; opportunities for corruption are ample (The Pragma Corporation, 2009, pp. 35-36). The political will to develop such a market was present in the Ministry of Economy and Trade and, to a lesser extent, at the National Bank of Moldova, but other dynamics were at work.

Moldovan credit markets beginning in the second quarter of 2008 and the global financial crisis in third quarter played a part in preventing corporate bond issuance during 2008. However, three fundamental obstacles in the structure of the Moldovan economy and

[4] During privatization and hyperinflation experienced throughout the Russian Federation in the early 1990s, MMM offered investment returns that outperformed the rate of inflation. Early investors received enormous returns that spurred word-of-mouth advertisements. Similar ads were seen on television and in the print media. Many investors considered their money safe and were desperate to keep ahead of inflation. Subsequently, the government investigated MMM for tax evasion and shut its offices. When money stopped flowing in, MMM could not make anymore payouts and millions of investors lost money.

financial sector may stand in the way of corporate issuance. First, in Moldova — a country of approximately 4.3 million people and a GDP of $10.63 billion (purchasing power parity) — the service sector accounted for more than 60 percent of GDP in 2007 and 2008 (Central Intelligence Agency, 2009). The service sector is labor-intensive, not capital-intensive; it does not require periodic, long-term investment in plants and equipment. It is, therefore, an unlikely source of corporate bond issuance. Likewise, agriculture's financing needs are best met by short-term bank loans or, in the case of equipment replacement, by longer-term financial leasing contracts. In 2006, Russia placed an embargo on Moldovan wine, costing the industry its largest customer, and in 2007 the country suffered a devastating drought. In 2008, massive devaluations of the Ukrainian hryvnia and the Russian ruble brought border trade in agricultural products to a halt. Further, Moldovan apparel manufacturers in the South operate largely on tolling arrangements with European name-brand labels. Additionally, the one sector that does occasionally require long-term investment in expensive equipment — the telecom industry — is still state-owned. In short, the structure of Moldova's economy does not encourage corporate bond issuance and, in the current political situation, that structure is not likely to change (The Pragma Corporation, 2009, pp. 35-36).

Moldova's banking industry, while small and relatively unsophisticated, is growing much faster than the economy as a whole. Bank assets increased 45 percent in 2007 and 22 percent in 2008, compared to GDP growth of 3 percent and 7.2 percent, respectively. In its 2007 report "Migration and Remittances: Eastern Europe and the Former Soviet Union," the World Bank revealed that the remittances sent by Moldovans working abroad cover approximately 27 percent of Moldova's GDP (Mansoor & Quillin, 2007, p. 58). Many of these remittances indirectly end up as bank deposits.

Rapid banking-sector growth in 2007 was fueled by excess liquidity, which resulted from insufficient sterilization of foreign currency inflows by the National Bank and a small but extremely lucrative U.S. dollar-based carry trade in the Moldovan lei. The latter attracted more deposits (in lei) than otherwise would have been the case. Even after the stringent measures taken by the National Bank in 2008, Moldovan banks are still carrying excess reserves — though much less than at the end of 2007 — meaning they do not need the additional funding bond issuance offers.

The banks need to diversify away from deposits being virtually the sole source of funds. Given the condition of their European partner banks, which are feeling the effects of the global financial crisis, they may need dollar- or euro-denominated funding in the near future. As a rule, however, banks with excess reserves do not issue bonds, including mortgage bonds. And "there are no institutional investors (e.g., investment funds, private pension funds) in Moldova. It is, of course, expensive, time-consuming, and administratively burdensome to place a large issue with many individual small investors whose investment horizons tend to be short-term, not long-term. However, the likelihood of private pension funds developing in Moldova in the short term is not good for two reasons. First, deposits aside, there are no financial instruments in the country in which they can invest. Second, there are actuarial problems with developing annuities for such small populations. The first issue is not just a chicken-and-egg problem; the fact is, for the immediate future, any funds accumulated in Moldova would have to be invested offshore (e.g., in Europe, the United

States, Russia), where they would automatically create currency mismatches for future pensioners, the risk of which should be outside the prudential norms of pension regulation. The second issue is technical in nature (i.e., retiring annual cohorts in Moldova can never constitute a statistically valid sample for the purposes of calculating annuitant mortality), and can probably be overcome by some enterprising actuarial modeling. Still, it remains a disincentive to market entry for life insurance companies, the usual issuers of annuities" (Pragma Corporation, 2009, pp. 35-36).

Conclusions

A large service sector that is labor-intensive, not capital-intensive, constitutes 60 percent of Moldovan GDP. The economy is highly dependent on agriculture, and influenced by regional politics and weather. Laws and regulations are outdated. There is no institutional investment capacity and excess liquidity in the banking system. There is not a viable government securities market with issuance longer than two years. All these have contributed to delaying development of the corporate bond market. Though the political will existed in Moldova, it has not been enough to overcome other, more fundamental barriers. These are the challenges for Moldova, USAID, and other donors to overcome in the years ahead.

E4. Case Study IV: Jordan

Jordan is an example of what committed counterparts can do to facilitate financial reform. Despite a small population (6.3 million) and a refugee population estimated between 300,000 and 700,000 (Oxford Business Group, 2008, p. 14) — mostly from the war in Iraq — and a service sector constituting nearly 80 percent of GDP, Jordan has embarked on a series of reforms that has made it a destination of choice for foreign investors. International standards of accounting, a world-class securities exchange, Organization for Economic Co-operation and Development (OECD) corporate governance standards, and a strong banking system have all contributed to the positive investment climate. In general, Jordan's financial sector can be characterized as sophisticated.

In the late 1980s, the Jordanian government initiated a series of reforms to improve the structure and efficiency of the financial sector. As a result, interest rates were fully liberalized in the early 1990s. In 1993, the Central Bank of Jordan moved away from direct instruments of monetary control by issuing its own certificates of deposit to mop up excess liquidity. In 1996, the central bank's preferential credit facilities were eliminated, except for small specialized banks involved in credit to the agricultural, handicrafts, and export sectors. In the same year, a new investment law was passed that allows equal treatment for domestic and foreign investors and further opens financial markets to foreign participation. In 1997, a new securities law was approved, improving the structure of the stock market. Capital-account transactions in capital markets securities and money-market instruments were also liberalized. In 1998, the central bank introduced an overnight repurchase agreement with commercial banks and opened an overnight deposit facility. In 2000, a banking law was approved that protects deposits, reduces money-market risk, guards against loan concentration, and contains articles on new banking practices (e.g., e-commerce and e-banking) and money laundering. In addition, government securities were introduced through a regular series of auctions. In 2001, a new public debt law was passed that bars any new

direct-credit facilities to the government and calls for the gradual repayment of outstanding credit. The government also began issuing five-year treasury bonds, denominated in Jordanian dinars, at regular intervals, extending the yield curve to five years and assisting in benchmark pricing. All these actions set in train the core elements that make growth of a fixed-income market possible today.

Financial savings in Jordan are primarily intermediated through the banking sector. Jordan's banking system is fully privately owned, well-developed, profitable, and efficient. Some banks have implemented modern banking practices, including automated check-clearing and the use of magnetic check processors, unified reporting forms, and electronic data-transmission networks. Moreover, many banks have tele-banking and e-banking services. Banks can extend loans and credit facilities in foreign currencies for trade-related purposes. Increasingly, banks have started introducing new products and corporate bond issues. The interbank money market has become prominent over the last few years.

Financial intermediation through the banking system is mostly short-term, however. There are 23 banks, eight of which are foreign-owned, with assets totaling $56 billion at the end of 2007. Two of these banks — Arab Bank and the Housing Bank for Trade and Finance — have combined assets of nearly $37.3 billion. The disparity between large and small banks is significant (Creane, Goyal, Mobarak, and Sab, 2003). Further, competition for business is fierce. There are 150 corporate accounts in the entire banking system. Banks seek to match maturities by lending for the short term, with only a few corporate loans stretching beyond three years in maturity. A large proportion of the lending activity is therefore short-term trade financing and consumer credit. The authorities recognize the need for further financial deepening. In 1994, the Jordan Loan Guarantee Corporation was established to provide guarantees for SMEs, low- and middle-income housing, and craftsmen. In 1996, the Jordan Mortgage Refinance Corporation was established to foster longer-term mortgage lending.

Prudential regulations and banking supervision have been strengthened considerably in recent years. The Central Bank of Jordan exercises strict controls to ensure that banks do not take risky positions on foreign exchange. Moreover, banks are subject to annual on-site inspections and frequent off-site inspections. This emphasis on prudent banking (and transparency in reporting) has served to attract international investment capital, much of which is invested for the long term.

The nonbank financial system is well-diversified. As of 2008, there were 29 insurance companies (only one life insurance company), authorized money changers, investment companies, and a Public Pension Fund with assets of both private- and public-sector employees amounting to about 26 percent of GDP. In addition, a new trust law permitted the introduction of private mutual funds by creating proper fiduciary requirements and standards.

Jordan has a relatively strong institutional environment. The Central Bank is independent of the government and its accounting framework is now in broad compliance with IAS. The legal system facilitates and protects the acquisition and disposition of all property rights.

Despite this relatively high level of development, there remains a need for further financial deepening throughout the economy. For consumers, a greater supply of long-term fixed or partially fixed mortgages would make housing more affordable for a large portion of the population not covered under the government housing subsidies. For corporations, long-term investments remain largely financed out of shareholders' capital or through foreign financing.

Bond Market Forum

A focused and well-organized conference or forum is an ideal venue for launching a new initiative in cooperation with government and market participants. In February 2004, USAID and the Association for Investment Management and Research (AIMR) hosted a forum that focused on development of the Jordanian fixed-income market ("Financial Forum identifies initiatives to enhance Jordan's corporate bond market," 2004). Attendees agreed that for Jordan's primary and secondary fixed-income markets to develop and expand, more instruments would need to be issued and offered to the market, a credit rating agency needed to be established, a better yield-curve framework for reference pricing should exist through development of the domestic government bond market, and legislative reforms should be instituted.

The absence of an independent domestic credit-rating agency was regarded as a significant impediment to growth in Jordan's corporate bond market. According to formal investment policy, many institutional investors cannot invest in a fixed-income instrument that has not been rated by an independent agency. A rating agency would provide a local rating scale to facilitate the issuance of new bonds and assist in investment decisions in all investor categories, including the general public.

Participants also agreed that Jordan needed a better yield-curve framework in which the bond market could operate — both for pricing of primary issues and for secondary market trading. It was suggested that a more regular stream of treasury bond issues with varied maturities and interest rates would provide a fundamental benchmark for pricing and rating corporate bonds.

Between 2006 and 2008, the Jordanian government conducted a second phase of privatization that nearly completed the transition of state-owned assets to private ownership. These shares were issued at the same time new corporate governance regulations meeting OECD standards were mandated by the Securities Commission. The result was a heightened level of transparency that offered investors increased access to information that helped facilitate successful share placement to institutional investors. Such standards will soon be applied to all companies listed in the Amman Stock Exchange. Partly as a result of these efforts, foreign ownership of Jordanian shares on the Amman Stock Exchange has grown to more than 50 percent (Oxford Business Group, 2008, p. 73).

Institutional Investors

Jordan's institutional investors comprise banks, the state pension fund, insurance companies, and mutual funds; there is no shortage of demand. The Social Security System Corporation

manages more than $8 billion of assets that, by law, must be invested locally. The absence of suitable fixed-income investments has forced investments in less-traditional asset classes, such as real estate and equities from privatizations. Payouts are not indexed to inflation and actuarial assessments indicate that the social security system will run out of money between 2037 and 2040 (Oxford Business Group, 2008, p. 92). Development of inflation-indexed bonds, as well as reforms to the system (Pillar II and III), will be needed to avoid insolvency. The insurance industry, though relatively undeveloped, is growing, due in part to the requirement that all drivers have car insurance. Car and health insurance constitute nearly 60 percent (40 percent car insurance) of all premium income; property and casualty insurance account for approximately 18 percent.

Financial Infrastructure

Jordan has the key financial institutions to support bond market development and the legal and regulatory basis to support issuance. A strong banking sector with deposit insurance and a functioning mortgage market, the Securities Depository Center as custodian for all transactions clearance and settlement, the Amman Stock Exchange, the Jordanian Securities Commission, and the Insurance Commission are essential for the country's market to function.

Potential for Issuance

Because most corporations in Jordan are over-banked, the most likely promise for corporate bond development rests with issuance of corporate bonds by banks and mortgage-covered bonds and mortgage securitizations conducted by the Jordan Mortgage Refinance Company. Banks need a diversified asset base and local corporate bond issuance in domestic currency that can mitigate asset liability mismatches. The pending passage of a securitization law will also afford flexibility to banks that wish to refinance mortgages without the burden of balance-sheet maintenance. The law, however, will add to the cost and complexity of doing business. Furthermore, the country needs a recognized domestic rating agency; development will be impeded until one is established and achieves market credibility. Nevertheless, demand exists and issuance will grow with SMEs or small banks borrowing in the capital markets; these will become the next generation of corporations to issue with some support from USAID, followed by pilot covered bonds once the legislative basis is in place (Strauss, 2005, pp. 3-4). Another aspect of corporate bond development involves Islamic finance and Jordan's unique regional position to develop sukuk bonds similar to asset-backed bonds.

Conclusions

The Executive Summary mentions factors for sustainable markets. Jordan has them all: committed counterparts in the government and private sectors, a legal and regulatory base, market-based public debt management, a strong investor base, and essential financial infrastructure. In many ways, Jordan defies convention, given the size of its population and large service sector. However, past performance demonstrates that the missing pieces of enabling legislation (e.g., the law on securitization and covered bonds) and financial infrastructure (e.g., a domestic credit-rating agency) will soon be part of Jordan's continuing

evolution as a regional financial hub, enabling formation of a significant primary and secondary market in corporate securities.

Macroeconomic impact on market development will remain the biggest uncertainty, though inflation should decrease markedly in 2009 due to a drop in underlying commodity prices and a spike in 2008 resulting from the government lifting energy subsidies. Any increase in the current account deficit due to a slowdown in foreign direct investment would also cause concern, though it would be cushioned to some degree by remittances (estimated at $3.2 billion) by the approximately 700,000 emigrants working outside the country (Oxford Business Group, 2008, p. 32). Jordan must also address its two biggest challenges: oil and water, commodities it is lacking.

F. Summary of Pertinent Policy, Regulatory, Institutional Market Infrastructure, and Capital Market Issues as Enablers for Corporate Bond Issuance

There are a number of policy initiatives that can be used to facilitate development of corporate bond markets. However, this primer concentrates only on policy initiatives that have proven effective.

F1. Policy Initiatives

1. Development of the Domestic Government Securities Market: Secures a supply of highly marketable securities that can be used to construct a long-term government yield curve for use in reference pricing of other securities; builds market participation and infrastructure. Acceptance of market rates is an essential part of the commitment.

2. Development of Pillar II Pension Funds: Converts pay-as-you-go systems to privately managed mandatory-contribution systems. Creates institutional demand for fixed-income instruments and hastens improvements in market infrastructure, such as prudent regulation, disclosure and transparency, financial intermediaries, asset management, clearance settlement, and custody; creates financial engineering of new products.

3. Development of the Insurance Industry: Creates demand for fixed-income instruments and complements pension funds as institutional investors; life insurance companies drive development of the actuary profession (i.e., financial infrastructure) and have long investment time horizons that are beneficial to corporate issuers.

4. Development of Housing Finance: Builds a primary mortgage market that finances home ownership and associated market infrastructure, such as appraisers, real estate practitioners, and property registries; develops underwriting standards to support mortgage bond issuance.

5. Development of Pilot Mortgage-Covered Bonds: Complements the mortgage primary market and focuses attention on legal and regulatory matters, such as the

sequestering of mortgage collateral from bankruptcy estate and the use of trustees (i.e., bondholders' representatives) in supporting corporate bond issuance; allows banks to refinance their mortgage portfolios for continued lending and provides institutional investors with low-risk financial instruments that have fixed maturities and predictable interest payments, benefiting asset liability management. Covered mortgage bonds often constitute the largest source of corporate bonds issuance in the local currency of the emerging market.

6. Development of Sukuk Bonds: Islamic finance has rapidly expanded and the potential for investment due to increased oil wealth and savings is enormous. Sukuk bond issuance offers countries in Asia and large parts of Africa enhanced access to investment capital from Muslim countries that, for religious reasons, have restrictions on investment in conventional bonds.

7. Development of Local Ratings Capacity: Contributes to transparency and differentiation of local credit risk in either conventional or sukuk bonds. Availability of credible information is key to investment decisions and is fundamental to market development.

8. Minimize Regulatory and Taxation Barriers: Eliminate aspects that needlessly contribute to complexity, increased costs, and delays. Taxation of bond gains should not be punitive, but equally applied to all financial instruments, including equity.

F2. Legal and Regulatory

The first step in undertaking a program to develop corporate bond issuance is to review the laws needed to support it, including legislation related to public debt management.

1. There should be a **law on "Public Debt Management"** that requires the ministry of finance to produce a debt-management strategy and report on its progress toward objectives.

2. There should be a definition of bonds in the **law** "**On Financial Markets"** or **"On Securities."** The law "On Joint Stock Companies" should expressly empower corporations to issue bonds.

3. The **law** "**On Financial Markets"** or **"On Securities"** should require corporations to register bond issues with a local regulatory body (e.g., the national securities commission). The law should require the regulatory body to draft regulations governing the issuance of corporate bonds.

4. The **law "On Pledge"** should allow (1) multiple pledgeholders and (2) aggregate (or master) pledge. The law should be written to ensure that the definitions of "assets" and "moveable property" cannot be construed, generally, to exclude financial assets. The law should also allow a representative of the pledgeholder to sign the pledge agreement.

5. The **law "On Bankruptcy"** (or the statutes of the civil code governing bankruptcy procedure) must require creditors' claims to be settled before shareholders may recover any proceeds from bankruptcy estate. The law "On Bankruptcy" (or the statutes of the civil code governing bankruptcy) must either (1) exclude pledged assets from bankruptcy estate or (2) require settlement of pledgeholders' claims before those of any other creditor class.

6. When used in reference to covered bonds, the term "trustee" is misleading and should be replaced with "bondholder representative." Though many civil code jurisdictions will not have a law "On Trust," they will have a law "On Representation" under the legal aegis of which the bondholder representative may act. Here, "representation" refers to limited power-of-attorney. The need for power-of-attorney arises because the law "On Pledge" usually requires the pledge agreement to be signed. For secured bonds, this creates two problems. First, the physical signature of a pledge agreement would significantly complicate the trade of a bond. Second, in many jurisdictions the pledge must be in place (i.e., registered) before the bond can be sold, meaning there are no bondholders to sign the pledge agreement. A bondholder representative solves these problems.

Each law is supported by implementing regulations that are written by the body charged with oversight. These are typically reviewed by the ministry of justice to ensure they comply with the law. In the case of corporate bonds, bond regulations are drafted by the securities commission to confirm that both the issuer and the proposed issue comply with the law.

F3. Market Infrastructure

Issuance. The issuance of domestic government securities is the first step of market infrastructure development. There may also be large government-sponsored entities or even large corporations with brand names that can function as proxies for government debt until the market develops. Commercial banks function as both issuers and investors; they are usually the first corporate bonds to be issued and are likely candidates for pilots.

Institutional Investors. Banks, pension funds, insurance companies, and mutual funds create demand. By far, the biggest investors in any market are Pillar II pension funds. Demand for domestic bonds will likely exceed supply and drive development of new instruments.

Intermediaries. BDs are professional market participants that are licensed and regulated by securities commissions. They are intrinsic to transactional flow and add liquidity to markets. They are often members of organized exchanges and represent the market perspective in dealings with regulators and potential issuers.

Regulators. Information and rules make markets operate efficiently and fairly. Regulations must be monitored and enforced to comply with relevant laws that affect the conduct of the securities markets. Also, barriers that could prevent registration (due to onerous reporting requirements) must be eliminated. Such regulations address the levels and conditions of disclosure and market conduct.

Organized Exchanges. Securities exchanges exist to facilitate transparency, price discovery, and fairness in buying and selling securities. Nearly all exchanges begin trade in corporate equities so there is name/brand recognition and familiarity with companies' fundamentals. This makes the transition for listing corporate bonds relatively easy. However, only corporations with reoccurring issues are likely to be traded; most others will be buy-and-hold.

Clearance, Settlement, and Depositories. The "plumbing" of the securities markets, these processes entail specific administrative actions that secure the exchange of funds and safekeeping of collateral. These functions are often combined in one facility, such as a central depository. However, the same functions can be offered and performed by regulated institutions (e.g., banks). Every bond market must have clearance, settlement, and depository capacity in order to function and develop.

F4. Issues for Capital Market Development

Equity versus Bonds. There will always be a contest in markets between those who prefer investing and trading in equities versus those who prefer fixed income. The two are complementary. However, there is no rule that says trade in equity should precede bond issuance in market development. Most equity trade in emerging markets has resulted from privatization of state-owned industries and from shares that companies issued when markets were just forming. Many companies viewed such emissions as free money (the payment of dividends was never really considered) when compared to the cost of servicing debt, though dilution of control was always a concern. Only recently have newly privatized entities considered accessing the capital markets through bond issuance. Market values in some emerging markets' equity markets have recently fallen nearly 50 percent; such downturns have prompted issuers and investors to revisit bonds' many positive features and may reorient those counterparts who emphasized development of equities markets at the expense of fixed income.

Banks versus Bond Issuance. Banks, especially strong ones, are good for development of corporate bond markets. While some market participants may see bond issuance as an intrusion into traditional bank lending, the two are very different. Banks usually lend working capital to corporations against assets for short periods. A company uses the bond markets to borrow for longer periods, based on investor analysis of capacity to service the debt. This is also accompanied by a clear description of what the company plans to do with the money. Nothing illustrates the different lending parameters better than bank investment in bonds issued by companies to which they did not lend, including bonds issued by other financial institutions. In countries with many banks, consolidation should be encouraged as an enabler of market development.

Primary versus Secondary Market. When discussing development of secondary markets, it is easy to forget that secondary markets cannot exist without a primary market. Therefore, the emphasis should be on how to build the underlying primary dynamic for a bond to be issued. For example, to issue mortgage bonds that build a primary market, it is necessary to first concentrate on developing the market for mortgages. This differs from working with a corporation that manufactures widgets and needs to expand production to meet demand. Both

are corporate bonds; both are important to market development. But by concentrating on the primary market, the mortgage bond market is more likely to grow and evolve into secondary market trade as volumes increase. Emphasis should therefore be placed on issuance of bonds that enable the greatest development of both the primary and secondary markets, given the investment of time and money.

Size Matters. Not all economies are conducive to corporate bond development. In a country with a small GDP and per capita income, it may not be possible to develop a traditional corporate bond market until or unless there is population growth or an increase in per capita income (Endo, 2001, p. 14). These countries should concentrate on further developing their basic financial services (Stone and Shimizu, 2009, p. 51). However, it may still be possible to develop the capital markets though issuance of government securities. This, coupled with a sound banking system that can differentiate credit, Pillar II pension reform, and development of an equities market (possibly through a regulated exchange), may set the stage for development of corporate bonds as the economy grows.

Taxation. Transaction taxes and stamp duties will impede market development and be counterproductive to economic growth (Luengnaruemitchai and Ong, 2005, p. 16). Taxation officials should tax securities transactions in relation to tax rates on other investments to create a neutral tax environment. Some securities, such as government securities and certain agency issues, may merit tax-exempt status.

Ratings. An objective, independent and impartial third party must provide investors information and access to methods to consistently measure the relative risk of bond issues. A major benefit of this arrangement is that companies will be motivated to improve their financial standing and enhance the quantity and quality of the information they offer investors. The government may need to support the development of domestic ratings capacity through the stock exchange or securities regulator because it is highly unlikely that international ratings agencies will set up either subsidiaries or joint ventures during the early stages of market development. To achieve market credibility, it is essential for the government agency to provide objective, independent opinions. Regulators may require pension funds or insurance companies to make investments in securities that receive a specific minimum rating. Experience shows, however, that when regulators require all issues to be rated to support development of a ratings industry, the process can easily convolute and stifle competition.

G. Final Note: Impact of the Financial Crisis

In the midst of the crisis, sovereign nations and their banks were sometimes unable to sell securities to finance their operations or re-refinance obligations due in dollars or euros. When they were able to sell, the credit default swap spreads (i.e., risk premiums) demanded by the market were almost usurious. Banks refused the risk of lending to each other, even overnight. Markets stopped functioning and the valuation of securities became all but impossible. The net impact on economies around the world varied from the benign to the nearly catastrophic. But for many — politicians, economists, journalists, citizens — the American form of capitalism and its financial products, such as subprime and mortgage securitization, caused the crisis.

In reality, however, investment bankers in New York, London, Tokyo, and Hong Kong all sold various forms of asset securitizations — subprime and others — *because they could*. The financial engineering that began on Wall Street was embraced and used in virtually every financial center around the world. When global financial trade ground to a halt, everyone, everywhere was affected, revealing just how interrelated the international capital markets have become.

Securitization in general and mortgage securitization in particular did not cause the credit crisis. Yet, the complexity of securitization did break the link between lender and borrower. Traditionally, banks lent from their depositor base. However, with packaging and selling, the number of loans that could be made was limited only by the size and appetite of a $7-trillion mortgage securities market (Spratt, 2008, p. 347).

Furthermore, securitizations have been used worldwide, not just in America, because they have proven effective for both investors and issuers. What has fundamentally changed is how risk in securitization is now perceived by investors and subsequently priced. Previously, cash-laden institutional investors fought each other to buy pieces of a securitization for incremental returns without truly understanding the risks they were incurring. Those days are gone. Whatever caused the problems — flaws in the rating system, excess leverage, poor regulation, or outright fraud — economic development officers must understand the benefits of asset securitizations in developing secondary bond markets as part of the larger universe of fixed-income instruments and be prepared to argue their merits when necessary.

Today, the challenge for USAID and others engaged in economic development is to demonstrate that capital markets remain intrinsic to economic growth and that issuance, investment, and trade in corporate bonds, along with banking, is essential to global financial intermediation.

ANNEX A. GLOSSARY

Amendment. A change or addition to a legal document that, when properly signed, has the same legal power as the original document.

Asset. Any item of economic value owned by an individual or corporation, especially that which could be converted to cash (e.g., cash, securities, accounts receivable, inventory, office equipment, real estate, a car, and other property). On a balance sheet, assets are equal to the sum of liabilities, common stock, preferred stock, and earnings. From an accounting perspective, assets are divided into the following categories: current assets (cash and other liquid items), long-term assets (real estate, plant, equipment), prepaid and deferred assets (expenditures for future costs such as insurance, rent, interest), and intangible assets (trademarks, patents, copyrights, goodwill).

Asset-Backed Bonds. *See Asset-Backed Security.*

Asset-Backed Security (ABS). Bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other providers of credit; not mortgages.

Asset Class. A type of investment, such as stocks, bonds, real estate, or cash.

Bank Guaranty. A letter of indemnity issued by a bank to a third party, on behalf of a customer and against the customer's counter-guaranty as a security. A bank, for example, may issue a guaranty to a shipping company protecting it from any harm or loss arising out of the release of a shipment where its consignee (bank's customer) has lost or misplaced original shipping documents. In the construction industry, a bank guaranty (as a bid bond or performance bond) is an essential requirement for the award of a contract.

Bankruptcy. The legal procedure for liquidating a business (or property owned by an individual) which cannot fully pay its debts out of its current assets. Bankruptcy can be brought upon itself by an insolvent debtor (called voluntary bankruptcy) or it can be forced on court orders issued on creditors' petition (called involuntary bankruptcy). Two major objectives of a bankruptcy are (1) fair settlement of the legal claims of the creditors through an equitable distribution of debtor's assets and (2) to provide the debtor an opportunity for fresh start. Bankruptcy amounts to a business failure, but voluntary winding up does not.

Basis Point. The smallest measure of quoting the yield on a bond, note, or other debt instrument. One basis point is equal to one hundredth of one percent (0.01 percent): one percent of a yield equals 100 basis points. For example, an interest rate of 5 percent is 50 basis points higher than an interest rate of 4.5 percent. Similarly, a spread of 50 basis points (between a bond's bid price and offer price) means the investor must pay 0.5 percent more to buy it than he or she could realize from selling it.

Bond. Written and signed promise to pay a certain sum of money on a certain date, or on fulfillment of a specified condition. All documented contracts and loan agreements are bonds.
Bond Market. A financial market consisting of bond issuers, underwriters, buyers, and brokers/dealers.

Bondholder. The owner of a bond. In addition to receiving regular interest payments and the return of principal, bondholders are given precedence over stockholders in case of asset liquidation.

Bondholder Representative. *See Trustee.*

Broker. An individual or firm that acts as an intermediary between a buyer and seller, usually charging a commission. For securities and most other products, a license is required.

Broker-Dealer (BD). In securities trading, an individual or firm that may act either as a broker (the agent) or a dealer (the principal) but not both in a transaction.

Capital. The measure of the accumulated financial strength of an individual, firm, or nation, created by sacrificing present consumption in favor of investment to generate future returns above investment costs.

Capital Market. A financial market that works as a conduit for demand and supply of (primarily) long-term debt and equity capital. It channels the money provided by savers and depository institutions (e.g., banks, credit unions, insurance companies) to borrowers and investees through a variety of financial instruments (e.g., bonds, notes, stocks) called securities. A capital market is not a compact unit, but a highly decentralized system made up of three major parts: (1) stock market, (2) bond market, and (3) money market. It also works as an exchange for trading existing claims on capital in the form of shares.

Capitalization. The sum of a corporation's long-term debt, stock, and retained earnings.

Carry Trade. The borrowing of money at a low interest in order to invest in a security or investment that provides a higher interest. For example, an investor believing that short-term interest rates will remain low might take out short-term debt to finance the purchase of long-term debt. The return on the investment would be the coupon of the long-term debt minus the cost of short-term borrowing. If the price of the long-term debt falls due to rising interest rates, the investment becomes less profitable. As another example, a currency carry trade could involve an investor borrowing New Zealand dollars, which could have a low interest rate, to purchase a U.S. dollar-denominated investment, which might have a high interest rate. If the interest rate on the investment declines, or if the exchange rate on the New Zealand dollar becomes unfavorable, the investor could lose money.

Collective Investments. *See Mutual Fund.*

Commercial Mortgage. A mortgage secured by real estate and in which the real estate is used for business purposes.

Conservatorship. A situation where a person (called the conservator) is appointed to manage the affairs of another person who a court ruled is unable to make decisions themselves.

Conventional Bonds. *See Bond.*

Corporate Bond. A type of bond issued by a corporation. Corporate bonds often pay higher rates than government or municipal bonds, because they tend to be riskier. The bond holder receives interest payments (yield) and the principal, usually $1000, is repaid on a fixed maturity date (bonds can mature in one to 30 years). Generally, changes in interest rates are reflected in bond prices. Bonds are considered to be less risky than stocks, since the company has to pay off all its debts (including bonds) before it handles its obligations to stockholders. Corporate bonds have a wide range of ratings and yields because the financial health of the issuers can vary widely. A high-quality blue-chip company might have bonds carrying an investment-grade rating such as AA (with a low yield but a lower risk of default), while a startup company might have bonds carrying a “junk bond” rating (with a high yield but a higher risk of default). Corporate bonds are traded on major exchanges and are taxable.

Coupon Rate. The interest rate stated on a bond, note, or other fixed-income security, expressed as a percentage of the principal (face value).

Covenant. A clause in a contract that requires one party to do, or refrain from doing, certain things. It is often a restriction on a borrower imposed by a lender.

Covered Bond. A bond or note that is backed by mortgages or cash flows from other debt. If the bond issuer goes into bankruptcy, investors who purchased the bonds can lay claim to the underlying assets.

Credit Enhancement. The process of reducing credit risk by requiring collateral, insurance, or other agreements to provide the lender with reassurance that it will be compensated if the borrower defaults.

Credit Premium. An additional cost above the normal cost.

Credit Rating. A published ranking, based on detailed financial analysis by a credit bureau, of one’s financial history, specifically as it relates to one’s ability to meet debt obligations. The highest rating is usually AAA; the lowest is D. Lenders use this information to decide whether to approve a loan.

Credit Risk. The possibility that a bond issuer will default by failing to repay principal and interest in a timely manner. Bonds issued by the federal government, for the most part, are immune from default. (If the government needs money, it can just print more.) Bonds issued by corporations are more likely to be defaulted on, since companies often go bankrupt.

Municipalities occasionally default as well, although it is much less common. Also called default risk.

Credit Spread. A spread option position in which the price of the option sold is greater than the price of the option bought.

Creditor. A person or organization that extends credit to others.

Currency Sterilization. A form of monetary action in which a central bank or federal reserve attempts to insulate itself from the foreign exchange market to counteract the effects of a changing monetary base. The sterilization process is used to manipulate the value of one domestic currency relative to another, and is initiated in the foreign-exchange (forex) market.

Debt-to-Equity Ratio. A measure of a company's financial leverage. Debt/equity ratio is equal to long-term debt divided by common shareholders' equity. Typically, the data from the prior fiscal year is used in the calculation. Investing in a company with a higher debt/equity ratio may be riskier, especially in times of rising interest rates, due to the additional interest that has to be paid out for the debt.

Default Risk. The possibility that a bond issuer will default by failing to repay principal and interest in a timely manner. Bonds issued by the federal government, for the most part, are immune from default. (If the government needs money, it can just print more.) Bonds issued by corporations are more likely to be defaulted on, since companies often go bankrupt. Municipalities occasionally default as well, although it is much less common.

Default. Failure to make required debt payments on a timely basis or to comply with other conditions of an obligation or agreement.

Depository. A bank or company that holds funds or securities deposited by others, and where exchanges of these securities take place.

Derivative. A financial instrument whose characteristics and value depend upon the characteristics and value of an underlier, typically a commodity, bond, equity, or currency. Examples of derivatives include futures and options. Advanced investors sometimes purchase or sell derivatives to manage the risk associated with the underlying security, to protect against fluctuations in value, or to profit from periods of inactivity or decline. These techniques can be quite complicated and quite risky.

Domestic Market. The part of a nation's market that represents the systems of trading securities of entities located within that nation.

Dynamic Mortgage Pool. A pool whose individual components are periodically changed to maintain a specific value.

Emerging Market. A financial market of a developing country, usually a small market with a short operating history.

Equity. Ownership interest in a corporation in the form of common stock or preferred stock. It also refers to total assets minus total liabilities, in which case it is also referred to as shareholder's equity, net worth, or book value. In real estate, it is the difference between what a property is worth and what the owner owes against that property (i.e., the difference between the house value and the remaining mortgage or loan payments on the house). In the context of a futures trading account, it is the value of the securities in the account, assuming that the account is liquidated at the going price. In the context of a brokerage account, it is the net value of the account (i.e., the value of securities in the account less any margin requirements).

Financial Regulation. The supervision of financial markets and institutions. For example, one of the duties of the U.S. Securities and Exchange Commission (SEC) is to provide financial regulation over fair and standardized reporting of financial statements.

Fiscal Deficit. The amount by which a government, company, or individual's spending exceeds its income over a particular period of time.

Fixed Asset. A long-term, tangible asset held for business use and not expected to be converted to cash in the current or upcoming fiscal year, such as manufacturing equipment, real estate, and furniture.

Fixed Income. A security that pays a specific interest rate, such as a bond, money market instrument, or preferred stock.

Fixed-Income Instrument. Bonds, preferred stock, and treasury bills that generate a specified amount of income over a certain period. They give their holders a fixed claim on the assets of the issuer, and are considered low-risk and low-yield investments.

Fixed Rate. A loan in which the interest rate does not change during the entire term of the loan.

Floating Charge. A lien or mortgage on an asset that changes in quantity and/or value from time to time (such as an inventory), to secure the repayment of a loan. In this arrangement, no charge is registered against the asset and the owner of the asset can deal in it as usual. If a default occurs, or the borrower goes into liquidation, the floating asset "freezes" into its then-current state, "crystallizing" the floating charge into a fixed charge and making the lender a priority creditor.

Floating Rate. Any interest rate that changes on a periodic basis. The change is usually tied to movement of an outside indicator, such as the prime interest rate. Movement above or below certain levels is often prevented by a predetermined floor and ceiling for a given rate.

Foreign Direct Investment. Direct investments in productive assets by a company incorporated in a foreign country, as opposed to investments in shares of local companies by foreign entities. An important feature of an increasingly globalized economic system.

General Obligation Bond. A government bond issued with the government's commitment to use its full taxing and borrowing authority (and other revenue resources) to make timely payment of interest and principal. Bonds issued by government agencies (e.g., municipalities) may not have this power, and may rely only on the revenue from the project being financed by the bond issue. Also called a full-faith or credit bond.

Government Securities. Securities issued by a government to raise the funds necessary to pay for its expenses.

Guarantor. Person or firm that endorses a three-party agreement to guarantee that promises made by the first party (the principal) to the second party (client or lender) will be fulfilled, and assumes liability if the principal fails to fulfill them (defaults). In case of a default, the guarantor must compensate the lender or client, and usually acquires an immediate right of action against the principal for payments made under the guarantee.

Hard Currency. A stable, convertible currency (e.g., euro, U.S. dollar, yen) or one that enjoys the confidence of investors and traders alike. Hard currencies serve as a means of payment settlements because they do not suffer from sharp exchange-rate fluctuations.

Household. All persons living under one roof or occupying a separate housing unit, having either direct access to the outside (or to a public area) or a separate cooking facility. Where the members of a household are related by blood or law, they constitute a family.

Indenture. A deed or mortgage document signed (executed) by two parties (such as a seller and a buyer), as opposed to a deed poll, which is usually executed by only one party. Named after the old practice in which such instruments (and all copies) were torn in a specific manner, resulting in jagged edges, for later authentication. *See also bond indenture.*

Inflation. Sustained, rapid increase in the general price level, as measured by some broad index number of prices (e.g., the Consumer Price Index) over months or years, and mirrored in the correspondingly decreasing purchasing power of the currency. It has its worst effect on fixed-wage earners, and is a disincentive to save. A price increase alone (e.g., one resulting from crop failure), however, is not inflation, because the effect(s) of such increases are self-limiting (unless they cause an inflationary spiral in combination with factors such as wage increases, easier credit, or greater money supply) and because economies in general show some increases in prices as they recover from a recession. There is not a single, universally accepted cause of inflation. Modern economic theory describes three types of inflation: (1) Cost-push inflation is due to wage increases that cause businesses to raise prices to cover higher labor costs, which leads to demand for even higher wages (the wage-price spiral); (2) Demand-pull inflation results from increasing consumer demand financed by easier access to credit; (3) Monetary inflation is caused by the expansion of the money supply (due to a government printing more money to cover its deficits).

Institutional Investor. Large organizations (e.g., banks, finance companies, insurance companies, labor union funds, mutual funds or unit trusts, pension funds) that have

considerable cash reserves they need to invest. Institutional investors are by far the biggest participants in securities trading; their share of stock market volumes have consistently grown over the years. For example, on a typical day, about 70 percent of the trading on the NYSE is on the behalf of institutional investors. Because they are considered knowledgeable and strong enough to safeguard their own interests, institutional investors are relatively less restricted by the security regulations designed to protect smaller investors.

Interest Rate Risk. Probability that the market interest rates will rise significantly higher than the interest rate earned on investments such as bonds, resulting in lower market value. This risk is higher on long-term bonds.

Investor. A individual or organization whose primary objectives are preservation of the original investment (the principal), a steady income, and capital appreciation. An investor is neither a speculator, who takes on high risks for high rewards, nor a gambler, who takes on the risk of total loss for out-of-proportion rewards. *See investment*.

Islamic Banking. A banking system that is based on the principles of Islamic law (also Shariah) and guided by Islamic economics. Two basic principles of Islamic banking are the sharing of profit and loss and, significantly, prohibition of the collection and payment of interest. Collecting interest is not permitted under Islamic law. Bonds issued in accordance with Shariah are referred to as sukuk bonds.

Islamic Bond. *See Islamic Banking.*

Issuer. A legal entity (e.g., a corporation, investment trust, government, or government agency) that is authorized to issue (offer for sale) its own securities.

Joint-Stock Company. A corporation with unlimited liability for the shareholders. Investors in a U.S. joint-stock company receive stock (shares) that can be transferred; they can elect a board of directors but are jointly and severally liable for company's debts and obligations. A U.S. joint-stock company cannot hold title to a real property.

Liquidation. Final closing of a firm through the selling off of its free (unpledged) assets to convert them into cash to pay the firm's unsecured creditors. (The secured creditors take control of the respective pledged assets on obtaining foreclosure orders). Any remaining amount is distributed among the shareholders in proportion to their shareholdings. The liquidation process is initiated by either the shareholders (voluntary liquidation) or by the creditors after obtaining court permission (compulsory liquidation).

Liquidity Ratio. The total dollar value of cash and marketable securities divided by current liabilities. For a bank, this is the cash it holds as a proportion of its deposits. The liquidity ratio measures the extent to which a corporation or other entity can quickly liquidate assets and cover short-term liabilities, and therefore is of interest to short-term creditors.

Loan Syndication. Collaboration among lenders to share in a loan (or a package of loans) too big for any one of them to handle. Such loans (called participation loans or syndicated loans) sometimes involve more than a hundred banks located around the world.

Macroeconomics. The study of an economy in its largest sense. That is, the study of gross domestic product, unemployment, inflation, and similar "big" matters. It does not consider the function of individual companies and only tangentially studies individual industries. It is useful in helping determine the aggregate effect of certain policies on an economy as a whole.

Macroeconomy. *See Macroeconomics.*

Mandate. Written authorization and/or command by a person, group, or organization (the mandator) to another (the mandatory) to take a certain course of action. Normally revocable until executed, a mandate is automatically terminated on the bankruptcy, incapacitation, removal from office, or death of the mandator. A check, for example, is a mandate issued by a customer of a bank, to pay it as instructed, from a customer's account balance.

Maturity. The amount of time a project or program takes to complete, or the period for which a contractual agreement, financial instrument, guaranty, insurance policy, loan, or offer is issued or in force.

Maturity Mismatch. The tendency of a business to mismatch its balance sheet by possessing more short-term liabilities than short-term assets and having more assets than liabilities for medium- and long-term obligations.

Money Market. A network of banks, discount houses, institutional investors, and money dealers who borrow and lend among themselves for the short-term (usually 90 days). Money markets also trade in highly liquid financial instruments with maturities of less than 90 days to one year (e.g., bankers' acceptance, certificates of deposit, and commercial paper), and government securities with maturities less than three years (e.g., as treasury bills), foreign exchange, and bullion. Unlike organized markets, such as stock exchanges, money markets are largely unregulated and informal, with most transactions conducted by phone, fax, or online.

Money-Laundering. Legitimization (washing) of illegally obtained money to hide its true nature or source (usually the drug trade or terrorist activities). Money-laundering is done by passing money surreptitiously through legitimate business channels by means of bank deposits, investments, or transfers from one place (or person) to another.

Monoline. A financial company that deals specifically with one particular branch of the financial industry. It chooses one product to focus on, such as credit cards or a particular kind of loan, and then becomes specialized in all the aspects of that particular service. Because it doesn't need to divide its time, attention, and resources over a wide variety of products, the company becomes an expert in one field. These companies are often very competitive.

Monopoly. A market situation in which one producer (or a group of producers acting in concert) controls the supply of a good or service, and where the entry of new producers is prevented or highly restricted. In their attempt to maximize profits, monopolies keep prices high, restrict output, and show little or no responsiveness to the needs of their customers. Most governments, therefore, try to control monopolies by imposing price controls, taking over their ownership (called nationalization), or breaking them up into two or more competing firms. Governments sometimes facilitate the creation of monopolies for reasons of national security, to realize economies of scale for competing internationally, or when two or more producers would be wasteful or pointless (as in the case of utilities). Although monopolies exist to varying degrees — due to copyrights, patents, access to materials, exclusive technologies, or unfair trade practices — a complete monopoly is virtually impossible in the era of globalization.

Mortgage-Backed Security (MBS). A debt instrument secured by a mortgage or a pool of mortgages (but not conveying a right of ownership to the underlying mortgage). Unlike unsecured securities, they are considered investment-grade and are paid out of the income generated by principle and interest payments on the underlying mortgage. It is a type of mortgage derivative.

Mortgage Pool. Mortgage loans grouped together by type and maturity periods.

Municipality. An elected local government body with corporate status and limited self-governance rights, and serving a specific political unit, such as a town or city.

Mutual Fund. An investment firm managed by finance professionals that raises its capital by selling its shares (called units) to the public. A mutual fund invests its capital in a pool (portfolio, e.g., corporate securities, commodities, and options) that matches the objectives stated in the fund's prospectus. The amount of income a mutual fund's portfolio generates determines its daily market value (called net asset value), at which its units are redeemable on any business day, and the dividend it pays to its unit holders. There are two main types of mutual funds. In an open-end fund, the fund's capitalization is not fixed and more units may be sold at any time to increase its capital base. In a closed-end fund, capitalization is fixed and limited to the number of units authorized at the fund's inception (or as formally altered thereafter). Mutual funds usually charge a management fee — usually between 1 and 2 percent of its annual earnings — and may levy other fees and sales commission (called load) if units are bought from a financial advisor.

Note. Bond with a maturity period of five years or less.

Open-Market Operation. The buying and selling of government securities by a central bank, such as the Federal Reserve Bank in the United States, in order to control the money supply.

Originator. The first investment bank to promote a proposed new securities issue; often becomes the lead underwriter for that offering.

Over-Collateralization. A situation in which the asset pledged for a debt far exceeds the debt principal.

Pass-Through. A security representing pooled debt obligations that passes income from debtors to its shareholders. The most common type is the mortgage-backed certificate.

Pension Fund. A fund set up for a pension plan

Pension Plan. A qualified retirement plan set up by a corporation, labor union, government, or other organization for its employees.

Perfected Security Interest. A pledge agreement registered with the appropriate state or national pledge registry (real or moveable) which protects it from claims by other creditors of the pledge-giver.

Personal Property. Property, other than real estate, owned by an individual.

Personal Security Agreement. A security agreement dealing with any asset other than real estate.

Pledge Agreement. Offering assets to a lender as collateral for a loan. Though the asset will be pledged to the lender, it is still owned by the borrower unless he/she defaults on the loan.

Ponzi Scheme. An illegal investment scheme in which investors are promised impossibly high returns on their investments. These are scams in which money from later investors is used to pay earlier investors. The creators of the scheme get most of the profits while those who come later are left with nothing because there are eventually an insufficient number of new investors to pay the existing ones. These scams inevitably collapse because they require exponential growth in the number of participants at each step, which is impossible. Letters or emails that encourage the recipient to send money and then pass the message along to a certain number of new targets are a type of pyramid scheme.

Power-of-Attorney. A legal document that enables an individual to designate another person, called the attorney in fact, to act on his/her behalf as long as the individual does not become disabled or incapacitated.

Private Debt. Money owed by individuals and businesses within a given country.

Private Placement. The sale of securities directly to an institutional investor, such as a bank, mutual fund, insurance company, pension fund, or foundation. It does not require SEC registration, provided the securities are bought for investment purposes, not resale, as specified in the investment letter.

Private Sector. The part of a nation’s economy that is not controlled by the government.

Privatization. The repurchasing of all of a company's outstanding stock by employees or a private investor. As a result, the company stops being publicly traded. Sometimes, the company might have to take on significant debt to finance the change in ownership structure. Companies might want to go private to restructure their businesses (e.g., when they feel that the process might affect their stock prices poorly in the short run). They might also want to go private to avoid the expense and regulations associated with remaining listed on a stock exchange.

Public Debt. The amount by which a government's expenditures exceed its tax revenues. The difference is made up by borrowing from the public through the issuance of debt.

Rating Agencies. Private firms that rate corporate and municipal bonds (and other securities) on the basis of the associated degree of risk and sell the ratings for publication in the financial press and daily newspapers. Examples include the "big three" U.S. firms of Fitch Investors Service, Moody's Investors Service, and Standard & Poor's Corp. Duff & Phelps/MCM is another well-known U.S. rating agency. *See also investment advisory service.*

Reserves. Funds or material set aside or saved for future use.

Revenue Bond. Debt obligation for which interest and principal payments are derived directly and solely from the revenue of the project being financed by that bond issue. Usually issued by municipalities for funding public works (e.g., bridges, roads, and sewer systems), these bonds collateralize the project's assets, and the bondholder has no claim on the issuer's assets. In contrast, a general obligation bond is secured by the government's full taxing power.

Secondary Market. A financial market in which previously issued securities (e.g., bonds, notes, and shares) and financial instruments (e.g., bills of exchange and certificates of deposit) are bought and sold. All commodity and stock exchanges, and OTC markets serve as secondary markets that, by providing an avenue for resale, help reduce the risk of investment and maintain liquidity in the financial system.

Secondary Mortgage Market. A financial market in which existing mortgage loans are bought by other lenders, collection agencies, and investors.

Secured Bonds. Debt security backed by a specific asset of the issuer.

Securities. Financing or investment instruments (some negotiable, others not) bought and sold in financial markets. Examples include bonds, debentures, notes, options, shares (stocks), and warrants.

Security Agreement. A contract between a borrower and a secured lender or between an obligee and obligor that specifies which asset(s) is pledged as security, and under which conditions the lender or the obligor may foreclose on it.

Security Interest. An enforceable claim or lien created by a security agreement or by the operation of law that secures the fulfillment of a pledge. A lender (obligee) has a security interest in the collateral provided by a borrower (obligor) to guarantee timely payment of a debt or performance of an obligation. *See also perfected security interest.*
Sequential Pay Collateralized Mortgage Obligation. Has three of more tranches, all of which receive interest.

Settlement. The change of hands, within a certain period, of money and securities.

Shariah. The key pillar from which Islamic finance derives its unique characteristics.

Sine Qua Non. Absolutely essential or indispensable.

Sovereign Bond. A bond sold by the government.

Sovereign Debt. Government debt. Under the doctrine of sovereign immunity, the repayment of sovereign debt cannot be forced by the creditors and is thus subject to compulsory rescheduling, interest rate reduction, or even repudiation. The only protection available to the creditors is threat of the loss of credibility and lowering of the country's international standing (i.e., the sovereign debt rating), which may make it much more difficult to borrow in the future.

Sovereign. Absolute, supreme, and ultimate dominion and authority of a political state; subject to no higher power; expressed within its territory in full self-government and in complete freedom from any outside influence.

Special-Purpose Entities. A business interest formed solely to accomplish a specific task or tasks. A business may use a special-purpose entity for accounting purposes, but the transactions must adhere to certain regulations.

Static Mortgage Pool. A pool whose original components are not replaced in the event of default or prepayment.

Statute. A legislative act or law.

Sterilization. To use open-market operations to counteract the effects of exchange market intervention on a country's monetary base.

Stock Exchange. An exchange on which shares of stock and common stock equivalents are bought and sold. Examples include the NYSE and the American Stock Exchange (AMEX).

Stock. An instrument that signifies an ownership position, called equity, in a corporation and represents a claim on its proportional share in the corporation's assets and profits. Ownership in the company is determined by the number of shares a person owns divided by the total number of shares outstanding.

Structured Finance. Non-standard lending arrangements customized to the needs of specific clients. Such arrangements are often not fungible.

Sub-Sovereign Bond. A debt security issued by a national government within a given country and denominated in a foreign currency. The foreign currency used will most likely be a hard currency; it may represent significantly more risk to the bondholder.

Sukuk Bonds. *See Islamic Banking.*

The first payment, or tranche, receives principal payments until it is fully retired. After the first tranche is retired, the second tranche begins, receiving principal payments until it is fully retired, and so on.

Third Party. Someone, other than the principals, who is directly involved in a transaction or agreement.

Tolling Contract. A type of take-or-pay contract for conversion, processing, or transportation, usually through a pipeline, of raw material or finished product. Used commonly in oil and gas industry, a tolling contract does not require the converter, processor, or transporter to purchase the input material or to sell the output product.

Tranching. The mortgage pool backs several classes or tranches with staggered maturities.

Transparency. The amount of disclosure in a financial contract.

Trust. A legal arrangement in which an individual, the trustor, gives fiduciary control of property to a person or institution, the trustee, for the benefit of beneficiaries.

Unsecured. Backed only by the integrity of the borrower, not by collateral. Opposite of secured.

Yield Curve. A curve that shows the relationship between yields and maturity dates for a set of similar bonds, usually Treasuries, at a given point in time.

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Investor Words: http://www.investorwords.com

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