



Secured Transactions, Collateral Registries and Movable Asset-Based Financing

Knowledge Guide
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Table of contents

- **Introduction:** Purpose and Use of Knowledge Guide 01
- **Chapter 1:** Economic Rationale and Aspects of Secured Transactions 02
 - A. Access to Finance: Crucial, but Major Constraint for Private Sector Growth 02
 - B. Inadequate Collateral as a Top Impediment in Access to Finance 03
 - C. Reforms of Secured Transactions Laws and Registries to Increase Access to Credit 04
 - D. Credit Infrastructure Mitigates Various Risks 08
 - E. Overview of Credit Products Available under Modern Secured Transactions Systems 10
 - F. Gender Finance: The Positive Effect of Reforms on Women 22
- **Chapter 2:** Recent Developments and Emerging Trends 25
 - A. Effect of Modern Technologies on Secured Transactions..... 25
 - B. Prudential Regulation and Secured Transactions: Building a Sound and Inclusive Credit Ecosystem 30
 - C. Loan Guarantee Programs 40
- **Chapter 3:** Lessons from Implementing Reforms - Building a Best Practice Legal Framework 42
 - A. General Implementation Challenges 42
 - B. Specific Issues in the Development of the Law 45
 - C. Recognized International Standards 49
 - D. Pertinent Legislation 52
 - E. Building a New Secured Transactions Legal Regime 58
- **Chapter 4:** Design, Placement and Implementation of Registry 72
 - A. General Implementation Considerations 72
 - B. Registry Liability 83
 - C. Registry Best Practices 84
 - D. Operating Budget Estimate 92
 - E. Procurement 94
 - F. Testing and Acceptance 95
 - G. Start-up Management 96
- **Chapter 5:** Public Awareness Building and Training 97
 - A. Capacity of Media to Support Public Awareness 97
 - B. Public Awareness 98
 - C. Training 99

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INTRODUCTION:

PURPOSE AND USE OF KNOWLEDGE GUIDE

The main objective of this Knowledge Guide is to provide guidance to the World Bank Group (WBG) staff, donor institutions, government officials and other practitioners on the objectives and implementation of secured transactions reforms, as well as the factors that affect the implementation.

The Knowledge Guide considers the experiences learned in various secured transactions reform projects implemented not only by the WBG, but also by other organizations, especially the European Bank for Reconstruction and Development (EBRD). It also summarizes and examines a number of recent developments. First, on the legislative side, it references the provisions of the United Nations Commission on International Trade Law (UNCITRAL) instruments, especially the 2016 Model Law. Second, significant space has been dedicated to regulatory aspects, particularly those relating to prudential regulation and their intersection with security rights in movable assets. Finally, a detailed description of various credit products that translate the legal provisions into action has been included.

Like the preceding the Secured Transactions Systems and Collateral Registries Toolkit, this Knowledge Guide has not been designed to eliminate the need for in-person expert advice on secured transactions reforms projects. In any case, the guidance provided below should be adapted to the local socio-economic, legal, and cultural environment. The Knowledge Guide highlights a number of necessary elements to construct an effective credit ecosystem outside of the implementation of a secured transactions law and a collateral registry. These include modern insolvency and credit reporting regimes, expeditious judicial enforcement mechanisms, regulatory aspects of secured transactions, technological advancements - particularly in the areas of distributed ledger and blockchain technologies, as well as capacity building of the affected stakeholders, including guidance on how to structure various credit products.

While this Knowledge Guide does not cover all aspects of secured transactions systems and their reforms, it addresses the most important elements. It does not address secured financing involving immovable property, although it examines

some aspects of its intersection with land law, such as the application to fixtures, and the potential extension of movable property secured transactions regimes to immovable collateral. It also does not examine some specialized areas of financing, such as various credit products secured with highly mobile equipment or intermediated securities. These are typically governed by specialized regimes, such as those adopted by the International Institute for the Unification of Private Law (UNIDROIT). The Guide focuses primarily on transactions involving micro, small, and medium-sized enterprises (MSMEs), leaving aside a number of issues that may arise in the context of consumer transactions.

Chapter 1 contains a discussion of the economic rationale for modern secured transactions systems, providing a background on the utility of the reforms and their roles within the broader credit infrastructure, as well as a detailed section on various secured lending products. Chapter 2 charts some recent trends that impact secured transactions that may have more profound effects in the regulatory space, especially prudential regulation of financial institutions with respect to the deployment of various credit products, or initiatives that have the potential to disrupt existing processes, such as distributed ledger and blockchain technologies. Chapter 3 provides lessons from the implementation of the reforms, highlighting the key elements of international best practices and the challenges to their implementation on the ground. The chapter goes beyond secured transactions laws and examines their impact on other legislation, highlighting the need for proper integration within the broader legal framework. Chapter 4 addresses a number of aspects of the core building block of modern secured transactions regimes – an electronic registry for notices of security rights (collateral registry). This Chapter focuses on various design considerations and their implementation. Finally, Chapter 5 outlines the key elements of public awareness and capacity building that are essential to the successful deployment of a reform that is designed to increase access to credit.

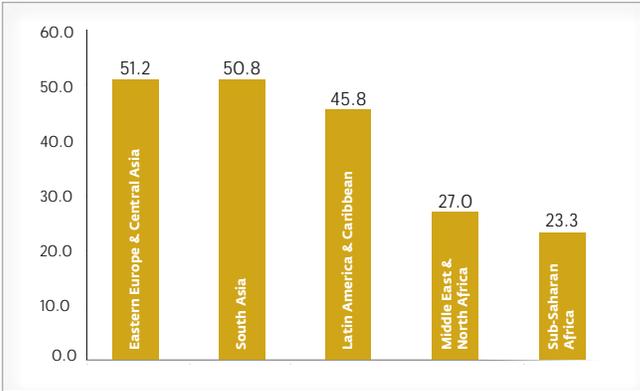
CHAPTER 1: ECONOMIC RATIONALE AND ASPECTS OF SECURED TRANSACTIONS

A. Access to Finance: Crucial, but Major Constraint for Private Sector Growth

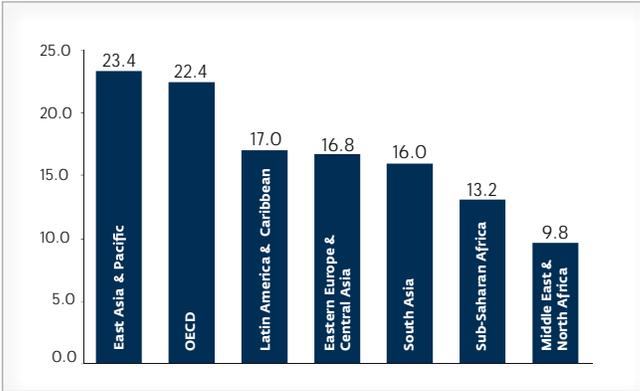
Access to credit is crucial for economic growth and is the engine for private sector development. Developing modern credit infrastructure, removing barriers to a wide range of financial services, and enabling development of innovative credit products fosters private enterprise productivity and promotes formalization and inclusion of the informal sector. While access to finance varies from one economy to another, constrained access to credit remains among the most significant limitations to private sector growth in many markets. More than half of the private enterprises (firms) in emerging markets have no access to credit. This percentage is even higher and reaches up to 80 percent in the Middle East and Sub-Saharan Africa. The number of enterprises (firms) that use loans to finance investments in the developing world is half the number of those operating in countries of the Organization for Economic Cooperation and Development (OECD)¹. See Figure 1. The World Bank Enterprise Surveys revealed that 7 percent of enterprises consider access to finance as a major constraint.² Furthermore, recent reports showed that, among the 65 million enterprises surveyed, the unmet demand for credit was \$5.2 trillion a year.³

Figure 1:
Firms' Access to Credit around the World

Access to a Line of Credit or Loans from a Financial Institution (% of Firms)



Use of Bank Loans to Finance Investments (% of Firms)



Source: World Bank Enterprise Surveys Global Database

B. Inadequate Collateral as a Top Impediment in Access to Finance

Firm-level surveys conducted by the World Bank in developing economies help to explain why obtaining finance is difficult. A common trend among the surveyed firms is that loan applications are rejected mostly due to insufficient or unacceptable collateral. In many cases, the firms did not even apply for loans under the assumption that they could not meet the collateral requirements commonly requested by banks.⁴ See Figure 2.

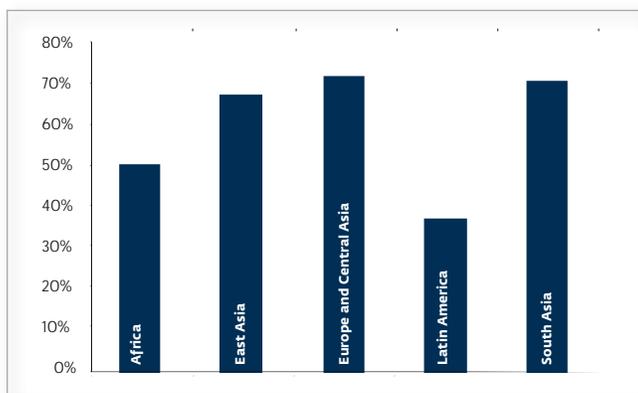
The unavailability of assets is frequently not the problem; rather, it is the inability of the legal framework to facilitate the use of those assets as collateral. This is only the starting problem, and many others must be addressed, including the lack of capacity and expertise to develop and provide credit products. In the developing world, movable assets such as equipment, inventory and receivables represent about 78 percent of the capital stock of an enterprise, while immovable assets represent only 22 percent. However, financial institutions overwhelmingly prefer immovable assets as collateral.⁶ The preference towards immovable collateral is also reflected in the regulatory frameworks prescribing capital requirements for regulated financial institutions. By contrast,

the lenders operating in efficient legal environments for secured transactions can use many of a grantor's movable assets as collateral. For instance, in the United States movable assets comprise about 60 percent of the enterprises' capital stock and account for around 70 percent of small-business lending.⁷

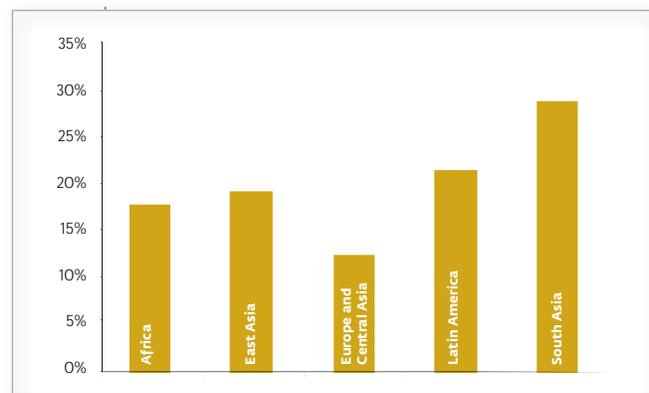
Although credit, to some extent, is available in all economies, in many of them the security devices are costly to deploy and do not offer effective protection against credit risk, resulting in conflicting claims that must be resolved in protracted court proceedings and hampering the development of modern credit products for the economic activities of the 21st century. Hence, lenders regularly take immovables as the principal collateral, although often taking the movable assets as secondary collateral to signal the commitment of the grantor, rather than providing an alternative source of loan repayment. Relatedly, the loaned amount is not correlated to the value of the movable collateral; it depends entirely on the value of the immovable collateral or the borrower's revenue-generating capacity.

Figure 2:
*Why Are Firms Not Able to Get Credit?*⁵

Credit Application Rejected - Insufficient Collateral



Did Not Apply: Collateral Requirements too High



C. Reforms of Secured Transactions Laws and Registries to Increase Access to Credit

Establishing a legal and regulatory environment where movable assets can be used effectively as collateral and, at the same time provide effective credit protection, is a critical step towards responsible and inclusive access to finance.⁸ Even in developed economies where reliable credit information and a wide range of financial products are available, only the largest and most creditworthy businesses can obtain unsecured loans. The rest are expected to offer collateral. A sound legal and regulatory infrastructure is critical to maximize the economic potential of movable assets so that they can be used as collateral.⁹

Through a legal and regulatory environment that is conducive to secured transactions, MSMEs and individuals can use their assets as collateral to gain access to capital. In addition to the legal and regulatory aspects, a conducive environment requires a deeper market reform. Such an environment also facilitates the acquisition of new assets to enable the growth of the borrowers. A farmer can acquire a new tractor with a loan secured with that tractor, and a seller of goods could pledge or sell receivables to finance its business operations or expansion. Legal and regulatory reforms promote responsible and inclusive access to credit by:

- **Increasing the level of credit:** credit to the private sector as a percentage of gross domestic product averages 60 percent compared to only 30 to 32 percent for countries with inefficient frameworks.¹⁰
- **Increasing the number of recipients of credit:** the introduction of collateral registries increases the number of firms with access to credit by eight percent.¹¹
- **Decreasing the cost of credit:** collateral registry reforms result in a three percent reduction in interest rates and a six-month extension in loan maturities.¹²

In addition to these broader economic benefits, secured transactions reforms also foster financial stability when coordinated with prudential regulatory standards (as explained in Chapter 2, Section B).¹³ Credit reporting systems also reinforce financial stability, fostering more informed and responsible finance.¹⁴

Experiences from secured transactions reforms in the last decade indicate that MSMEs in countries that have stronger secured transactions ecosystems have greater access to credit, at a lower cost, with a positive impact on productivity and economic growth. Economies that have modernized secured transactions ecosystems have achieved a higher degree of development of their credit systems by making the use of movable collateral more effective.¹⁵ This is the case in most of the OECD countries and emerging markets, such as Mexico and Colombia.

In a vibrant credit market, the financing needs of MSMEs should be met through diverse sources, with different characteristics and business models. Credit that is extended through the banking system, for example, tends to be less expensive than credit extended by non-bank financial institutions (NBFIs) because, among other reasons, the cost of funding of the former is lower. NBFIs, however, may be more willing to extend secured credit given their expertise and willingness to monitor and manage certain types of collateral. Alternative credit has increased through the use of various FinTech advancements, facilitating quick innovation and development of specialized platforms, such as for using receivables (e.g., electronic invoices) as collateral.

Secured transactions reforms deliver the most economic benefits when complemented by the other key components of a modern credit infrastructure, namely insolvency and credit reporting. As of June 2019, the World Bank Group's Credit Infrastructure portfolio included about 140 active projects in more than 80 countries across six continents. Credit infrastructure reforms contribute to the achievement of the WBG's twin goals of eradicating poverty and boosting shared prosperity.

A typical secured transactions reform project stands on four pillars that is implemented in phases (See Table 1). The first pillar is a diagnostic of the legal regime with the objective to identify the impediments to accessing secured credit. The next two are the enactment of a law and the establishment of a collateral registry. Pillar four is focused on the development and employment of movable asset-based lending (MABL) products, supported by the reformed legal framework.

Table 1:
Typical Secured Transactions Reform Project

REFORM COMPONENTS	PILLAR I	PILLAR II	PILLAR III	PILLAR IV
	LAW	REGISTRY	CAPACITY	MABL PRODUCTS
STEP 1 Diagnostics	Examination of the current laws and financing devices	Assessment of the current registries and their functionalities	Awareness raising regarding the challenges under the current framework	Analysis of current credit products, present usage and potential for these products and new ones after the reform
STEP 2 Solution Design	Harmonization and modernization of the legal framework in accordance with global best practices	Development and operationalization of a centralized, electronic notice-based registry	Awareness raising, partnerships with banks and government and consensus building	Assistance to government institutions and public and private sector banks on developing profitable and sustainable MABL products for SMEs
STEP 3 Implementation	Consultations, advice on laws and regulations, and drafting assistance	Improve registry design & launch	Workshops, conferences, media outreach, and training events	In-house assistance to lenders in choosing, developing and offering MABL products for SMEs

The World Bank Group’s Doing Business Legal Rights Index (part of the “getting credit” indicator) measures the degree to which secured transactions and bankruptcy laws facilitate lending.²⁸ The Doing Business Report benchmarks 190 countries on the strength of the specific features of their secured transactions laws.²⁹ To measure the strength of those laws, the Doing Business Report uses a specific methodology. It is important to understand the use of this Doing Business indicator: the mere inclusion of language in the legislation to garner Doing Business points does not constitute a comprehensive and meaningful secured transactions reform. The indicator’s objective is to analyze the correlation between lending flexibility and specific legal provisions, and to bench-

mark jurisdictions. The indicator is useful to inform and track legislative change and, within the parameters of the methodology, helps to measure the impact of these changes on secured lending. As with any indicator, it is an important and useful tool for diagnostics, but is not a replacement for a broader analysis of the aspects to consider when reforming secured transactions systems. Higher scores are assigned to secured transactions and bankruptcy laws that are aligned with the relevant criteria. The Strength of Legal Rights Index includes 10 aspects related to secured transactions and two aspects to bankruptcy law. One point is assigned for each of the following features of the laws:

1. Does an integrated or unified legal framework for secured transactions that extends to the creation, publicity and enforcement of functional equivalents to security interests in movable assets exist in the economy?
2. Does the law allow businesses to grant a non-possessory security right in a single category of movable assets, without requiring a specific description of collateral?
3. Does the law allow businesses to grant a non-possessory security right in substantially all of its assets, without requiring a specific description of collateral?
4. May a security right extend to future or after-acquired assets, and does it extend automatically to the products, proceeds and replacements of the original assets?
5. Is a general description of debts and obligations permitted in collateral agreements; can all types of debts and obligations be secured between parties; and can the collateral agreement include a maximum amount for which the assets are encumbered?
6. Is a collateral registry in operation for both incorporated and non-incorporated entities, that is unified geographically and by asset type, with an electronic database indexed by debtor's name?
7. Does a notice-based collateral registry exist, in which all functional equivalents can be registered?
8. Does a modern collateral registry exist, in which registrations, amendments, cancellations and searches can be performed online by any interested third party?
9. Are secured creditors paid first (i.e., before tax claims and employee claims) when a debtor defaults outside an insolvency procedure?
10. Are secured creditors paid first (i.e., before tax claims and employee claims) when a business is liquidated?

11. Are secured creditors subject to an automatic stay on enforcement when a debtor enters a court-supervised reorganization procedure? Does the law protect secured creditors' rights by providing clear grounds for relief from the stay and sets a time limit for it?
12. Does the law allow parties to agree on an out-of-court enforcement at the time a security interest is created? Does the law allow the secured creditor to sell the collateral through a public auction or private tender, as well as for the secured creditor to keep the asset in satisfaction of the debt?

It should be noted that the adoption of a modern secured transactions law will not be factored in unless the law has been brought into force and a collateral registry has been established and is actually used in practice. Though the first feature measures whether an integrated and unified legal framework exists, the exclusion of certain transactions or assets from the scope of the law, along the lines of Article 1 of the UNCITRAL Model Law on Secured Transactions, would not have a negative impact on assessing this feature.¹⁶ However, enacting a law that is applicable only to a certain class of debtors (grantors), such as unincorporated companies and individuals that would preserve a system to register charges created by companies under the Companies Act (e.g., in Pakistan), may have negative consequences. Notably, the first feature does not reference a priority (first-to-register or first-to-perfect), which is an essential building block of a modern secured transactions regime. Some of these features supplement the UNCITRAL Model Law, which leaves a number of policy choices to enacting states, such as Article 36, which does not prescribe the types and amounts of preferential claims that have priority over security rights. The features were designed to facilitate a transition from disintegrated, outdated, and cost-imposing systems to those that facilitate asset-based loans.

Some of the features should be streamlined, and new areas should also be covered. For instance, feature 2 measures whether a law allows a single category of assets to be encumbered. It is not common for secured transactions to relate only to a single category of assets, such as 'all inventory of clothing.' More commonly, transactions cover multiple types (not categories that are a narrower sub-set of a type) of col-

lateral, such as ‘all inventory and receivables.’ For the purposes of influencing reforms, as the Getting Credit indicator has been successful in doing, feature 2 appears to be redundant and does not facilitate modern lending practices. Feature 3 would suffice because its successful implementation would fulfill the completion of feature 2. Similarly, other features measure aspects that do not facilitate modern lending practices, such as the indication of the maximum amount for which the assets are encumbered (feature 5). There is no evidence that an entry of a maximum amount in an agreement facilitates subordinate lending or otherwise eases some restrictions on access to credit. Feature 6 would benefit from more clarity, as a secured transactions system should apply to: (i) incorporated entities (e.g., registered organizations), (ii) unincorporated entities (e.g., general partnerships), and (iii) natural persons, including when operating as sole proprietors. Feature 6 does not mention this third type of grantor. The requirement for geographical unification should not be a disqualifying factor for federal states in which constitutional or statutory barriers preclude the establishment of a single registry, provided the laws of states/provinces contain clear conflict of laws rules that: (i) inform the registrant of the registries in which to register a notice, and (ii) inform the searcher of the registries in which to search. Finally, feature 6 refers to indexing by a debtor name, which many economies have abandoned in favor of indexing by a unique number. Therefore, this feature should continue measuring this metric, but refer more broadly to a debtor identifier rather than a debtor name. While the features cover the essential building blocks of a modern secured transactions framework (broad scope, creation, perfection, and enforcement) and some aspects of priority, the conflict of laws rules are absent. Some economies have not included any rules of this nature in their reformed laws, which impedes cross-border transactions. Other aspects that could be measured are alignment/coordination with related legislation, especially on insolvency, and companies, as well as any international conventions, such as the Cape Town Convention and its Protocols. Features 2–5 cover various aspects of creation, but not the ability of persons to grant a security right in growing crops independently of the land. Nor do they include rules that override the effect of anti-assignment clauses that may preclude the creation of a security right in or a transfer of receivables. The absence of these two provisions could have a negative impact on the development of a number of lending products.

The following boxes showcase the impact of secured transactions reforms in Mongolia and Ghana:

Box 1:

Case Study of a Secured Transactions Reform in Mongolia

The Mongolian Secured Transactions Reform started in 2013 to improve access to finance for MSMEs by strengthening the country’s financial infrastructure to facilitate lending secured by movable assets. The project team worked closely with the Ministry of Justice to draft the Pledge Law. The law came into effect in March 2017, and it enables all types of tangible and intangible assets, such as livestock, vehicles, equipment, company shares (except shares of public companies), receivables, bank accounts, and other assets to be pledged. The Law follows the functional approach applying to the traditional security devices in the form of pledges, as well as the functional equivalents, such as sales on the retention of ownership.

The Mongolian Pledge Notice Registry went live in early February 2017. After only three months since its launch, almost 30,000 registrations (mostly related to SME loans) were made. It is a modern, notice-based collateral registry, available online to the public for the registration of notices, their modification and cancellation, as well as searches. With the key milestones achieved, the project team is confident that the successful implementation of the Pledge Law, establishment of the Pledge Notice Registry system and capacity building of the lenders in movables finance will provide the foundation to transform Mongolia’s economy in the longer term. Of the more than 30,000 registrations, 38 percent covered equipment, 25 percent livestock, 5.4 percent account receivables, and 1.7 percent vehicles. Women grantors accounted for 23 percent of registrations.

Box 2: *Impact of the Secured Transactions Reform in Ghana and Laos*

Prior to the secured transactions reform, banks in Ghana mainly accepted immovable assets as collateral for loans. Many MSMEs therefore found it difficult to access credit, because they lacked such assets. With the implementation of the secured transactions reform based on a law enacted in 2008, many MSMEs were able to access credit using their movable property, such as equipment, as collateral. The reforms have been particularly impactful for women-owned businesses, as they are now able to use their household assets and equipment as collateral for loans. This has enabled more women to apply for loans to either start a business or grow an existing one. For example, Constance Swaniker, an artist and founder of an Accra-based SME that designs furniture and home accessories, was able to obtain a loan equivalent to US\$15,000 using her machinery as collateral. With that loan, she was able to expand her business and hire 30 men and women from her local community, which allowed her to meet the growing demand for her products.

Mrs. Nongnut, owner of Xaoban Group, a yogurt company in Laos, thought it was not feasible to expand her business until she learned about the new secured transactions system, including the electronic collateral registry established by the Laos Ministry of Finance. The new framework enabled financial institutions to accept more easily movable property as collateral, establishing a predictable priority point based on the time of registration. With the new opportunity, Mrs. Nongnut was able to obtain a loan secured by her business assets to buy more machines, employ more people, and expand her production.

D. Credit Infrastructure Mitigates Various Risks

It is imperative to support the development of a sound and efficient credit infrastructure to strengthen financial stability and enhance access to financial services.¹⁸ A sound credit infrastructure includes secured transactions ecosystems, insolvency regimes, and credit information reporting. The Group of Twenty (G20) recommended a set of actions to facilitate the expansion of financial services in its G20 SME Finance Action Plan adopted in 2015.¹⁹ The 11 Principles have been designed to expand access to credit opportunities for SMEs.

Well-designed secured transactions frameworks contribute to robust financial systems by promoting credit diversification, facilitating the channeling of credit that relies less on immovable collateral. Lenders benefit from these systems by: (i) being able to diversify their portfolios with loans secured with movables, including more liquid assets such as receivables and bank accounts, (ii) having access to information on potentially competing security rights in movable assets and their priorities, (iii) strengthening their risk management policies by making more informed credit decisions, and (iv) enhancing reporting mechanisms on secured lending practices to the supervisory and regulatory authorities.

The role of the banking sector, either in the extension of loans directly to MSMEs or providing wholesale finance to NBFIs, is crucial. For this reason, financial stability objectives should be carefully assessed when the generation of credit is to be stimulated through reforms. Principle 5 of the G20/OECD High-Level Principles on SME Financing expressly reiterates that the regulation of SME financing instruments must be designed to ensure financial stability and investor protection.²⁰ The uncontrolled development of credit outside of the traditional banking system, in fact, might pose

risks. Regulatory regimes that excessively discourage banks to take movable assets as collateral might not only stifle access to credit, but also compromise the policies aimed at preserving financial stability.²¹ Banks might prefer to finance immovable assets, deepening the connection between those markets and the banking sector. More profoundly, even if loans to MSMEs are extended outside the banking system, banks are not necessarily sheltered from the risks taken by NBFIs, as they often provide (directly or indirectly) funds to NBFIs.²²

Credit reporting systems form a central component of credit infrastructure, enabling the extension of credit and the sharing of relevant information.²³ The International Committee on Credit Reporting, the internationally recognized standard setter in credit reporting, published the General Principles for Credit Reporting (2011), which is the global standard for norms concerning credit reporting systems.²⁴ The Principles outline the basic elements underlying an effective credit reporting system, including: (i) data accuracy, timeliness and sufficiency, (ii) data security and efficiency, (iii) service provider governance and risk management, (iv) legal and regulatory environment, and (v) cross-border data flows.²⁵ Credit reporting systems supplement assets used as collateral with ‘reputational collateral’.²⁶ According to the 2018 Doing Business Report, around 80 percent of all surveyed credit bureaus and over 90 percent of credit registries were providing both negative and positive information.²⁷

Insolvency and debt resolution frameworks include various mechanisms to facilitate business exit and reorganization, the settlement of commercial disputes, the collection of debts, and the ultimate resolution of non-performing

loans.²⁸ Effective insolvency and debt resolution frameworks can improve financial inclusion and increase access to credit.²⁹ This in turn may reduce the costs of obtaining credit, leading to increased access to finance and business growth.³⁰ On the other hand, ineffective insolvency and debt resolution frameworks raise the perception of risk among investors and financial institutions, increasing the cost of capital.³¹ The World Bank also sets global standards for insolvency and creditor rights systems.³² The Principles for Effective Insolvency and Creditor/Debtor Systems, developed by the World Bank in collaboration with UNCITRAL, the International Association of Insurance Receivers and the International Association of Restructuring, Insolvency & Bankruptcy Professionals, are an internationally-recognized authority for the norms concerning the protection of creditor rights in insolvency and debt resolution.³³ The Principles address (i) the laws and institutions that recognize and enforce credit agreements (including security agreements), (ii) the legal framework for risk management and informal corporate workout systems, (iii) the formal commercial insolvency law frameworks, and (iv) the implementation of these systems through sound institutional and regulatory frameworks.³⁴ Reports on the Observance of Standards and Codes (ROSC) provide a methodology for assessing and comparing a particular jurisdiction’s institutional practices against international best practices as they relate to insolvency and creditor rights systems based on the Principles.³⁵

E. Overview of Credit Products Available under Modern Secured Transactions Systems

An economy's existing lending practices are important to determine the reform approach for securing credit with movable assets. The reform should be designed to enable lenders to improve the operations and the credit risk profile of existing products and to develop and employ new credit products to finance MSMEs. In order to do that, they must acquire and develop many skills, including the capacity to monitor collateral, such as inventory and receivables that constitute a borrowing base, and be able to effectively dispose of it upon default.

It is first important to determine the types of assets that are used as collateral under the existing law. In most cases, before the introduction of secured transactions reforms, the types of movable assets that are used as collateral would be very limited. In most unreformed economies, immovable property is the dominant type of collateral; in others, movable assets such as vehicles and equipment may be used, often to supplement interests in immovable assets. It is also common in some economies for lenders to take an assignment or discount the accounts receivable or accounts payable when the instrument that is assigned or taken as collateral represents the buyer's obligation to pay, rather than the supplier's right to receive payment. Ordinarily, the security of these collateralized facilities is complemented by personal guarantees from directors, principal shareholders, and MSME owners. While such guarantees do not create an interest in the assets of the guarantors, they raise idiosyncratic issues that are dealt with outside of the secured transactions laws.

Asset-based lenders often advance funds when other sources are not available or insufficient to provide the necessary capital. These lenders include traditional commercial banks, but also NBFIs such as factors, leasing companies and oth-

er alternative lenders that provide facilities secured with inventory and receivables (generally, asset-based lenders). Asset-based lenders frequently look beyond the financial statements to determine how much credit they are able to advance. Primarily, the focus of asset-based lenders is on collateral and liquidity, with leverage and cash flow being secondary considerations. Asset-based lenders typically provide borrowers with more credit that is subject to fewer financial covenants.

Laws facilitate a variety of secured transactions, from simple installment loans that allow individuals to acquire consumer durables, such as motor vehicles and household goods, to sophisticated financial transactions, such as the securitization of receivables. Borrowers may either use the assets they already own as collateral or access credit to allow them to acquire new assets. A construction company may use its equipment as security for a loan, or a farmer may enter into a financial lease to acquire a new tractor where the loan is structured into periodic, equal installments secured by a special type of security right known as the acquisition security right or purchase-money security interest.

Modern secured transactions laws also connect multiple market players in supply and value chains where several extensions of credit commonly occur in dependent relationships. Figure 3 summarizes the requisite credit infrastructure developed under the reforms (discussed in subsequent chapters), the fundamental types of secured credit products, as well as the categories of assets used as collateral in modern regimes. It also identifies the beneficiaries of those credit products.

Figure 3:
Movable Asset-based Lending Matrix

FINANCIAL INFRASTRUCTURE		Consumer Financing	Financial Leasing	Equipment Financing	
TITLE TRANSACTION LAWS	COLLATERAL REGISTRY	Floor-Plan Financing	Merchant Financing	Factoring	
	ENFORCEMENT SYSTEM	Reverse Factoring	Accounts Receivable Financing	ABL-Secured Lines of Credit	
		Warehouse Receipt Financing	Securities Lending	Others	
SECURED TRANSACTION LAWS	BANKING REGULATION	Motor Vehicles	Equipment	Raw Materials	Inventory
	SECONDARY MARKET	Accounts Receivable	Negotiable Instruments	Cash	Bank Deposits
		Warehouse Receipts	Bills of Lading	Letters of Credit	Securities
		Credit Card Receipts	e-Payments	Fintech & Digital Assets	Other
POTENTIAL BORROWERS	FINTECH & TRADING PLATFORMS	Consumers		Informal Enterprises	Micro-Businesses
		SMEs		Corporates	Women-Owned Business
POTENTIAL CREDIT PRODUCTS		POTENTIAL COLLATERAL			

Asset-based lending (ABL):

The quintessential credit product enabled by secured transactions reforms is ABL, which supports the entire business cycle of the borrower, from the purchase of raw materials to the sale of finished products (inventory), to the collection of receivables generated by the sale. In contrast, some of the other credit products explained below, such as leasing and receivables financing, focus solely on a single type of collateral and/or specific activities. The assets that constitute eligible collateral for an ABL facility must generally: (i) have an ascertainable present value and a predictable future value, (ii) be tracked easily, especially with regard

to value and quality, (iii) not preclude the creditor from enforcing its security right upon default, and (iv) retain sufficient value after enforcement. A target for ABL facilities is a business that is profitable or is generating a positive cash flow, but is growing rapidly, faces seasonal fluctuations, or has high leverage. Though primarily an SME credit product, the ABL facility may be used to finance business turnarounds, leveraged buyouts or recapitalizations. ABL facilities consist of revolving lines of credit, generally extended for a term of three to five years with options to renew.

Figure 4:
ABL Cash Cycle



The primary source of repayment is the cash flow generated by the borrower's business activity, through the payment (by the receivables or account debtors/obligors) of outstanding receivables into a deposit account controlled by the secured creditor. See Figure 4. Proceeds from the enforcement of a security interest are the secondary source. Since the extension of credit is repaid from the collection of receivables, advances are lower in the production phase to reflect the greater risk that, for instance, the product won't be properly manufactured or grown or that it won't sell for the price expected. Advances increase with a lower risk for the lenders, especially against receivables generated upon the sale of the finished inventory or harvested crops. Advances are made only against 'eligible collateral,' which would not include, for instance, obsolete inventory and overdue receivables.

The collateral must be appraised and regularly re-valued by industry experts. Ideally, the local market provides the required financial and technological infrastructure (including electronic invoicing) to allow loan underwriting and collateral monitoring to take place electronically, or through a FinTech provider that can, for instance, access and verify the existence of receivables via an interface with the tax authority. For those jurisdictions in which these building-blocks do not exist, ABL monitoring can take place manually, in which case the ABL lender can verify that the receivables in fact exist by selectively (about 10% of the eligible receivables) con-

tacting the account debtors. Regular field audits should be conducted to verify a number of elements of the credit facility, particularly the quality and quantity of collateral at that point in time. To the extent available, the collateral should be insured and the lender named as a loss payee so that the insurance company is required to make a payment to the lender upon loss or damage to the collateral.

In a typical ABL transaction, the lender establishes a revolving credit facility secured with a pool of collateral, whereby it commits to extend a line of credit up to a maximum amount, which is secured by a borrowing base made up of eligible inventory, receivables and cash. A certain amount is advanced when the inventory is purchased (usually not more than 50 percent of the purchase price), and an additional advance is made when the inventory is converted to receivables (usually not more than 80 percent of their face value). When the receivable is paid and deposited in the controlled bank account, the credit line balance is then reduced and becomes available for redrawing against additional inventory and the remaining assets in the borrowing base.

Given the many intricacies of this credit product, ABL depends on implementation of an efficient and comprehensive secured transactions law that preserves the lender's priority throughout the business cycle of the borrower. The ABL lender will typically want to have a first priority security

right in the collateral included in the borrowing base, and the borrower would be contractually precluded from creating junior security rights without a subordination agreement that limits the junior creditor’s ability to accelerate or enforce its rights without the senior lender’s consent.

Merchant cash advance:

A secured merchant cash advance is a credit product where a lender provides a fixed-term loan or revolving line of credit to a retailer, taking a security right in its credit card receivables and the bank account in to which they are deposited. In some circumstances, the security right can also extend to the inventory. To calculate eligibility for this product, the lender reviews the candidate’s historical credit and debit card sales and establishes the amount it may advance. Cash advances can be structured as loans or commercial agreements. In the former case, the lender will charge an agreed upon interest rate for the loan facility. In the latter case, the financier will multiply the amount of the advance by a factor of the cost of funds, fees and a profit (e.g., 1.3x).

When the processor or clearing system deposits the payment of the credit card receivables into the deposit account, repayment of the cash advance takes place by applying a percentage of the daily credit and debit card sales towards the outstanding facility. The payment structure may be set up as a fixed or a floating percentage of the sales receipts collected. If sales increase above the previous historical performance, for example, the facility can be repaid sooner, lowering the cost of funds to the merchant. Merchant advances may also be set up with other electronic payment systems, in addition to credit and debit cards.

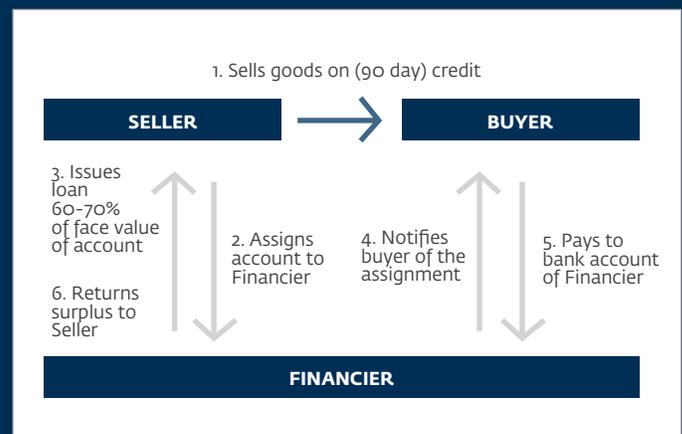
As a credit product, the merchant cash advance is of particular importance to SMEs that do not have a strong balance sheet or credit history, but that have a verifiable volume of credit and debit card sales. In some cases where merchant cash advances are not structured as loans, it is important for the lender to perfect its security right over the collateral by a registration in the collateral registry (or by a control agreement over the deposit account when applicable) to: (i) ensure priority over the proceeds of inventory sales, over the collection of credit card payments, and over cash deposits, (ii) limit the merchant’s ability to switch the point of sale or credit card clearance system from one bank or processor to another, and (iii) to protect its rights to the receivables and deposits in case of insolvency.

Loans secured with receivables:

Modern secured transactions laws apply to any transaction where a receivable is used to secure an obligation, whether by a pledge or transfer for security purposes, as well as outright transfers of receivables (with the exception of the enforcement rules). The transaction typically originates with a loan or a sale of a credit invoice typically payable in 60 to 90 days after the delivery of goods or services. The seller/provider then submits to the lender or factor a list of invoices to determine which meet the established eligibility criteria. The factor lends against or purchases the receivables.

Like with ABL, if the transaction consists of a loan secured with receivables, the receivables debtor pays the borrower into a deposit account controlled by the secured creditor. If the transaction is structured as a sale (factoring transaction), the receivables debtor pays the factor directly. In a lending transaction, the borrower repays the advance, plus an established interest rate for the loan, which is paid from the funds deposited in the controlled account. The balance that exceeds the loan amount, the required fees and the interest is returned to the borrower. If the transaction is a sale, the factor pays an agreed upon discount (e.g., 90 percent of the face value of the invoice) and retains 100 percent of the payment when made by the receivables debtor. See Figure 5.

Figure 5:
Receivables Lending



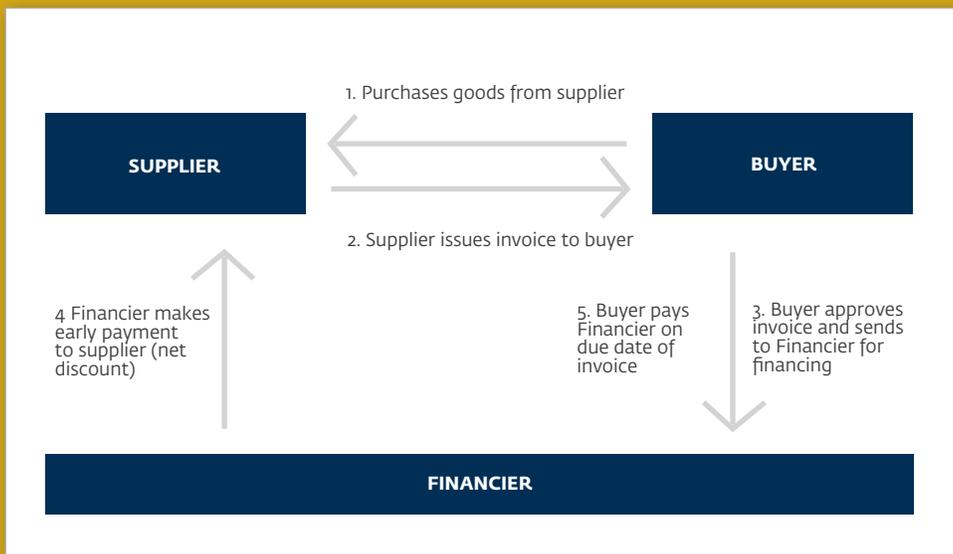


Figure 6:
Reverse Factoring

A variation on this arrangement is where an ‘anchor customer,’ such as a large corporation, makes the accounts payables it owes to a number of customers, especially MSMEs, available for purchase by a factor (this is known as ‘reverse factoring’). See Figure 6. Reverse factoring relies on three agreements, the sale agreement between the supplier and the anchor, the reverse factoring agreement between the anchor and the factor, and the receivables purchase agreement between the factor and the supplier. Factors typically have no recourse in the case of nonpayment of purchased payables. Buyers who agree to reverse factoring for the benefit of their suppliers may also be able to negotiate better terms with suppliers.

Suppliers who thus engage with factors build a credit history, which could lead to improved access to credit in the future. Although suppliers receive financing at less than the full selling price, the financing terms are substantially improved from the terms that individual suppliers would be offered if acting on their own, since the factor is purchasing the payables based on the creditworthiness of the anchor customer rather than the suppliers. Ultimately, the availability of reverse factoring to suppliers and anchor customers is determined by the factor’s analysis of the anchor customer’s credit, supplier production history and financial health, and existing credit terms between anchors and suppliers.

In traditional factoring (see Figure 7), a typical advance rate is 80-90 percent of the face value of the invoice. The typical advance rate on reverse factoring is 100 percent (minus the cost of funds, fees and a profit of the factor). Both traditional and reverse factoring may be structured on a recourse or non-recourse basis. For non-recourse arrangements, credit insurance is often used to mitigate the risk of losses. Receivables lenders also provide services in addition to finance. Typically, they offer receivables collection and management, as well as credit protection.

With receivables lending, a lender takes a security right in all of a borrower’s invoices, removing those that do not meet the established eligibility criteria, such as past-due invoices, overly concentrated invoices, or invoices from previously defaulting payors/obligors. The lender finances only those that remain. With traditional factoring and reverse factoring, the factor only finances the invoices that it selects, focusing particularly on the creditworthiness of the payor/obligor of the receivable. In the latter case, credit bureaus and credit information systems are highly desirable institutions for robust factoring markets. In their absence, factors must rely on internal methods to assess the creditworthiness of each receivables debtor.

Modern technologies facilitate the creation of ‘invoice discounting platforms’ that bring together sellers of receivables and lenders. One such platform has been established in Mexico (operated by NAFIN, the Mexican Development Bank) where a buyer confirms an electronic invoice of the seller and uploads it electronically to a platform. The seller then indicates its intention to discount the receivable. Various financial institutions may then offer to purchase the receivable at a discount, at which point the seller selects the one with the most attractive payment terms. The selected financial institution then pays the purchase price to the platform, which remits it to the seller, and when the receivable becomes due the buyer submits a payment to the platform that passes it on to the financial institution. All NAFIN sales of invoices are on a non-recourse basis.

Many economies have implemented electronic invoicing systems, particularly to facilitate the collection of taxes. Indirectly, these systems benefit the creation of traditional and reverse factoring platforms by creating an electronic asset that can easily travel from the tax authority (who issues the invoice), to the supplier (who remits the invoice with delivery of goods or services), to the buyer (who confirms the re-

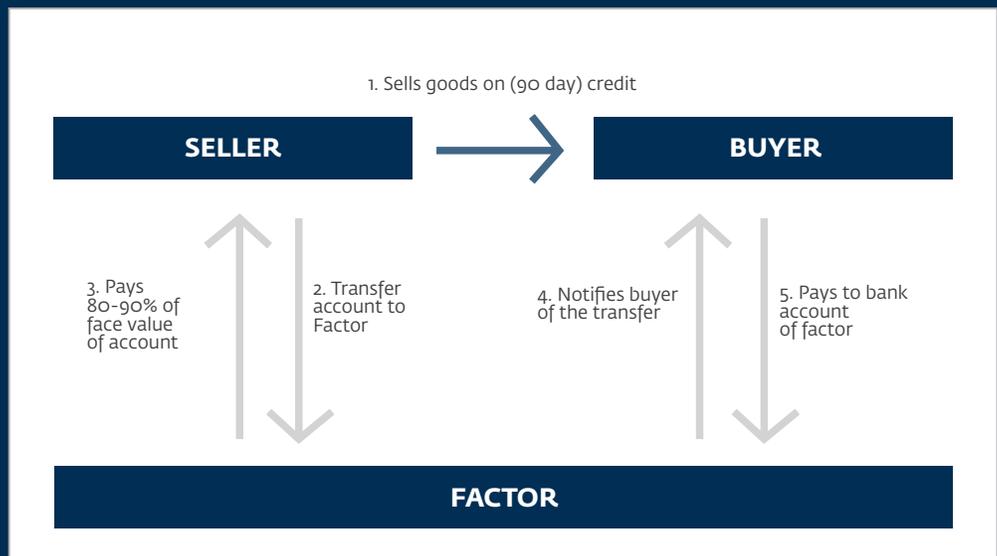


Figure 7:
Traditional Factoring

ceipt of goods or services invoiced), to the trading platform (which facilitates the financing for the invoice). These are ‘public markets’ where the government plays a strong role. These platforms may co-exist with ‘private markets’ for receivables. In any case, transactions on these platforms would be subject to a secured transactions law that expects lenders and buyers of receivables to register a notice with respect to the receivables they finance or purchase.

Supply chain finance (SCF):

While there is no single definition of SCF,³⁶ this arrangement involves a combination of credit products, especially reverse factoring, to facilitate the movement of goods through a supply chain, from the origin to the final destination.³⁷ Supply chain finance is largely event-driven, as lenders provide ‘services in the context of the financial requirements triggered by purchase orders, invoices, receivables, other claims, and related pre-shipment and post-shipment processes along the supply chain.’³⁸ SCF seeks to optimize the management of working capital and liquidity tied up in supply chain processes, and thus to ensure the steady and predictable flow of capital between the participants in the supply chain. It facilitates strategic relationships among suppliers, buyers, and lenders, which leads to increased trade volumes resulting from greater economies of scale.³⁹ In distributing the risk associated with lending across multiple actors in the supply chain, SCF opens up more sources of credit for underserved borrowers. SCF shifts the risk from the lender to the buyers in the supply chain and reorients the lender’s credit analysis from the small producers to the larger buyers. This has the effect of increasing access to credit for small producers, facilitated by a member of the supply chain (the buyer), which has a greater vested interest in the health of the chain as a whole.

Supply chains in agriculture where the processes include growing, buying, selling, processing, transporting, storing, checking, and packaging to bring agricultural products to the customer are often referred to as value chains.⁴⁰ As part of its Global Value Chain initiative, the World Bank Group ‘help[s] client countries design and implement effective, solutions-oriented reforms’ aimed at optimizing participation in global value chains.⁴¹ Reforms aimed at introducing warehouse receipt systems have proven to facilitate the integration of producers, traders and processors into value chains.⁴²

Like in supply chains, value chain financing relies upon creditworthy buyers and is based on business relationships established within the value chain, as opposed to the creditworthiness of individual farmers.⁴³ Internal value chain finance occurs between members of the chain, such as suppliers providing credit to buyers or producers’ associations, providing credit to member producers.⁴⁴ External value chain finance refers to financing that is secured from outside the chain, but made possible by interactions within the chain, such as intra-chain contracts or the issuance of warehouse receipts.⁴⁵ For instance, producers may obtain credit by using guaranteed contracts for the future sale of their products, at a fixed price, as collateral. Product financing is the most common form of agricultural value chain financing, usually taking the form of pre-financed sales, where input vendors provide credit to the producers on the basis of future sales, and advance payments, where buyers finance the production of goods.⁴⁶ Other forms of product financing include trader credit, where traders advance funds to producers in exchange for guaranteed sale terms post-harvest, and lead firm financing, where the lead firm provides financing to producers in exchange for guaranteed sales agreements.⁴⁷ Overall, the financing of these products does not differ from those involved in supply chains.

Reverse factoring is the most frequently used SCF type of financing.⁴⁸ The other form of finance commonly deployed in supply chains is discounting, which resembles payables finance in that suppliers are offered advance discounted payments for their products. Discounting differs from approved payables finance in that the advance payment is made by the buyer rather than a lender.⁴⁹ In this case, the buyer offers to shorten the payment term for the invoice in exchange for some discount on the market price of the delivered goods. Alternatively, the seller may use its purchase order as the basis for financing from a lender for the purposes of completing the purchase order. Financing in this case covers the working-capital needs of the supplier, including raw materials, wages, packing costs, and other pre-shipment activities.⁵⁰ Purchase order eligibility and the financing rate is dependent on the performance risk of the supplier, as well as the ability of the buyer to pay the invoice price upon delivery.⁵¹

Leasing:

Leases are important products that facilitate the acquisition of various assets, especially equipment. The International Finance Corporation's Global Leasing Toolkit (2011) focuses on two areas: (i) the establishment of a leasing entity, from

inception, through funding, initial organization, and start-up operations, and (ii) the life cycle of a lease transaction, from origination, through credit evaluation, processing, closing, and servicing.⁵² The Toolkit includes a complete set of sample documents required for each focus area, including documents used internally in leasing operations and documents required to execute lease transactions.

Financial leases:

Modern secured transactions laws apply to and facilitate the deployment of financial leases, under which lessees may acquire new assets, especially equipment and motor vehicles. However, secured transactions laws do not provide for many aspects necessary to enter into a leasing transaction, which are traditionally included in special leasing laws. Typically, the lessee makes equal monthly installment payments and depreciates the asset. The right of a financial lessor is treated as a security right or an equivalent thereto, requiring a registration in the collateral registry to establish its priority against competing claimants. As secured creditors, lessors benefit from priority, as well as an efficient enforcement regime upon default of the lessee. Financial leasing requires not only a modern leasing law, but also conducive tax and accounting treatment to provide an equal playing field with bank loans.

Figure 8:
Financial Leases



Figure 9:
Operating Leases



Financial leasing is a form of specialized financing in which the finance company (the lessor) purchases an asset for use by a customer (the lessee) for a specific period, in exchange for periodic payments. See Figure 8. Typically, the lessee has an option to purchase the asset for a nominal price (e.g., 10 percent of the asset value or \$1) at the end of the term. Unlike in an operating lease, the lessee's obligation is not subject to termination. The lessor conducts a credit assessment of the lessee, which includes its financial status, payment capacity, as well as the asset's useful lifespan. The lessor also assesses whether a secondary market for the leased assets exists, as well as the liquidity of this market. Subsequently, the lessor acquires the asset and transfers possession (and right of use) to the lessee. In most economies that follow international accounting standards, the lessee records both the equipment value and the depreciation thereof in its financial statements. The lessee is generally required to provide a down payment (10-25 percent of the asset value). The lease payments reflect a rent (principal) payment plus interest and fees. Payments can be monthly or quarterly, and lease balance is reduced with each payment by the lessor.

Operating leases: ⁵³

Operating (true) leases are a form of specialized financing in which a finance company (the lessor) acquires an asset for use by a customer (the lessee) for a specific period in

exchange for periodic rental payments. This type of an operating lease will thus involve three parties: (i) the lessor that is the financing party in the transaction, (ii) the lessee that is given the right to use the asset, and (iii) an equipment supplier that has been selected by the lessee. See Figure 9. More commonly, operating leases involve only a single entity that already owns the equipment provided to the lessee. Often, operating leases are done through vendor lease arrangements where the lessee does not select the supplier, which is already predetermined (e.g., Caterpillar Finance).

This product is a rental type of agreement for the use of an asset for a specified rental period. The rental payment is based on the asset cost minus the residual value (lessor's estimated future value of the asset) plus the cost of funds and the lessor's profit. The lessor conducts a financial analysis of the lessee, focusing on cash-flow generation and the lessee's ability to make timely rental payments. The lessee may be required to provide an advance payment corresponding to the asset value (10-25 percent). The lessee may also be required to make the rental payments (periodically), even if the asset becomes inoperable (hell or high-water clauses).

At the end of the lease term, the asset is either: (i) returned to the lessor, or (ii) the lessee may purchase the asset at its present market value. There are generally usage limits (e.g., maximum mileage on vehicles or maximum number

of hours per period for heavy equipment), which the lessee must comply with or pay usage penalties. For example, lease rates for heavy equipment, such as cranes and earth-moving equipment, are typically based on a maximum use of 160 hours per month. Hours in excess of 160 in any month incur a charge equal to the monthly rental fee multiplied by the number of excess hours and divided by 160.

The lessor records the leased asset on its balance sheet, treats the lease rental payment as income, and expenses the depreciation. The lessee expenses the entire lease payment as an operating expense. Operating leases are economical in environments with liquid secondary markets, so that the lessor can properly assess the asset's future value, price the operating lease accordingly, and have a ready market available in which to re-deploy the returned asset.

Agricultural financing:

Similar to ABL, this financing may encompass the entire business cycle, starting with a production loan that allows a farmer to acquire seeds and fertilizer and ending with the sale of a warehouse receipt that generates a cash payment deposited into a specific bank account. The loans may be secured with growing crops or livestock. Advances against growing crops are made when the crop reaches a certain stage. Unlike inventory, the lender does not collect regular payments from the borrower, but makes advances until the crop is harvested and sold. This type of financing also requires specialized monitoring skills, which most lenders do not possess. Hiring a retired farmer is one option to get an expert opinion on the status of the growing crops. Often, the borrower leases the land from a landlord, and the secured creditor should obtain a waiver of the landlord lien so as not to jeopardize its priority and enforcement rights. In those jurisdictions where crops are considered as an immovable asset until harvested, the lender must consider the effect of the law governing mortgages of immovables. This type of finance is often coupled with receivables and warehouse receipts finance.

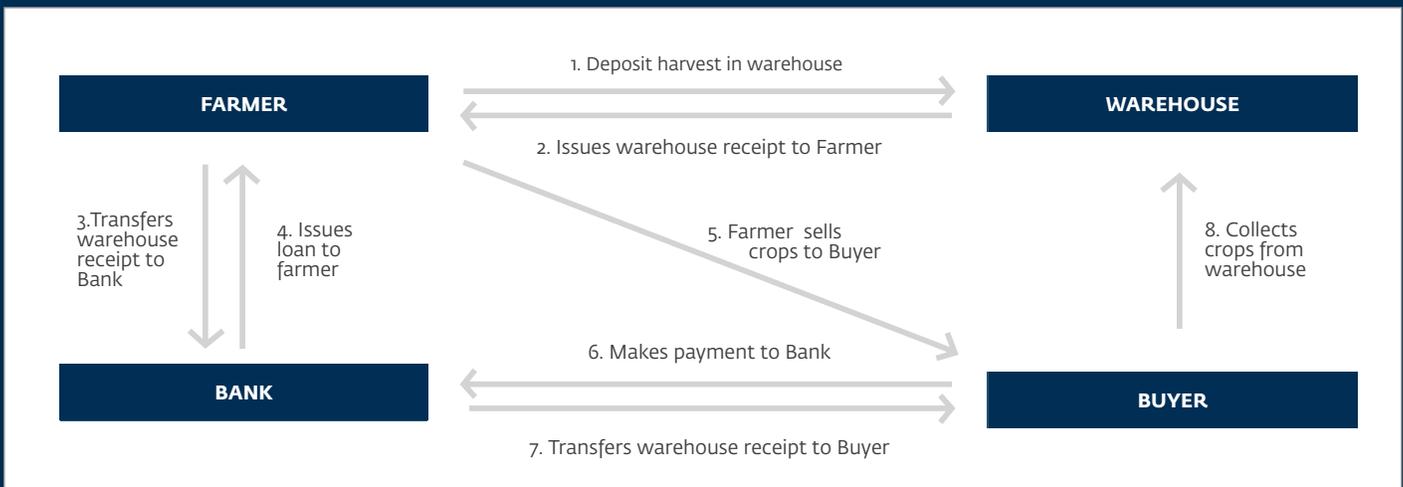
Warehouse receipts financing:

Warehousing operations may be set up in various forms, including: (i) self-managed warehouses, (ii) public warehouses, (iii) field warehouses, and (iv) warehouses subject to collateral management agreements.⁵⁴ In some economies (e.g., Mexico), it is common for banks to own warehouses in which they store the collateral of borrowers. In others where regulations prescribe minimum lending levels to the agricultural sector, warehouse receipts are the instruments for complying with those regulations.⁵⁵

Figure 10 shows a typical warehouse receipts finance transaction. Warehouse receipts may be issued as negotiable or non-negotiable. Negotiable receipts are typically issued by a public warehouse when there is an expectation to trade the warehouse receipts or sell the goods covered thereunder. The creditor may simply take possession of the warehouse receipt (an endorsement on an order document may be useful to facilitate the eventual disposal after default). These transactions are common even in the absence of a modern secured transactions law under a possessory pledge they are a security device uniformly recognized by all jurisdictions. Negotiable receipts, in electronic form, are also commonly used in the settlement of transactions on commodity and futures exchanges. Non-negotiable receipts may be issued when the goods are to be used as collateral, i.e., the receipt is issued in the name of the creditor, effectively giving the creditor control over their release from the warehouse. Non-negotiable receipts are also typically issued by collateral managers and under field warehouse arrangements.

Lenders that wish to extend credit against warehouse receipts will need to consider the suitability of the existing legal framework beyond secured transactions, including the recognition of warehouse receipts as documents of title, their nature as negotiable or non-negotiable, and the regulatory framework governing the licensing and operations of warehouses.⁵⁶ In many economies, warehouse receipts systems remain informal and are governed by general laws, as well as contracts between depositors and warehouse op-

Figure 10:
Warehouse Receipts Finance



erators. Lenders often consider such arrangements too uncertain to take a warehouse receipt as collateral. In addition to due diligence on the loan applicant and the proposed collateral stored in a warehouse, the lender should conduct due diligence on the warehouse, including to ensure that it is properly licensed, bonded and insured, as well as conduct a physical inspection of the warehouse. Increasingly, warehouse receipts are issued electronically and trade similarly to securities on exchanges that also facilitate the taking of security rights in electronic warehouse receipts. A proper legal framework should underpin those arrangements, with mechanisms that give legal certainty and protection to secured creditors.

When the depositor is a farmer, the loan secured with the warehouse receipt will typically be used for working capital purposes, such as buying inputs for the next season, other revenue-generating activities, or for household consumption. A trader is more likely to use the loan for purchasing additional commodities. While the financing needs of farmers and traders are often relatively short term, processors usually have longer-term stock financing needs.⁵⁷ The high

security provided by warehouse receipts and the relative ease of enforcing the security right upon default makes this product more attractive to lenders, eventually facilitating the transition into riskier forms of lending, such as pre-harvest financing.⁵⁸ Typical advance rates are up to 80 percent of the value of the stored products, reflecting the relatively low risk of this type of secured transaction. Agricultural lending, especially when secured with warehouse receipts, may be propped by special central bank rediscounting windows that enable banks to sell and then repurchase such loans.⁵⁹

The systems supporting warehouse receipts have had transformative effects beyond the provision of finance.⁶⁰ They: (i) lower post-harvest losses, (ii) reduce seasonal price volatility, and (iii) improve and encourage higher quality production. In addition to increasing access to agricultural credit, warehouse receipts systems incentivize the development of many financial services, such as insurance, exchange trading of rights to commodities (whether actual warehouse receipts or commodity contracts settled by delivery of warehouse receipts), and financing markets for short-term financial instruments, such as bankers' acceptances.⁶¹

Transactions with securities:

There are many types of transactions with securities that necessitate an extension of credit.⁶² Credit may be extended to enable an investor to acquire a new security (e.g., under a margin loan) or secured with a fluctuating portfolio of securities, such as a loan given to a broker. The first type is similar to a purchase money loan that allows the grantor to acquire a new asset, such as a motor vehicle, while the latter resembles an inventory loan. Parties may also enter into a repurchase transaction (repo) whereby a seller transfers the ownership of securities to the buyer in exchange for immediate cash and undertakes to buy the securities back, at some point in the future, for the same amount plus interest. A securities lending transaction operates similarly to a repo, but the borrower seeks access to specific securities with an undertaking to return the equivalent securities in the future. This undertaking is secured by cash or other securities. Transactions with securities may be concluded on exchanges or in the over-the-counter markets.

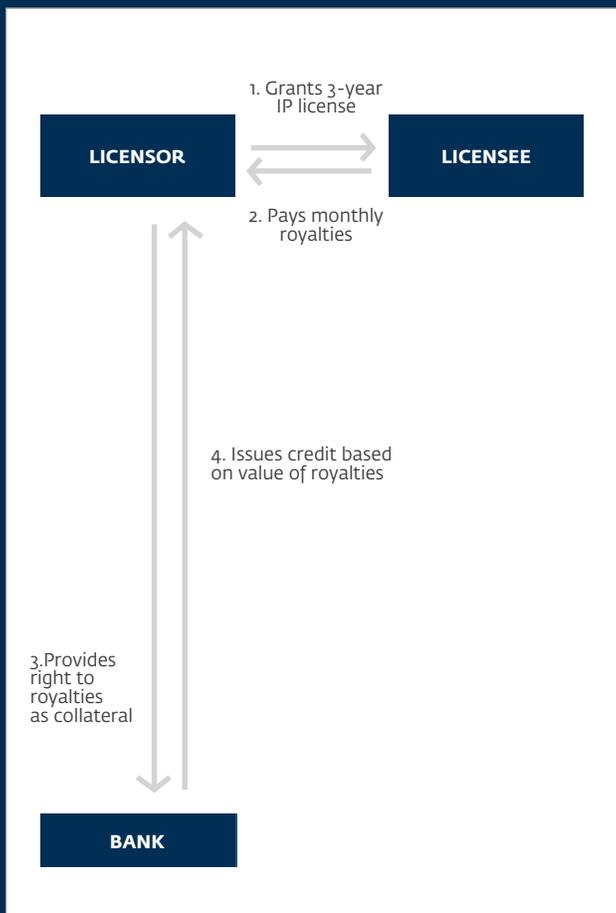
Intellectual property (IP) financing:

IP might be the most important or most valuable asset that a company owns; yet, because of its nature, it might not fit well within traditional collateral frameworks.⁶³ Using IP as collateral can take place in two ways: (i) the security right is taken in the rights relating to the IP, or (ii) the security right is taken in tangible property, which derives its value from the value of the IP. The IP rights used as collateral may be those of the owner, licensor, or licensee. (See Figure 11.) IP rights can be broken down into two classes for the purpose

of their use as collateral: (i) cashflow assets where royalty payments are directly attributable to the licensed IP, and (ii) assets with implicit value, such as those that are used exclusively internally. The first class may be illustrated in the following transaction: a borrower, acting as a licensor, has a licensing agreement with another company that generates periodic licensing payments, and the borrower uses its rights to those royalty payments to secure financing from a lender. The borrower provides the details of such licenses to the lender, who verifies that the licensees are capable and willing to meet their obligations. The lender evaluates and selects the eligible IP rights for its lending portfolio, assigns a borrowing value to each right in the portfolio, and provides financing equal to the sum of the borrowing value of each IP right. Because the value of the IP is based on its potential to generate revenue, calculating the value of IP for use as collateral in secured transactions is difficult unless, for example, the royalties have a historical performance that can be measured. As part of this evaluation process, the lender also searches IP registries to verify the chain of title.

IP rights can also be the basis for taking security rights in movable collateral. Goods may be substantially more valuable if covered by some patent or trademark licensing agreement. The lender would require proof of the licensing agreement. By way of illustration, products of a business with a licensing agreement granting it the right to manufacture goods bearing a valuable trademark will have higher value than those without it. Similarly, goods that employ patented technologies might be more valuable than similar goods without them.

Figure 11:
Intellectual Property Finance



Islamic finance:

Islamic finance refers to transactions in accordance with Shari'ah law. Trade finance and leasing may be structured in compliance with Shari'ah law using murabahah and ijara. Murabahah refers to a cost-plus marked-up transaction between the parties, whereby a customer places an order with a lender to purchase goods from a supplier. Upon purchasing the goods, the lender delivers them to the customer with an agreement to defer payment until some future date. The lender sells the goods to the customer at a mark-up with a fixed credit period. The return for the lender is usually aligned with interest payments on conventional asset-backed loans, with the key distinction being that the amount being financed cannot be increased in case of late payment or default, nor a penalty imposed, unless the buyer deliberately refuses to make a payment.

Ijara is the Islamic finance equivalent to a conventional finance lease. It entails a transfer of the customer's asset to the lessor or the lessor's acquisition of an asset for onward lease to the customer (lessee). In the former case, the lessor then leases the asset to the lessee at a pre-determined rent. The lessor must own the asset throughout the lease and is responsible for the asset's maintenance, unless damage to the asset results from the lessee's negligence. Under one variety of *ijara*, at the end of the lease term or a prior default, the lender sells the asset to the lessee at an amount equal to the original purchase price plus accrued and unpaid rent. Such contracts may be structured in a manner that allows for partial payments of the purchase price during the term of the contract. In another variety, the lessee may merely have an option to purchase the leased asset at the conclusion of the contract.

F. Gender Finance: The Positive Effect of Reforms on Women

Globally, a seven percent financial inclusion gender gap has persisted since 2011 – only 65 percent of women have a bank account compared to 72 percent of men.⁶⁴ In Sub-Saharan Africa, the proportion of adults and women with bank accounts in 2017 was 42.6 percent and 36.9 percent respectively. Nearly half of the world's 1.7 billion adults who remain unbanked live in Bangladesh, China, India, Indonesia, Mexico, Nigeria, or Pakistan.⁶⁶ The true extent of the financial inclusion gender gap is unknown: loan repayment statistics for women borrowers are unavailable, and cultural bias often results in an exaggerated perceived risk of lending to women-owned businesses.⁶⁷

One impediment is the lack of credible identification. In Uganda, women are often unable to open bank accounts because they do not have documents required by know-your-customer rules, such as a government-issued identification or utility payment records.⁶⁸ Individuals without a government identification or bank account are typically excluded from credit reporting systems.⁶⁹ Another impediment is the inability to prove ownership to land. In many cases, women cannot own any land.⁷⁰ In many countries, laws prohibit

women from owning property or require the husband's consent before a married woman can encumber her property. In Ecuador and the Philippines, spouses have equal rights to administer property, but the husband prevails if they disagree on its disposition.⁷¹ In Cameroon, Chile, Côte d'Ivoire, the Democratic Republic of Congo, and the Republic of Congo, only husbands have the right to administer marital property, including property acquired during the marriage and property that the wife brought into the marriage.⁷² Many other countries have only (relatively) recently reformed such laws. In Brazil, prior to 1988, a husband had the sole right to administer the marital assets and his wife's separate assets.⁷³ Not until 2002, with the enactment of a new Civil Code, was full legal equality between husband and wife recognized.⁷⁴ In 2010, Kenya's new Constitution granted women equal rights before, during, and after marriage.⁷⁵ In economies where there is a legal gender gap in laws governing property rights, this disparity may prevent women from using property as collateral for loans.⁷⁶

Other examples of women's challenges in accessing credit are provided in Box 3.

Box 3:⁷⁷*Lack of Access to Credit for Women*

Although women entrepreneurs run nearly half of Kenya's SMEs, they receive less than 10 percent of all available credit in Kenya. And they receive only 1 percent of credit directed to agriculture, despite managing 40 percent of smallholder farms.

Women in Uganda own about 40 percent of their country's private enterprises, but receive only 9 percent of credit.⁷⁸

In Tanzania, nearly 30 percent of male-headed enterprises have received bank finance, as compared to only 8 percent of female-headed enterprises. Only 10 percent of men are currently bank financed; the proportion of women is half that.

In a survey of women's businesses in the Middle East and North Africa, most women owners did not have access to formal credit and financed their businesses mainly through savings, loans from family and friends, and by reinvestment of their business earnings.

Most studies find that women are not more likely than men to be rejected for loans or be charged higher interest rates, but women are less likely to apply for loans than men. Women borrowers tend to have lower default rates and show greater allegiance to their banks, which should make them a more attractive target for lenders. When women are the direct recipients of credit, the impact on the various measures of household welfare (such as school enrolment rates) is greater. Though far from conclusive, such evidence has motivated the design of a number of interventions aimed at facilitating credit to women with working children.⁷⁹

Microfinance has made a major contribution to enhancing women's access to credit.⁸⁰ It is estimated that 8 out of every 10 microfinance clients are women. But the small scale of microfinance can be limiting for women. By definition, amounts lent are small, interest rates tend to be higher than commercial bank rates, and lending periods are short. Women-owned enterprises may need more credit than that made available by MFIs. To this end, a modern secured transactions law can unlock new financing opportunities (see Box 4).⁸¹

Box 4:*Benefit of secured transaction reforms to women*

In Ghana, Women's World Banking, a very frequent user of the collateral registry, extends so-called "table-top loans," taking household assets owned by women as collateral to enable them to acquire basic equipment to open stalls in which they make and sell food. Once the business is established, the cooking utensils and food-stuff are taken as collateral. The collateral value does not determine the amount of the loan, and the amounts are very small.

In Tanzania, Sero Lease and Finance, a women's leasing and finance company, provides loans to women to purchase equipment for their businesses, using the equipment as security under leasing agreements. Sero has more than 10,000 exclusively female clients.

Enabling movable assets — such as machinery, book debts, jewelry, and other household objects — for use as collateral at low transactional costs can benefit all businesses. Opening this type of financing has the potential to be of particular benefit to women, empowering them to overcome the lack of titled land or the limitations on their power to transfer property without the consent of the husband (still in place in a number of countries) and use the assets they have to gain access to formal credit markets.

The implementation of a modern secured transactions regime is not sufficient if women have insufficient rights or power to create a security interest. Furthermore, credit products that are tailored to the size of women-owned businesses, their structure and the types of assets they own must be designed and deployed. Successful services and operational changes that have proven successful include: (i) account opening without a minimum deposit requirement, (ii) flexible loan terms, such as smaller amounts with longer terms and lower interest rates – women entrepreneurs can use these loans to fund household and family needs without impacting their business operations, (iii) banking hours outside of normal business hours, (iv) women staff available to assist women borrowers, and (v) services available at closer locations.⁸² Successful programs have already been introduced by a number of lenders. For instance, Kenya's Equity Bank introduced a range of credit

products for women with discounted business training, flexible collateral, and adjustable repayment periods.⁸³ In some countries, including India, banks use self-help groups and nongovernmental organizations as intermediaries to assist in providing banking services.⁸⁴ Importantly, these groups establish a relationship with women borrowers and develop an understanding of their needs.⁸⁵ Women with improved living standards and increased decision-making power comprise nearly 90 percent of the beneficiaries of these self-help groups.⁸⁶ It is important to introduce any gender-based reforms with sensitivity to the local cultural context in order to avoid precipitating a community backlash.⁸⁷ Banks such as Access Bank Nigeria, Garanti Bank Turkey and DFCU Bank have created products tailored for the needs of women entrepreneurs, while taking into account the cultural context.⁸⁸

CHAPTER 2:

RECENT DEVELOPMENTS AND EMERGING TRENDS

A. Effect of Modern Technologies on Secured Transactions

This chapter examines the impact of some developments on secured transactions reforms. Some of them have been known for some time, but their impact has not yet been thoroughly assessed (prudential regulation). Other developments could foster the implementation of reforms (loan guarantees); some only recently emerged, and their affect remains largely unknown (distributed ledger technologies).⁸⁹

Emerging technologies, especially distributed ledger technology (DLT), may affect various facets of secured transactions and asset-based lending. Their impact has been more evident in practical applications affecting various creditor processes, but has not yet altered the established approaches to reforming secured transactions laws. However, some suggestions have been formulated to consider rules specific to the use of crypto-assets (digital assets) as collateral and to make certain collateral registry functions available through DLT. That being said, the benefits of DLTs over the technology that currently underpins collateral registries have yet to be identified and proven. Furthermore, very little evidence exists regarding the economic utility of taking crypto-assets as collateral for loans. The technology is quickly evolving and may necessitate re-conceptualizing some fundamental approaches in the near future.

In practice, DLT has been deployed to facilitate the various processes of lenders, such as monitoring collateral. For instance, it enables lenders to track the location of collateral, monitor its use, and disable it when necessary to facilitate enforcement after default. An application could also be designed for predictive maintenance to alert the user of a machine (subject to a financial lease) that maintenance is needed in order to minimize the downtime. While these functions can be achieved by traditional technology, DLT may be more efficient and less costly. In any case, an

advantage of DLT is that it can connect with other devices through the Internet of Things to assist lenders in managing collateral. For instance, for growing crops subject to a security interest, an irrigation system may be connected to weather trackers to regulate the frequency and volume of irrigation.

Historically, many types of secured financing have been highly fragmented, especially those that rely on multiple actors, such as supply chain and trade finance. The International Chamber of Commerce reports that 4 billion pages of documents are generated annually in trade finance worldwide, often with duplicate data fields.⁹⁰ As many as 50 different parties may be involved in the generation, verification, and transmission of these documents.⁹¹ The complexity and costs associated with managing these transactions have led to a decline in the use of some traditional payment and financing instruments, such as letters of credit. Still, many receivables finance products rely on an exchange of myriad documents. DLT has made receivables finance even more efficient, ranging from issuing and confirming invoices electronically, to purchasing by factors and other finance companies. The savings for supply chains are even more profound, as estimates suggest that the cost of operating a supply chain accounts for two-thirds of the final cost of the product.⁹² DLT also facilitates the purchase of invoices with low face values that might not have been cost effective previously, thus enabling access to finance, especially for micro and small businesses that generate such receivables. Additionally, DLT helps form exchanges or platforms to trade electronic invoices, which complement receivables exchanges already established in many markets. These efficiencies in practices have not yet necessitated changes to the laws governing secured transactions. Some changes may be necessary if Bitcoin and other crypto-currencies are to be treated similarly to money and funds in a bank account whose transferees benefit from the protection of negotiability principles. In contrast, a Bitcoin transferee does not take free of any pre-existing claims, as Bitcoin would be classified as an ordinary intangible right.

DLT also affects secured transactions on the 'asset side'. First, it facilitates the transformation of certain assets that previously existed in a tangible form (e.g., warehouse receipts) or were issued and transferred electronically in centralized electronic systems (e.g., securities) into records held in decentralized DLT-powered systems. It also generates new assets previously unknown to commerce, including digital currencies and tokens that embody payment rights, as well as other entitlements, such as a license or right to use the software produced by the issuer of the tokens (known as 'native tokens'). The most well-known example of digital currency is Bitcoin, which has already generated a number of legal issues and court cases primarily related to insolvency (e.g., in the Mt. Gox case where a Bitcoin exchange filed for insolvency resulting in losses for the Bitcoin holders), but less so in connection with secured transactions. The nature of these tokens remains uncertain, and many legal systems would not treat them as property. Securities, whether held directly, through intermediaries, or in decentralized systems, are commonly utilized as collateral in secured transactions, while many questions remain about the utility and collateral value of cryptocurrencies and tokens. Because they are not held with intermediaries, their holding in a decentralized system may require some retooling of the legal rules governing the perfection of security rights. This retooling may need to consider a new form of custodians that hold private keys for investors to access their digital wallets. In light of the latest developments with the emergence of custodians of crypto-assets, the framework for intermediated securities, including their use as collateral, may be suitable for adaptation. In contrast, holding electronic warehouse receipts in a decentralized application does not raise similar concerns. In any case, all types of assets held in DLT applications raise novel questions, such as the method of perfecting a security right, its enforcement, as well as the determination of the law applicable to perfection and priority.

More specifically, from the perspective of secured transactions laws, the following aspects may be considered. First, new types of assets, especially those native to DLTs, may have some intrinsic value that would make them

attractive collateral for some lenders. International best practice secured transactions laws are flexible enough to facilitate the creation and perfection of security rights in those assets. However, this presupposes that they are property under the applicable general law. Ordinarily, security rights may be created in those assets by a security agreement. However, some consideration may be required to determine whether to extend the perfection method of control beyond investment securities and deposit accounts to ‘digital assets’ and what the nature of that control should be since, unlike for securities and funds credited to bank accounts, there may be no intermediaries. Furthermore, under the (current) best practice priority rules, digital assets would be treated as ordinary intangible assets. Thus, their transferees would be unable to take free of the pre-existing claims, as a transferee of money or funds would, which may be a concern particularly for those dealing in cryptocurrencies. Additional questions may arise with respect to the classification of digital currencies and tokens as cash proceeds for the purposes of applying the relevant rules of secured transactions (e.g., automatic perfection) as well as insolvency laws (e.g., the power of the trustee to use cash proceeds). Some challenges may also arise in connection with enforcement, particularly where secured transactions laws provide for a structured process to balance the rights of secured creditors and grantors, including the need to give a notice of disposal within a reasonable period (e.g., 10 days) prior to actual disposal, and whether certain exceptions from those requirements could apply to the disposal of crypto-assets (e.g., when their value may quickly deteriorate). Such rules might impede one of the most significant benefits of smart contracts, which is their automated execution. Finally, it may be difficult to apply the conflict of laws rules that rely on the location of an asset or an intermediary/bank or digital assets held in decentralized ledgers, which, by definition, do not have any location.⁹³

The collateral registry is a core component of a modern secured transactions regime. While in the past, reform efforts centered on the transformation of ‘paper-based processes’ to electronic, today a discussion has emerged as to whether DLT is the superior technology that ought to

be used to build a registry system or re-design an existing electronic one. Such discussions are not merely theoretical, but require careful consideration in various contexts, such as Article 28 of the Cape Town Convention on International Interests in Mobile Equipment, whereby the registrar may be liable for compensatory damages if it fails to employ the current best practice in the field of electronic registry design and operation. Globally, no DLT-powered collateral registry system has been launched, though a number of land and companies registries already utilize DLT applications for some of their functions, such as the storage of electronic records. However, the many advantages touted by DLT, such as the prevention of inadvertent cancellations of registrations or the accidental lapse of their effectiveness, may be equally achieved by traditional technologies. Other identified efficiencies, such as the ability to register amendment notices automatically when new assets are incrementally added as collateral, can already be achieved today by a combination of due diligence and sufficiently broad collateral descriptions in initial notices.

Nonetheless, in one aspect, DLT may make a significant difference. The effectiveness of the entire secured transactions regime largely depends on the reliability of the grantor identifier according to which registrations are indexed and searchable. DLT could facilitate the establishment of unique identifiers for grantors, eliminating the risks of using an incorrect identifier in a registration – an error that would render the registration ineffective and the security right unperfected. DLT could also make an easier interconnection to other databases for the purpose of verifying relevant information, such as the names of company grantors and vehicle identification numbers, but those interconnections already exist using the traditional technology.

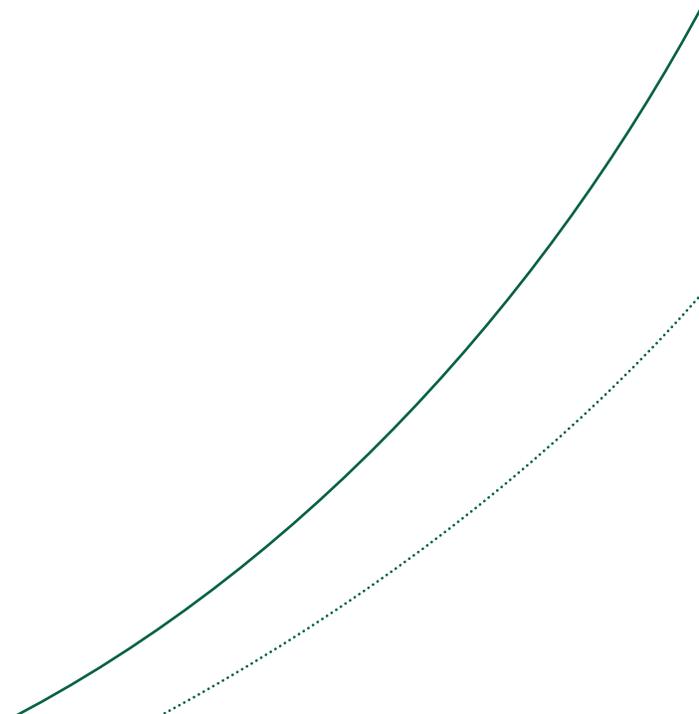
Digital assets also raise a number of questions from a regulatory perspective. Tokens issued in initial coin offerings have attracted the attention of securities and derivatives regulators with the view of protecting investors. From a prudential regulatory perspective, it may be unclear whether digital assets fall under the category of eligible collateral under the standardized and IRB approaches. Although

security rights in digital assets can be enforced swiftly and may be disposed of in liquid secondary markets, a number of inherent risks, including operational and market (e.g., price volatility) risks, remain. While banks and other regulated financial institutions may have some limitations on taking digital assets as collateral, they may be of interest to alternative lenders that better understand their inherent value. Finally, the regulatory frameworks may also dictate a specific classification of digital assets under secured transactions laws, whether as securities, commodity, or general intangibles.

It should be noted that many functions of DLT applications can be equally performed by traditional databases. For instance, exchanges/platforms for electronic warehouse receipts, facilitating their sales and collateralization, have been in existence for many years. On commodity exchanges for futures, traders may deliver or take delivery of electronic warehouse receipts in the settlement of futures contracts. Electronic warehouse receipts may constitute trading instruments on cash commodity exchanges. One of the first electronic warehouse receipts was introduced in the United States cotton industry in 1995. Developing nations caught up quickly thereafter; for instance, South Africa commissioned a software company to develop electronic silo certificates in 2004.⁹⁴ The Ethiopian Commodity Exchange began operations in 2008.⁹⁵ Two commodity exchanges are operational in Malawi: the Agricultural Commodity Exchange for Africa and the AHL Commodity Exchange. Countries establish electronic warehouse receipt systems, particularly in connection with commodity exchanges where they function as a trading instrument.

The following glossary defines key DLT terms:

- **Artificial intelligence:** ‘the theory and development of computer systems able to perform tasks that traditionally have required human intelligence.’⁹⁶ It enables a review of loan agreements within seconds, rather than hours, and provides a more efficient credit assessment of the account debtor for the purposes of establishing whether the receivable will be financed.
- **Bitcoin:** launched in 2009, Bitcoin was the first decentralized cryptocurrency. It may be used as original collateral or as proceeds of another disposed of collateral (e.g., the grantor uses money to buy Bitcoin).
- **Blockchain:** “a type of data structure used in some distributed ledgers, which stores and transmits data in packages called ‘blocks’ that are connected to each other in a digital ‘chain.’ Blockchains employ cryptographic and algorithmic methods to record and synchronize data across a network in an immutable manner.”⁹⁷
- **Cryptocurrency:** ‘a subset of digital currencies that rely on cryptographic techniques to achieve consensus, for example Bitcoin and ether.’⁹⁸
- **Digital asset:** a representation of value that is stored in a computer readable format, such as digital consumer assets, digital securities, and digital currency. Public key cryptography secures digital assets on a DLT network (public or private). The public key is the address where the digital asset is located on the network. The private key is the code that gives access to the asset at the address represented by the corresponding public key.⁹⁹
- **Digital currency:** ‘digital representations of value that are denominated in their own units of account, distinct from e-money, which is simply a digital payment mechanism, representing and denominated in fiat money.’¹⁰⁰
- **Digital wallet:** software that allows users to make electronic payments and purchases, and stores their digital assets. A wallet may hold cryptocurrency and other digital assets subject to a security right.

- **Distributed ledger technology:** ‘recording and sharing data across multiple data stores (or ledgers). This technology allows for transactions and data to be recorded, shared, and synchronized across a distributed network of different network participants.’¹⁰¹
 - **Distributed ledgers:** ‘multiple ledgers maintained by a distributed network of nodes. The ledgers may be permissioned or permissionless, depending on whether network participants (nodes) need permission from any entity to make changes to the ledger. They are public or private depending on whether the ledgers can be accessed by anyone or only by the participating nodes in the network.’¹⁰² Generally, public distributed ledgers are permissionless and private ones are permissioned.
 - **Ethereum:** an open-source public blockchain platform for the development of any kind of decentralized application, including the ability to execute smart contracts. Ethereum facilitates the issuance of decentralized loans using ether as collateral.
 - **Initial coin offering:** a fundraising mechanism in which new projects sell their underlying crypto tokens in exchange for cryptocurrencies. In some aspects, it is similar to an initial public offering in which investors purchase shares of a company.¹⁰³ Crypto tokens may be used as collateral.
 - **Internet of Things:** ‘the inter-networking of physical devices, vehicles, buildings, and other items embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data and send, receive, and execute commands.’¹⁰⁴ It may facilitate the monitoring of collateral, such as a predictive maintenance software that alerts the user of a machine subject to a security right that maintenance is needed. Internet of Things platforms tend to have a centralized model in which a broker or hub controls interactions between devices, which can be expensive and impractical. Blockchain offers an alternative, decentralizing method of securely maintaining a trusted record of all messages exchanged between devices, as well as transactional capability.¹⁰⁵
 - **Nodes:** network participants in a distributed ledger network.¹⁰⁶
 - **Public key cryptography:** ‘an asymmetric encryption scheme that uses two sets of keys: a public key that is widely disseminated and a private key that is only known to the owner. Public key cryptography can be used to create digital signatures and is used in a wide array of applications, such as the HTTPS internet protocol for authentication in critical applications and also in chip-based payment cards.’¹⁰⁷
 - **Smart contract:** software that runs on blockchain technology, which can permanently record and automatically enforce the terms of the agreement. A smart contract may be designed to automatically immobilize the collateral on default.¹⁰⁸
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B. Prudential Regulation and Secured Transactions: Building a Sound and Inclusive Credit Ecosystem

Secured transactions law reforms aim to enhance inclusive access to credit. In pursuit of this overarching objective, financial stability and market integrity should be fostered equally. To this effect, the legal and regulatory tenets of domestic credit frameworks should be coherently coordinated. Specifically, coordination between secured transactions law reforms and prudential regulation is of paramount importance to promote inclusive access to credit through the development of a sound financial system. An expanded availability of credit necessitates financial stability. A reliable regulatory framework that instills confidence among market participants stimulates lending and ultimately economic growth, while reinforcing financial stability. While these functions can be achieved by traditional

Lenders, especially regulated financial institutions, should be equipped with appropriate legal instruments, sufficient capacity, and regulatory incentives to engage in movable assets secured transactions, particularly of a commercial nature. Moreover, such secured lending should promote sound management of credit risk in compliance with applicable regulatory standards. Recently completed secured transactions law reforms have produced mixed results in terms of promised credit growth, financial inclusion, and facilitating sound risk-management practices. Although statistics concerning the usage of newly implemented collateral registries generally indicate an increase in registrations, closer analyses often reveal that a large portion of registrations relate to consumer financing of cars, while only a small percentage pertain to commercial asset-based loans secured by equipment, inventory, or receivables.

The lack of coordination between secured transactions law reforms and regulatory frameworks may not incentivize the deployment of sound risk management practices. The

crucial problem is that rules defining sound risk-management practices and reporting requirements for regulated financial institutions often do not acknowledge the existence of a new secured transactions law and collateral registry and, in some jurisdictions, they explicitly refer to pre-reform mechanisms, reflecting the inefficient nature of perfection and enforcement aspects of the previous regime. Provisioning requirements and a capital regulation for regulated financial institutions that are based on unreformed secured transactions laws typically result in a suspicious attitude towards lending secured with movables. The reason for such skepticism is often rooted in the fact that pre-reform rules displayed significant deficiencies, for example, not allowing for a predictable allocation of priorities or expeditious enforcement of security interests. Depending on the jurisdiction, other factors further disincentivize financial institutions from engaging in secured transactions. These include the relative ease and comfort in purchasing government obligations that: (i) do not require developing specialized expertise that is key to asset-based lending, (ii) pay relatively high interest rates, and (iii) benefit from a more favorable treatment under applicable capital regulation compared to asset-based loans. In addition, many developing economies lack the variety of asset-based lenders that provide credit in more mature markets, further dampening the potential of a reform.

Examinations of collateral registries in several economies reveal some conduct that is not prudentially sound. For instance, the increase in registrations is grossly disproportional to the number of searches. In principle, searches should be double the number of registrations, given that prudent lenders are expected to search the registry before registering a notice and then do occasional searches as circumstances necessitate. Thus, a low number of searches is a likely indicator of weak risk-management practices and credit policies.

To address these issues, secured transactions law reforms and access to credit policies more generally should be implemented in coordination with a regulatory framework that is designed to preserve the safety and soundness of financial markets and institutions. Secured transactions law reforms should complement a timely, full, and effective implementation of international regulatory standards, thus contributing to building a resilient financial system. Secured transactions law reforms and regulatory frameworks are based on global standards and best practices. However, alignment to these standards is not enough in itself to realize an inclusive and sound credit ecosystem at the domestic level. This problem is progressively capturing the attention of institutions active in promoting secured transactions law reforms. As an example, for the first time in its history, UNCITRAL recently examined the regulatory dimension of secured transactions laws and its coordination with prudential regulatory frameworks.¹⁰⁹ Specifically, in its 2019 Practice Guide to the Model Law, UNCITRAL provided a primer on regulatory issues aimed squarely at domestic regulatory authorities and regulated financial institutions in jurisdictions considering implementation of the UNCITRAL Model Law. Furthermore, regulatory matters are at the forefront of many institutions involved in secured transactions law reform, such as the EBRD.

Coordination between secured transactions law reforms and prudential regulation requires designing a jurisdiction-specific reform strategy for implementation.¹¹⁰ For a regulatory framework to incorporate the benefits of a reformed secured transactions law, amending specific rules is not sufficient. Once a new secured transactions law has been implemented, different components of the domestic credit environment need to be coordinated. Depending on the broader legal and regulatory framework, as well

as specific economic conditions, a recalibration of the regulatory elements in line with international standards requires data. As prudential policies follow a risk-based and data-driven approach, information on the functioning of the credit market must be collected and analyzed in order to suggest targeted policy changes. The data may be generated directly by the financial institutions and through various support and complementary mechanisms, such as public guarantee schemes,¹¹¹ sandboxes, and pilot programs that are designed to facilitate asset-based lending. Based on these considerations, a reform strategy should aim to:

- cohesively integrate secured transactions law reforms within domestic legal and regulatory frameworks (based on international standards);
- promote a culture of regulatory compliance to incentivize a prudent and sustainable extension of secured credit; and
- gather reliable data on asset-based lending while enhancing capacity building.¹¹²

A variety of regulatory standards have a direct impact on the implementation of secured transactions law reforms and, therefore, should be considered in devising a jurisdiction-specific reform strategy. Particular attention must be given to the core features of prudential loan-loss provisioning and capital regulation, as their coordination with secured transactions law reforms is essential to promote a sound and inclusive credit ecosystem.

1. Prudential Regulation: Perimeters and Rationale

Prudential regulation is the body of rules designed to ensure the safety and soundness of financial institutions and to safeguard financial stability. Drawing from this general definition, a distinction is commonly advanced separating micro-prudential policies, which are primarily concerned with the ability of individual financial institutions to withstand losses, and macro-prudential policies aimed to strengthen the resilience of the financial system as a whole.

The reach and sophistication of prudential regulation has considerably expanded, especially after the 2007–08 financial crisis, and growing emphasis has been placed on concerted international efforts to develop strong macro-prudential regulatory and supervisory policies. High-level coordination is ensured at the international level through the G20. The definition of uniform regulatory standards and common supervisory practices has been mandated to international standard-setters, such as the Basel Committee on Banking Supervision and the Financial Stability Board, both housed within the Bank for International Settlements. In particular, the Basel Committee on Banking Supervision is the primary standard-setter for the prudential regulation of banks and represents a forum for cooperation on banking supervisory matters. Its activities include defining supervisory best practices and capital adequacy standards, enshrined, respectively, in the Core Principles for Banking Supervision and the Basel Capital Accords. In 2012, the Committee established the Regulatory Consistency Assessment Programme, a mechanism for monitoring progress and assessing the alignment (with the Basel Capital Accords) of 28 jurisdictions covering 90 percent of the world's banking assets.¹¹³ The Financial Stability Board, established in 2009, is mandated to monitor and advance recommendations to strengthen financial systems and increase the stability of international financial markets. In addition to its core policy areas, the Board coordinates several policy initiatives covering key aspects, such as the resilience of non-banking intermediation activities, accounting consistency, auditing quality, risk disclosures (including climate-related

financial risk), identifying legal entities, and regulatory and supervisory issues concerning FinTech.¹¹⁴

At the domestic level, international regulatory standards and policies are implemented through a mix of primary legislative acts, delegated legislation, and administrative rules. Typically, the core elements concerning capital and liquidity requirements and supervisory functions are contained in legislative acts, whereas delegated legislation provides further details, and administrative guidelines specify supervisory expectations and procedures. In addition to international standards, domestic laws and regulatory provisions are often designed to address specific vulnerabilities characterizing local economies and financial markets. These vulnerabilities might be rooted in past distresses and failures or might reflect the current concerns reported, for instance, in the Financial Sector Assessment Program conducted by the International Monetary Fund. Hence, domestic regulatory frameworks are characterized by significant idiosyncrasies, albeit displaying a higher level of harmonization compared to secured transactions laws. Depending on the sophistication of local markets, the fragilities of the domestic economy and the financial system, each regulatory environment presents distinctive features that have a direct impact on the success of secured transactions law reforms and, more broadly, on the development of an inclusive and stable credit ecosystem.

Regulators and Supervisors:

The key actors in the domestic governance framework are specialized administrative authorities that typically perform both regulatory functions and supervisory tasks in line with international principles and best practices.¹¹⁵ Depending on their remits, the administrative authorities might be directly involved in implementing international standards and may be entrusted with the power to adopt binding rules in the form of administrative acts or guidelines. Supervisory functions typically include licencing and authorization powers, ongoing monitoring (on-site and off-site inspections), and product approval procedures. In addition, data and information are also routinely acquired

to identify and address system-wide vulnerabilities, thus supporting macro-prudential policies.

In general terms, it is not uncommon for domestic central banks to be involved in prudential regulation and related supervisory activities, particularly in regard to the establishment of macro-prudential policies. Many central banks have also established credit registries to report loans exceeding a certain threshold as a form of supervision mechanism.¹¹⁶ However, other authorities — operating more or less at an arm's length from governments — might also be involved or even have an exclusive competency to discharge micro-prudential supervisory functions.

Rationale and Application of Prudential Regulation:

Typically, financial institutions that are subject to prudential regulation, like banks, receive demand deposits from the public to extend loans. Accepting deposits places banks at the center of a financial system and renders them a key driver of economic growth. Regulated financial institutions control a significant share of the market despite the disruptive effects of lenders promoting FinTech solutions. The core economic functions performed by banks, i.e., savings mobilization, maturity transformation and management of liquidity, allow for the conversion of savings into long-term investments. In this process, banks provide liquidity while ensuring that savers are sheltered from the risks associated with illiquid investments. However, for this mechanism to operate efficiently, savers, and in particular depositors, must have confidence in the formal banking system.

Prudential regulation, therefore, represents a tool to promote confidence in the financial system by addressing risks that are inherent to banking. The most crucial from a regulatory standpoint are: (i) credit risk, representing the risk of default on long-term obligations;¹¹⁷ (ii) market risk, reflecting the possibility of losses affecting on- and off-balance sheet positions posed by fluctuations and movements in market prices,¹¹⁸ such as changes in interest rates, foreign exchange rates, equity, and commodity prices; and (iii) liquidity risk,

or the risk of not having sufficient cash to meet short-term obligations.¹¹⁹ In light of new technological advancements and the increased sophistication of financial and credit products, banks are increasingly more exposed to operational risk associated with the performance of the daily business activities affected by internal and external events, such as fraud, market manipulations, and technological failures.¹²⁰ Given that the improper management of risks could have far-reaching consequences — negatively affecting depositors, blemishing confidence in the formal financial system, and potentially impairing an entire economy — prudential regulation and the supervision perform a preventive function by focusing on the loss-absorption capacity of banks and their risk-management policies. In particular, they ensure that banks have enough of their own funds, commonly referred to as 'capital,' to absorb losses without impairing the rights of depositors, assuring they have sufficient liquidity to meet their short-term obligations. Prudential regulation also encompasses a variety of mechanisms to ensure that financial institutions are able to withstand shocks and limit their proliferation.

In practical terms, regulation and supervision are concerned with virtually all aspects of producing credit through the formal financial system. In addition to capital and liquidity requirements, micro-prudential regulation and supervision have been traditionally concerned with licensing criteria, determining, inter alia, which activity a financial institution is authorized to perform. The perimeters of prudential regulation have further expanded to coordinate with various aspects of the business operations of financial institutions. For instance, specific corporate governance and conduct of business rules establishing special liability regimes for managers are commonly applied to ensure compliance with regulatory standards and the implementation of adequate systems for the control and management of risks. Furthermore, domestic regulatory frameworks often include special resolution regimes that are activated when capital and liquidity levels fall below certain thresholds to ensure the orderly failure of financial institutions, protection of depositors, and avoidance of larger disruptions as well as a general loss of confidence.

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The pursuit of macro-prudential policies also translates into specific regulatory requirements. These generally aim to address risks with which micro-prudential regulation is, by design, unequipped to manage. For instance, due to credit/asset price cycles of banking activities, prudence might lead banks to sell assets that are depreciating. However, the diffused and concomitant liquidation of similar assets in the sector might result in ‘fire sales’ that could deepen a negative downturn of the economy and possibly cause system-wide stress. Hence, loan-to-value, leverage and liquidity ratios might be applied, together with special capital and liquidity buffers to promote counter-cyclical behaviors and foster the resilience of the financial system. Another epitomic macro-prudential regulatory tool is represented by stress tests, the popularity of which is increasing. Through stress tests, central banks and other prudential supervisors run scenarios in order to assess the ability of financial institutions to absorb losses generated by adverse economic conditions.¹²¹ The results of stress tests typically inform subsequent regulatory and supervisory policies.

Regulated Activities: Banking & Non-Banking Financial Institutions:

The prudential regulatory framework translates into a set of compliance requirements that are embedded into the decision-making processes and organizational structures of regulated financial institutions. Although growing attention has been given, particularly by the Financial Stability Board, to the activities in the non-banking sector, international prudential regulation is primarily designed to address traditional banking activities. At the domestic level, adherence to regulatory standards for NBFIs might vary depending on the activities they perform and whether domestic legal systems define the extension of credit as a regulated activity that requires licensing or supervisory authorization. With a few notable exceptions related to new financial products, such as peer-to-peer lending, NBFIs are subject to certain prudential regulation and supervisory oversight.

NBFIs are connected in various forms with the formal banking system; since they provide an important source of liquidity, their activities might interact with micro- and macro-prudential policies. Hence, licensing requirements, as well as provisioning and credit policy prescriptions are not uncommon for leasing and factoring companies. However, NBFIs do not take deposits and generally operate in a more relaxed regulatory environment as compared to banks. Against this backdrop, it is noted that ‘[l]egal and regulatory incentives affect the supply side of the credit market unevenly’ given that secured transactions laws apply to any lender, whereas international capital and liquidity requirements affect primarily the formal banking sector.¹²² It is this uneven suite of legal and regulatory incentives that requires secured transactions law reforms to carefully assess their interactions with domestic regulatory frameworks and, in particular, with prudential regulatory regimes.

Capital and Provisioning Requirements:

The foregoing overview indicates that a variety of regulatory elements could contribute to the establishment of a sound credit ecosystem. The simultaneous pursuit of access to

credit and financial stability goals requires a focus on the intersection of secured transactions law reforms and capital and provisioning requirements. In fact, the lack of coordination between these areas of law could hinder both access to credit and financial stability.¹²³ This is because the impact of a secured transactions law could be curtailed by a regulatory framework that requires banks to treat loans secured by collateral in the same guise as unsecured credit. This may be true for all kinds of transactions secured with movable assets, from simple acquisitions of motor vehicles by consumers to sophisticated financing of mobile equipment, such as aircraft. Accordingly, the policymakers in a reforming economy should be mindful of this impact not only on the classical asset-based loans, but also on sophisticated facilities covered by the Cape Town Convention and the laws governing intermediated securities.

Banking Capital Regulation:

A minimum level of capital — also known as regulatory capital — is imposed on banks in order to protect depositors and disincentivize excessive risk taking. In this respect, regulatory capital is a cushion for the absorption of a reasonable level of unexpected losses, representing a mechanism to control the moral hazard associated with lending. Regulatory capital is calculated through a ratio, referred to as the ‘capital adequacy ratio.’ Banks are thus required to maintain, at any point in time, a specific proportion of capital — primarily shareholders’ equity and debt instruments that are treated like equity — relative to the risks associated with their activities. In 1988, the First Basel Accord (Basel I) set as an international standard a risk-based approach to calculate capital requirements with a capital adequacy ratio at 8 percent. Under the risk-based approach, different coefficients — referred to as risk-weighted assets (RWAs) — are attributed to various categories of financing transactions and borrowers. In practical terms, for every financing transaction, banks must calculate a ‘capital charge,’ representing a portion of regulatory capital that is commensurate to the riskiness of that transaction. To this end, capital charges are calculated by multiplying the amount of the loan by the prescribed capital ratio and the corresponding RWA coefficient. Hence, the

higher the coefficient, the more capital is required. The Basel II Accord was adopted in 2004 and revised in 2006 with the intent of increasing the risk-sensitivity. Subsequently, several amendments to the Basel II Accord were negotiated to address the weaknesses that emerged during the 2007-2008 financial crisis. These efforts eventually led to the adoption of the Third Basel Accord (Basel III), which was finalized in 2017. The changes introduced in this Accord were significant and chiefly aimed at addressing macro-prudential concerns, as well as limiting the discrepancies in the application of capital regulation across banks and jurisdictions.

Many economies are planning to or are implementing Basel III, supported by international efforts for regulatory consistency and supervisory coordination.¹²⁴ These economies are prioritizing the implementation of fundamental aspects of the post-2008 regulatory agenda, with particular attention on the enhanced definition of regulatory capital, the standards on liquidity risk, countercyclical buffers, the regime for domestic systemically important banks, and the large exposure framework. With respect to the calculation of capital charges, under ‘Pillar I’ of the Basel framework, a domestic regulatory framework may implement only the straightforward methodology, referred to as the standardized approach. Basel II introduced the possibility for banks to either rely on statutorily prescribed RWA coefficients under the standardized approach or to apply internal-rating based (IRB) methodologies, upon supervisory approval.

Under the standardized approach, the types of collateral that banks use to calculate capital charges include only highly liquid assets, such as funds held in deposit accounts with the bank itself, gold, and investment-rated securities. Moreover, transactions where commercial letters of credit are used to finance imports and exports of goods can be taken into account when capital charges are calculated through a credit conversion factor for off-balance-sheet transactions. Personal or public guarantees, as well as insurance policies, might also be considered credit risk mitigants.

If authorized, banks may adopt IRB approaches and then rely on their own internal estimates of risk components to

calculate capital charges for a given exposure. Risk components include the probability of default, loss-given default, exposure at default, and effective maturity. 'IRB-banks' can recognize additional forms of collateral, such as financial receivables and physical collateral, subject to meeting further conditions. Basel III, reflecting a general skepticism towards the accuracy of those models to reflect the risks assumed by banks, has limited the use of IRBs, with the introduction of minimum floors and risk categories. Moreover, banks may be required to use a value established by national regulatory authorities, rather than an internal estimate, for one or more of the risk components. To obtain approval to use their own estimated values of loss given default, the estimate must be grounded in historical recovery rates and must not solely be based on the collateral's estimated market value.

The effective application of IRBs requires banks and domestic supervisors to familiarize themselves with sophisticated models, acquire reliable data, and comply with several disclosure requirements. Those conditions might be difficult to achieve in the context of MSME lending generally, and in developing economies in particular. In this respect, it is not uncommon for jurisdictions to be aligned with Basel II (or Basel III) without implementing the IRB regimes for credit risk.

In addition to credit risk mitigation techniques, the Basel framework provides other mechanisms to calculate capital charges when a bank lends to SMEs or when exposures are secured against certain types of movable assets. Such mechanisms include RWAs in the standardized approach for the so-called regulatory retail portfolio or for loans to SMEs. A loan secured with movable collateral may also fall under the category of specialized lending exposure. The Basel framework establishes specific criteria to determine whether a credit facility falls under this category, including whether: (i) the lender has a substantial degree of control over the tangible assets and the income that they generate, (ii) the exposure is to a borrower that has the sole purpose to finance and/or operate tangible assets, and (iii) the primary source of repayment is the income generated by the assets being financed, rather than the independent capacity of the borrower. Specialized lending is divided into different sub-classes, including project finance, object finance, and

commodities finance. For each of those classes, specific requisites and procedures are set out to calculate capital charges. Not every jurisdiction has included these categories in its domestic implementation of the Basel framework.

Loan-loss Provisioning:

Provisioning requirements for regulated financial institutions are defined and applied in coordination with both capital adequacy and accounting standards. They are concerned with establishing a prudential backstop, in addition to accounting allowances, to absorb the expected losses associated with credit facilities. Unlike regulatory capital, loan loss provisioning establishes reserves to reflect the quality of credit facilities. These requirements classify loans into different categories, depending on whether they are performing. To this purpose, supervisors often establish guidelines for credit-risk management purposes, setting the requirements to manage the quality of credit facilities and adjust provisioning accordingly.

The debate over loan-loss provisioning was recently revived with a profound change in the International Financial Reporting Standards promulgated by the International Accounting Standards Board. In particular, a forward-looking approach to estimate losses on a credit facility has been applied since January 2018. This is to say that banks are required to determine whether a financial asset, such as a loan, is likely or unlikely to be repaid, before incurring any loss. Under this new approach, financial institutions are required to acquire historical data — adjusted to consider the current conditions and objective indications of losses — as well as any other information that allows for the identification of possible losses that might occur in the future. Moreover, upon initial recognition of a lending exposure, a credit risk grade must be assigned. Credit risk grades should be regularly reassessed and may subsequently change due to relevant factors affecting either an entire portfolio of exposures or individual lending exposures. Given that the focus is on expected credit losses, rather than incurred losses, every financial asset (even if performing) is subject to provisioning requirements. With the introduction of this new approach, a number of critical

issues emerge with respect to the prudential provisioning requirements for regulated financial institutions.

Loan-loss provisioning policies and the classifications of non-performing loans are not harmonized. Nonetheless, they are designed to address a common problem created by the gap between the accounting standards and the capital requirements for banks. In broad terms, domestic prudential policies for loan-loss provisioning aim at compensating for the crude approach of accounting standards — whereby loans are classified as either performing or non-performing — by adding new categories, such as ‘substandard’ or ‘special mention’, and requiring banks to increase their reserves progressively as credit facilities deteriorate.¹²⁵ Once, however, accounting standards have implemented a more fine-tuned approach focused on expected losses, inconsistencies with prudential provisioning and the forward-looking accounting approach might emerge, as the latter might still be based on an incurred loss model and, therefore, unintentionally promote a backward-looking approach.¹²⁶

Finally, key questions emerge with respect to how collateralized transactions should be considered for prudential provisioning purposes. In fact, without a coordinated approach, the simultaneous application of capital requirements and loan-loss provisioning might lead to the paradoxical situation whereby movable assets are neither reflected in the calculation of capital charges for the absorption of unexpected losses, nor in prudential provisioning to cover expected losses. Without compromising the alignment with international standards and without weakening the domestic regulatory framework, specific activities should be identified to formulate a cohesive reform strategy.

Defining a Reform Strategy:

Prudential regulation does not prevent banks from extending loans. It requires adequate regulatory capital and provisioning to absorb any losses, unexpected and expected, with respect to those loans. Regulatory capital is composed

of a bank’s own funds and, thus, is more expensive than borrowed funds, such as deposits. This is to say that, from the standpoint of individual banks, capital regulation may be perceived as a cost, even if maintaining sufficient levels of capital is key to preserving the stability of financial institutions and the financial system as a whole. In essence, capital regulation incentivizes banks to diminish their exposure to credit risk to maximize their return on equity, whereas the regulations pertaining to loan-loss provisioning incentivize banks to reduce their risk in order to free more funds and extend new loans. In the first case, the result is arithmetically achieved when banks lend to borrowers with lower RWAs. In the second case, the classification of the credit facility determines the amount of reserves.

As a consequence, the capital regulation controls the amount of bank credit in the real economy ‘by binding its creation to an amount of equity that is proportionate to the level of risk acquired by each bank’.¹²⁷ Hence, risk-weighting mechanisms steer the choices of individual banks, as they determine the cost of funding for the extension of credit. Loan-loss provisioning requirements, instead, affect the availability of deposits to create new credit by tying it to the performance of loans.¹²⁸ The following sections 2 and 3 identify some core elements of a strategy that incentivizes collateralized transactions within a sound and inclusive credit ecosystem.

2. Fostering Consistency in the Legal and Regulatory Frameworks

A strategy that simultaneously promotes access to credit and financial stability is grounded in a thorough implementation of regulatory and prudential policies enshrined in international standards and best practices.¹²⁹ A deviation from such standards could have far-reaching consequences, including reduced availability of credit. In this respect, the primary aim is to promote consistency between the legal and regulatory frameworks.

A diagnostic of the existing regulatory and supervisory regimes affecting the production of credit will reveal where an alignment needs to be achieved. An assessment of the applicable rules for banking and non-banking institutions that offer asset-based lending products will determine the key compliance requirements and inconsistencies. More generally, the Financial Sector Assessment Program, stress tests, other assessments, as well as engagements with domestic central banks and relevant bodies tasked with prudential supervisory functions would reveal specific micro- and macro-prudential concerns. Identified vulnerabilities might explain why the regulatory requirements are particularly stringent with regard to certain practices and might indicate where the supervisory resources are directed. Particular attention should be given to: (i) prudential requirements for loan-loss provisioning, including loan classification for impaired credit facilities, (ii) guidelines and supervisory expectations for credit risk policies and risk management procedures, and (iii) capital regulation for banking institutions.

Adjustments in domestic regulatory frameworks might be required in order to ensure a coherent legal and regulatory framework. For instance, the prudential provisioning requirements and guidelines for credit risk policies might need to be updated to reflect a reformed secured transactions law framework. This might include, inter alia, a reference to the use of collateral registry as a tool to comply with risk-management requirements. Auditors and supervisors performing on- and off-site inspections would then consider searching the collateral registry as a benchmark to assess whether sound risk-management practices have been implemented in a given financial institution. As a consequence,

financial institutions would be required to embed in their internal systems of controls evidence of having procedures to search the collateral registry, timely register their notices, and ensure the perfection and priority of their security interests. Further, changes might be considered to promote sound regulatory compliance. For instance, regulatory guidelines could point to the applicable secured transactions law, noting the perfection requirements, other than registration, that financial institutions may deploy to secure their priority (e.g., control of bank accounts). With respect to legislative changes, the diagnostic might reveal that some laws could benefit from modifications, such as ensuring that the application of a consistent definition of default to determine when a credit facility is non-performing in capital standards, and prudential requirements for loan-loss provisioning.

While considering the specific prudential concerns of a given economy, it might be possible to identify areas where further regulatory adjustments would be beneficial for stability and access to credit purposes. For instance, in some jurisdictions, banking regulations prohibit banks from providing post-petition finance to a debtor in insolvency proceedings, even though post-petition finance is a special form of credit that facilitates reorganizations. Another important element is to ensure that the domestic implementation of the standardized approach for calculating capital charges reflects the risk-weightings for lending to SMEs, as provided by the Basel framework. Under the standardized approach, loans to individuals and SMEs, if certain conditions are met, might be treated as a single exposure within the regulatory retail portfolio. This means that rather than weighting the risk for each individual loan at 100 percent, an RWA of 75 per cent could be applied to the entire portfolio of loans extended to certain categories of borrowers. In addition, Basel III introduced another RWA of 85 percent to be applied to each individual loan extended to SMEs that do not qualify for the regulatory retail portfolio. To ensure the correct implementation of these mechanisms, a review of the domestic definitions of SMEs would be beneficial.

3. Creating Markets: Incentives Structure and Capacity Building

To create a sound and inclusive credit ecosystem where secured transactions provide an effective device to manage credit risk, it is essential to foster secondary markets for collateral. The documented existence of liquid secondary markets allows regulated financial institutions to assess their exposures more accurately for the purpose of calculating capital and provisioning requirements. Furthermore, the existence of such markets is pivotal to the banks' need to assess the value of the collateral when determining how much credit to extend. However, the lack of a transparent pricing mechanism and, more generally, the absence of sufficient data on the realization of collateral commonly used by SMEs, might limit the ability of financial institutions to consider movable assets as an alternative repayment mechanism and, consequently, to serve as an effective risk-management device. When prudential regulatory requirements establish fixed risk-weightings to calculate capital charges or provisioning allowances, financial institutions might not be incentivized to gather more data concerning the realization of movable collateral. Therefore, the extent to which movable collateral curbs the credit risk remains undetermined. In those environments, a prudential regulation typically prescribes a more conservative approach that might lead, in practice, to treat transactions secured with movable assets in the same guise as unsecured credit. In order to reverse this trend more information should be gathered.

In this respect, strategies should focus on the provision of incentives for financial institutions to gather data on a variety of movable assets used as collateral for securing SME loans. To this end, a pilot could be set up for selected banks and NBFIs that have a sufficient level of experience in addressing the credit needs of SMEs. The pilot could be coordinated with private or public guarantee schemes that are recognized as effective credit protections. Hence, financial institutions participating in such a pilot would be subject to the capital charges and provisioning requirements offered by applicable guarantee schemes. Although public guarantee schemes are often phased out in favor of market-based financing solutions, they could represent an important element in the strategy to promote coordination between

secured transactions law reforms and domestic frameworks for prudential regulation. In light of the reduced costs — and in view of increasing return-on-equity via participation in the guarantee scheme — the participating lenders would be requested to gather data on specific products and collateral in order to estimate different risk factors and calculate both expected and unexpected losses.¹³⁰ Meeting such a requirement could be facilitated through a capacity building program specifically designed for participating lenders to ensure the reliability of the data gathered, while promoting a sound risk-management.

In addition to gathering data, guarantee schemes should enhance the capacity of participating banks to manage secured loans. The achievement of these goals would be more challenging when guarantee schemes do not require any form of collateral or provide full coverage. To this end, the guarantee programs should be designed or adjusted to incentivize banks to build expertise in monitoring collateral, collecting data, and meeting prudential regulatory requirements. Of particular relevance are the experiences of several countries in implementing second loss partial guarantee programs.¹³¹

This approach might not require changes in the existing regulatory framework for calculating capital charges. It would nonetheless create a safe environment where information on selected asset-based lending products is gathered and new products tested. Furthermore, regulatory sandboxes could be implemented to test the possible impact of different technological solutions. For instance, solutions based on the Internet of Things could be used to collect data not related to default, such as on the need for maintenance of encumbered equipment or the adjustment of irrigation for growing crops. Smart contracts could facilitate the swift enforcement of security interests. Finally, distributed ledger technologies could be deployed to create private or public markets and exchanges/platforms for various types of movable assets and, in particular, accounts receivable.

C. Loan Guarantee Programs

Ultimately, the data gathered through the pilot program could be used to inform policy adjustments and regulatory changes. The implementation of new regulatory floors, as well as fine-tuning the risk classifications for loans secured with movable assets and the compliance requirements for asset-based products, reflect accurately the level of risk associated with different lending products. The advantages of this approach are manifold. First, it coordinates secured transactions laws with the international standards concerning prudential regulation. Second, policy consistency and data-driven decisions are built within this strategy that, in turn, would foster capacity building. Third, the strategy is designed to minimize risks while promoting access to credit and, therefore, delivering immediate benefits. In fact, access to credit would increase for institutions participating in the pilot, data would be gathered, and training would be delivered to promote regulatory compliance of asset-based lenders.

Most countries have established schemes that guarantee the repayment of loans extended to qualified borrowers, typically SMEs.¹³² The OECD highlighted that credit guarantee programs continue to be ‘the most widely used instrument that governments deploy to ease SME access to finance.’¹³³ Such guarantees may be used side-by-side with security interests in movable assets, but designed to gradually facilitate the transition to secured loans for which a guarantee is unnecessary. However, guarantees will not achieve their purpose if lenders use them as a buffer to an already well-collateralized loan.¹³⁴ While guarantee schemes typically do not require lenders to ease the requirements to take collateral, evidence shows that guarantees result in lower collateral requirements.¹³⁵

The purpose of these schemes is to enable lenders to diversify and transfer risks, and to facilitate access to credit for those borrowers who would not qualify for loans otherwise.¹³⁶ They benefit lenders in strengthening their credit origination and risk management skills, as well as borrowers who build their credit histories and generate other information relevant for lenders to gradually consider extending credit not supported by a guarantee.¹³⁷ Some reports found that banks use credit guarantees mainly as a substitute for insufficient collateral provided by SMEs, but also for regulatory capital relief.¹³⁸ If a credit guarantee is properly designed to both stimulate secured lending and meet prudential regulatory standards, it could be effectively deployed within a broader reform strategy promoting financial stability and inclusive access to credit.¹³⁹

Credit guarantee schemes may be directed at individual loans or portfolios. The former are used when the staff of a financial institution have particular expertise in assessing individual risks, while a different risk management approach

is necessary to guarantee portfolios.¹⁴⁰ Credit guarantees typically cover loans for working capital as well as investment. Guarantees for leasing, trade finance, or supply chain finance are available too.¹⁴¹ Guarantee schemes reduce exposures to loan defaults through counter-guarantees, reinsurance, securitizations, and sales of loans.

Depending on the design of the scheme, it may or may not encourage secured lending. Schemes that do not require participating banks to take any collateral as a condition for issuing the guarantee and covering the entire risk discourage secured lending. In contrast, those that require banks to take a security interest in some collateral and do not provide full coverage against losses provide an incentive to develop expertise in secured lending, including to assess and monitor credit risks. Moral hazard is reduced if the borrowers share the risk by putting up some assets as collateral for a loan.¹⁴² Generally, origination and administration fees that exceed 5 percent render participation in a scheme too costly for both lenders and borrowers.¹⁴³ In 2015, the World Bank published Principles for Public Credit Guarantee Schemes for SMEs, which cover four aspects: (i) legal and regulatory framework, (ii) corporate governance, (iii) operational framework, and (iv) monitoring and evaluation.¹⁴⁴

Principle 11 recommends that: ‘The guarantees should be partial, thus providing the right incentives for SME borrowers and lenders, and should be designed to ensure compliance with the relevant prudential requirements for lenders, in particular with capital requirements for credit risk.’ Credit guarantees should be designed to meet the parameters prescribed by the Basel Rules to provide capital relief corresponding to the proportion of the credit exposure covered by the guarantee as well as to comply with the provisioning rules. Under the Basel III rules,¹⁴⁵ guarantees may be treated as unfunded credit

protection that allows financial institutions to apply lower risk weights to the exposures covered by the guarantee. However, the guarantees must satisfy a number of requirements relating to the issuer and the terms to provide capital relief under the standardized or internal-ratings based approach (see section B above on Prudential Regulation and Secured Transactions).

Credit guarantee schemes can be administered by: (i) international organizations, (ii) governments, (iii) corporations, or (iv) mutual guarantee associations. The USAID Development Credit Authority’s partial credit guarantees are an example of an international scheme that aims to promote lending in underserved markets.¹⁴⁶ They typically cover 50 percent of the principal loan amount.¹⁴⁷ International schemes are often accompanied by technical assistance that further enhances access to credit. The FOGAPE Partial Credit Guarantee Fund in Chile, administered by a government agency, covers between 50-80 percent of the loaned amounts and charges a fee of 1-2 percent of the amount based on the borrower’s default history.¹⁴⁸ In contrast, corporate schemes are funded and operated by the private sector, such as by banks and chambers of commerce. Lastly, mutual guarantee associations are private sector schemes formed and managed by borrowers who contribute to a common fund that guarantees the repayment of a loan given to a member of the association.

CHAPTER 3:

LESSONS FROM IMPLEMENTING REFORMS - BUILDING A BEST PRACTICE LEGAL FRAMEWORK

A. General Implementation Challenges

The foundation of any modern secured transactions system is the legal basis upon which it is designed, constructed and operated. The legal framework determines all elements of the secured transactions regime, including the types of assets that may be used as collateral, the creation of security rights, the registration and search processes, the determination of the relative priorities among conflicting claims to collateral, the enforcement of security rights and the extent to which parties may enforce such rights out of court, as well as the application of the law in cross-border situations.¹⁵⁰

The risk of not being able to satisfy the obligation is a key factor in a creditor's determination whether to advance credit. A well-designed legal system based on sound public policies can reduce that risk, thereby encouraging creditors to provide credit at a reasonable cost. However, there are examples of initiatives taken by a number of countries where a reform to a secured transactions law resulted in additional barriers to access credit. Some of these resulted from inadequate legal reforms in terms of the secured transactions law or related legislation. Examples include Ghana, where the secured transactions law was not properly coordinated with the law governing the registration of charges created by companies, resulting in a requirement for double registration of such charges. In other words, a charge is not effective, when created by a company, unless it is registered in both the collateral registry and the companies registry. The legal framework also provides for the role of a registrar in the enforcement process who has the power to issue a notification of non-objection before an enforcement process may commence extra-judicially. Having recognized these challenges, another reform has been launched. Peru also recently revamped its relatively new secured transactions

law, which established a cumbersome registration system. Unfortunately, inadequate legal reforms can become models for other reformers who import deficiencies into their own legal environments, as happened in 2014 in Sierra Leone, which replicated, with some modifications, the misguided approaches of Ghana's Borrowers and Lenders Act. Sierra Leone has already undertaken a new reform to correct the deficiencies. Alternatively, some countries may share legal provisions which disincentivize the deployment of a modern secured transactions law and are challenging to reform. In the countries of former Yugoslavia, for example, bills of exchange are treated as a form of quasi-security instrument by banks that prefer the bills over pledges.¹⁵¹

Some states with undeveloped commercial law systems regard secured transactions reform as a product of developed nations and therefore too advanced or complicated. However, these systems have been implemented successfully in both developed and developing jurisdictions (e.g., Australia, Canada, Colombia, New Zealand, Vietnam, and Zambia).

The legal system of a country (common law, civil law or other) provides the legal infrastructure for secured transactions. Equally, secured transactions reforms have been successfully completed in civil-law (e.g., Mexico and the Philippines) and common-law jurisdictions (e.g., Kenya), both based on the UNCITRAL Model Law. The conceptual basis of the UNCITRAL Model Law is such that it can accommodate any legal system. However, economies belonging to different legal traditions face a set of various challenges. While the need to establish a registration system is uniformly recognized, the views vary as to whether the secured transactions law,

including its perfection and registration rules, should apply to all functional equivalents, such as conditional sales and outright transfers of receivables. Outside of Latin America, civil law systems have been more reluctant to abandon the traditional document registration process that requires a review by the registry clerk (e.g., in Belarus). Another area that is challenging, especially for civil-law and mixed systems, is the recognition of extra-judicial remedies (e.g., Zimbabwe).

The challenges are more profound in civil-law jurisdictions that struggle with reconceptualization of ownership-based security devices, as well as with embracing a number of fundamental approaches of a modern secured transactions legislation, such as notice-filing and extra-judicial enforcement.¹⁵² Civil-law countries also struggle with coordinating these approaches with the traditional notions of their Civil Codes, such as the *numerus clausus* of property rights. One approach is to subject all ownership security devices to the secured transactions law, but without re-characterizing their nature. A functionally equivalent result may be achieved by a law embracing all security rights, irrespective of their origin, but not classifying them all under a uniform concept/label of a security interest (the so-called non-unitary approach for acquisition security rights recognized in the UNCITRAL Legislative Guide).¹⁵⁴ The system would benefit from the requirement of notice registration, but the holders of such rights might not need to be subjected to an enforcement regime that lets grantors and other secured creditors claim any equity in the collateral. Re-characterization of ownership-security devices also has an impact on the holders of these rights in insolvency. While previously, these rights would be fully effective against the

insolvency trustee and the goods subject to a retention of ownership might not even become a part of the estate, after a reform based on the functional approach, the failure of the retention of ownership seller to register a notice would render its claim as essentially unsecured in insolvency.

Civil Codes and related legislation should be studied to consider whether certain notions already exist, perhaps under different labels, and how they could be adapted to embrace the modern approaches. In 1994, Quebec became the first civil-law jurisdiction to enact the functional equivalent of security right in its Civil Code.¹⁵⁵ Practical challenges often arise, particularly with respect to the participation of notaries in the drafting process, because of their heavy involvement in secured transactions subject to the Civil Code, whether with movable or immovable assets.¹⁵⁶ The political difficulty of changing the Civil Code, which typically provides for security devices, further complicates the reform efforts. In all cases, the enactment of a secured transactions law resulted in a consequential amendment of the Civil Code.

The political environment is a factor that should be considered in all stages of a reform process. Promising projects can stall in the drafting stage of a new statute (e.g., Ghana) or in the implementation phase post-enactment (e.g., Pakistan). Even when the reform process is driven by the government counterpart (which should always be the case), it is of particular importance that the counterpart and all stakeholders clearly understand what the reform entails and the benefits that the reform might produce for the economy. It is also important to point out that a regulatory strategy to support secured transactions law reforms is necessary and

that other policy measures may be required to fully reap the benefits of a secured transactions reform. In this regard, coordination with the national authorities entrusted with the powers to regulate and supervise banks and NBFIs is essential. Coordination with the units and divisions within national central banks or other competent authorities that are tasked with prudential policies are equally important for the success of the reform.

An appetite for the reform may be affected by a number of 'political' factors. One example is the availability of public guarantees that minimize the banks' incentives to take movable property as collateral. In contrast, a differently designed public guarantee program may become a stimulant to secured finance.¹⁵⁷ Other factors include a high degree of political decentralization, which could make it challenging to establish a nationwide collateral registry; limited financial resources of the government counterpart; as well as limited skills to implement the reform and manage the registry.

Other practical and customary limitations may also turn out to become obstacles, such as cultural reticence towards repossessing collateral and purchasing it at public auctions; the lack of a secondary market and reliable valuation for collateral; rigidity within the enforcement framework, including minimum thresholds and/or maximum numbers of times an auction may be held; or the lack of a national identification system for individuals to enable predictable indexing and searching of registrations.

While the reform of secured transactions systems does not change the judicial system, aspects of the design of a secured transactions system are influenced by the efficiency of the court system and the quality of judges' decisions. The secured transactions law could include expedited enforcement provisions, as provided for in the UNCITRAL Model Law (or as recommended by the UNCITRAL Legislative Guide). While the Model Law does not provide for judicial remedies in advance of final determination, a state may draw inspiration from article 13 of the Cape Town Convention or articles 55-57 of the Organization of American States (OAS) Model Inter-American Law on Secured Transactions, as successfully implemented in a number of Latin American economies, including Colombia.

Some states have signed or ratified international treaties dealing with aspects of secured transactions, such as the United Nations Convention on the Assignment of Receivables in International Trade and the Cape Town Convention on International Interests in Mobile Equipment and its associated protocols, which are based on modern secured transactions principles, including the functional approach and notice-registration. The ratification of these international treaties introduces modern concepts into the legal framework that may facilitate a comprehensive domestic reform. Generally, these international treaties are not inconsistent or overlapping with domestic secured transactions regimes and rather complement one another. If a state has yet to ratify the two international treaties mentioned above, it should consider doing so as part of a secured transactions reform. The reformers must ensure coordination between these international treaties and the domestic secured transactions law.¹⁵⁸ The process also works the other way around, as many reformers, after the successful implementation of a domestic secured transactions law, are now looking to international instruments to further strengthen their frameworks.

At times, when the size of reforming economies is small but the legal traditions are similar, a 'regional approach' should be considered. For instance, this could be the case for the secured transactions frameworks in the Organisation of Eastern Caribbean States (OECS). Heavily influenced by English common law, the statutory mechanisms for the creation of security rights across the eight subject economies of the OECS region share great similarities. The OECS economies share some legislation (e.g., Bills of Sale and Companies Acts) and institutions (e.g., Eastern Caribbean Central Bank and Eastern Caribbean Supreme Court). A regional, electronic, notice-based, collateral registry supported by uniform secured transactions legislation across the region would significantly reduce the costs of implementing separate reforms for each economy. This is already the case in credit reporting where, for instance, legislation covering the eight francophone countries belonging to the Union Economique et Monétaire Ouest Africaine facilitates seamless flow of information.¹⁵⁹ TransUnion Central America is an example of a single credit reporting service that covers five countries.¹⁶⁰

B. Specific Issues in the Development of the Law

Legal environment — form over substance:

Modern secured transactions legislation determines its scope of application based on the substance or economic rationale of the transaction (the so-called functional approach underpinning the UNCITRAL Model Law), as opposed to the approach where the form determines whether it is a secured financing transaction or not. Furthermore, it subjects the various types of security devices to a unitary treatment under which the creditor holds a security right in an asset of the grantor. This is the approach of the UNCITRAL Model Law, but the UNCITRAL Legislative Guide also recognizes a non-unitary approach with respect to the acquisition security rights.¹⁶¹ Under this approach, retention-of-title rights of sellers and financial lessors are preserved in their form, but are treated in the same manner as security rights to achieve the functional equivalence principle, as explained in Chapter 3, Section A.

Role of notaries:

Notaries play a central role in the execution of security agreements and registration procedures in many civil law countries (e.g., in Colombia and Mexico prior to the reforms). The reforms present an opportunity to redefine the role of notaries in secured transactions, including the execution of security agreements, registrations, and enforcement. For instance, the OAS Model Law (article 56) and its implementations in Latin America provide a role for notaries in the expedited enforcement of a security interest, namely, assessing the validity of the debtor's objections to enforcement. In some regimes (e.g., Slovakia), efficiencies of the system were reduced since the Chamber of Notaries is the actual operator of the collateral registry, and the regime permits only notaries to register information. The notaries

held a near monopoly on access to various registries in Mexico, but after establishment of the collateral registry, which authorized anyone with a digital signature to submit a registration, only a minuscule number of registrations are submitted by notaries. Such involvement only increases costs and is unnecessary in a notice-registration regime.¹⁶² Similarly, in Belarus, notaries were empowered to register notices on behalf of creditors. This created a logistical and administrative burden on the registry, which had to manually create hundreds of client accounts for notaries across the country. However, because the law also permitted creditors to register notices directly, notaries have been sparingly utilized.

Stamp duties:

Common law jurisdictions where notaries play an insignificant role often impose formal requirements, such as the payment of stamp duties. Most of these jurisdictions inherited the regime of stamp duties from English law. The United Kingdom abolished stamp duties in December 2003, with the exception of transactions involving securities and immovable assets ('stamp duty land transfer tax'). Even where a stamp duty is collected, it is done electronically.

Stamp duty adds to the total fees for a secured transaction and also increases the indirect costs, as the processes for the actual payment of such duties are often manual, requiring presentation of physical copies of agreements and registration forms. As many secured transactions are being digitized (e.g., the issuance and collateralization of warehouse receipts and invoices electronically), the requirements to pay stamp duties will negatively affect the operation and liquidity of these markets. Stamp duties are typically calculated on an ad valorem basis, gradually increasing with the value of the asset or the amount of the secured obligation.

The requirement to pay stamp duty as a condition for registration of a notice especially conflicts with one benefit of a notice-registration system, which is the ability to register a notice prior to the execution of a security agreement. Stamp duty legislation requires stamping an agreement prior to registration. Some countries have completely abrogated stamp duty legislation (e.g., Zambia); others have exempted all secured transactions (e.g., section 9(2) of Sierra Leone's Borrowers and Lenders Act expressly provides that 'non-payment of stamp duty or any other tax shall not invalidate a credit agreement'); while others only exempted certain transactions (e.g., Malawi with respect to loans secured by crops).¹⁶³

Exempting secured transactions from stamp duties, an approach facilitating the objective of reducing the cost of credit, clashes with a government's desire to maintain public finances at a certain level. Yet, secured transactions reforms do not affect the largest generator of stamp duties – transactions involving immovable assets. In addition to addressing the application of stamp duty legislation to the enforceability of security agreements and registration of notices, reformers should consider the application of civil procedural and enforcement laws, under which only stamped documents may be admitted into evidence.

Fragmentation:

One of the deficiencies of secured financing systems is multiple laws governing the security rights in movable property. This is the case when the secured transactions framework is dispersed among multiple laws, under which different registries might have been established. For instance, prior to the reform in Kenya, motor vehicles could be financed under a chattel mortgage or hire-purchase, both of which were registrable in their respective registries. Motor vehicles could also be financed under ordinary retention of ownership arrangements where the creditor would name itself a co-owner of the vehicle in the car registry records and on the certificate of title. This fragmentation complicated due diligence and increased the risk of disputes. The approach of a reform is to centralize all secured transactions' legal rules and information in one place, facilitating an easy

and objective allocation of priorities based on the time of registration or perfection.

Box 5 provides examples of fragmentation.

Box 5:

Fragmentation

- In Pakistan, the secured transactions law provides for the establishment of a registry for the registration of security interests created by grantors, other than companies for which the companies registry will continue registering charges.
- In Ghana, the secured transactions law does not affect the registration requirements of other laws, which means that a charge created by a company must be registered in both the collateral and companies registries.
- In Nigeria, the secured transactions law does not affect the creation and registration of charges under the companies legislation.

Grantor classification — juridical persons versus individuals:

In some jurisdictions there are separate registries for security rights created by registered organizations (e.g., UK's Company Register and Registres de Commerce et du Credit Mobilier in Morocco, Mali, Madagascar, Burkina Faso, Togo, Chad, etc.), while only certain security rights created by individuals and unincorporated entities may be registered (e.g., in car registries). One of the motivating factors for a secured transactions reform is to provide a registrable interest in the property of borrowers for whom no registration system previously existed. Political or other limitations may result in a reform that does not address the fragmentation problem. One such example is the recent reform in Pakistan that provides for the registration of charges created by

companies in the companies registry, while the registration of security rights created by non-company borrowers will take place in the collateral registry to be established in the future. If this approach is inevitable, it is important for the law to address a variety of potential priority conflicts: for example, assets are used as security under one law, but there is also a registration made in the companies registry, which is later sold in a transaction that does not extinguish the security right, and the transferee is an unincorporated person who creates a security right in the same assets that is registered in the collateral registry. The laws should also consider the effect of a possible change in the nature of a non-company borrower that grants a security right over its assets, but later on incorporates and becomes a company. The recommended practice is to enact a comprehensive law that provides the legal basis for the creation of a single collateral registry with respect to the security rights created by all types of legal and natural persons.

Asset classification:

In some jurisdictions, security rights in certain types of assets must be perfected by registration in an asset-specific registry. If general secured transactions laws apply to aircraft objects, the perfection requirements may be satisfied by a registration in a civil aviation registry or its equivalent. Such an approach is consistent with international best practices. However, creating registries for security rights in different types of general assets for which title registries do not exist creates complexity and increases costs. For instance, in China: (i) the registration of a security right in equipment, inventory and unlisted company shares (only) resides with AIC (the current name is State Administration for Market Regulation), (ii) for those assets subject to title registration, e.g., IP, a security right must be registered in the title registry, and (iii) other security rights, including pledges of inventory, must be registered in the registry maintained by the People's Bank of China and the Credit Reference Center. If a law provides for such a form of perfection, it should take several aspects into account. First, the registration in an asset-specific registry may be an alternative to a registration in a collateral registry, thus preventing all assets deals perfected by a single registration. Generally, the registration in an asset-specific registry would have priority even though a registration in the

collateral registry was completed earlier. This is the approach contemplated in the UNCITRAL Legislative Guide. Second, some assets subject to registration in asset-specific registries may be held as inventory (e.g., cars) for which an individual registration on an item-by-item basis may be cumbersome. For such assets, when held as inventory, states should consider registration in the collateral registry.

Fixtures:

As explained above, modern secured transactions legislation applies to security rights in movable assets, including when they have become fixtures, i.e., attached to immovable property. The attachment of a movable asset to an immovable one may result in an interest in the immovable asset extending to the movable one or, under some laws, the movable asset ceases to be treated as movable. Such an attachment may result in a complete loss of a security right in the movable asset that was created and perfected prior to its affixation. This is especially the case for heavy equipment, which may be affixed to immovables in a manner that affects the associated security right. It is important for laws to address this and to provide for clear priority rules not only with respect to the competing security right in the movable asset, but also with respect to any competing interest that extends to the movable asset under a law governing rights in immovables (e.g., that of the mortgagee). While the UNCITRAL Model Law does not include fixture-specific rules, the Legislative Guide provides a set of recommendations that should be implemented as part of the reform.

Where growing crops are considered an immovable asset, states should expressly accommodate that a security right may be taken in growing crops under the new secured transactions law. If an interest in the growing crops may be taken under the immovable property law, a priority rule, similar to the fixture situation described above, should be included. Under some laws, even livestock may be considered an immovable asset, resulting in a similar issue.

Under many existing laws, creditors may take security over both movable and immovable assets under a single security device, such as a floating or enterprise charge. The latter is recognized as a specific security device in the EBRD Model

Law on Secured Transactions, the Model Law also recognizes an ‘all-assets charge’ that may be taken over fluctuating pools of assets, which also applies to charges in immovable assets (see article 5). This approach differs from enacting a single secured transactions law that includes separate sets of rules for security devices in movable and immovable assets, such as the 2011 Organization for the Harmonization of Business Law in Africa (OHADA) Uniform Act on Secured Transactions. The UNCITRAL Model Law and other modern statutes, such as the Personal Property Securities Register regimes, expressly exclude rights in immovable assets from their scope.

As a practical matter, creditors often take a security in both categories of assets, but under modern secured transactions laws, they would have to take a security under two different regimes and satisfy the requirements of two registration systems.¹⁶⁴ Realizing the benefits of modern collateral registries, several economies (e.g., Ghana and Sierra Leone) contemplate a reform that would result in the enactment of a secured transactions law applicable to both movable and immovable collateral. Some economies consider using the collateral registry only as the registration system for mortgages, while other aspects of mortgages would continue to be governed by the applicable land law. However, thus far, the economies have not been provided with a model to guide their efforts. While certain special rules with respect to security rights in immovable assets would be needed (e.g., the inability to create and perfect a security right in future immovable assets), a single notice of a security right could be registered in the collateral registry for perfection (the law may need to provide for special indexing/searching rules for immovable collateral). In that case, the collateral registry would operate similar to a motor vehicle registry that records ownership rights, i.e., the collateral registry would record only encumbrances over immovable assets. Enforcement rights would also be enhanced, since the creditor would be able to dispose of the business as a whole, including the immovable asset, under the modern secured transactions law. Nevertheless, such regimes remain untested.

Box 6 presents a summary of the key challenges to address with unreformed secured transactions laws:

Box 6:

Deficiencies to Address in Unreformed Secured Transactions Laws:

1. Adherence to strict legal forms, such as a pledge or mortgage and their related formalities;
2. Requirement for a creditor’s possession of the collateral (the possessory pledge may be the only form of perfection);
3. Requirement for a traditional document registration (for example, the notarized credit agreement);
4. Requirement for a specific description of the collateral in an agreement and registration, precluding the use of future property and fluctuating assets as security; and
5. Imposition of restrictions on an enforcement that render it excessively costly and cumbersome.

C. Recognized International Standards

The central concepts of modern secured transactions systems have been incorporated into a number of international principles and guidelines. Principally, four of these global instruments and guidelines have been influential in many reform projects:

- The World Bank Principles for Effective Insolvency and Creditor Rights Systems, revised 2015¹⁶⁵
- The UNCITRAL Model Law on Secured Transactions (2016) and the Guide to Enactment (2016)¹⁶⁶
- The UNCITRAL Legislative Guide on Secured Transactions (2007)¹⁶⁷
- The Convention on International Interests in Mobile Equipment (2001) (Cape Town Convention) with its Protocols.¹⁶⁸

The principles and recommendations contained in these instruments should be used when advising governments on secured transactions reforms. UNCITRAL's Model Law is a comprehensive resource that can be used as the basis for the drafting of a domestic secured transactions law. The Guide to Enactment of the Model Law directs the states through the implementation process, explaining how to effectively incorporate the relevant provisions and the choices for enacting states (e.g., whether a registered notice must be removed from the publicly accessible registry database on the registration of a cancellation notice or only upon its expiry).¹⁶⁹ The Model Law is based on the recommendations set out in the UNCITRAL Legislative Guide, which also provides for alternative approaches that the states may wish to consider. For instance, the non-unitary approach to acquiring security rights allows the states to retain some form of title devices to govern the rights of sellers, suppliers, and financial lessors that,

however, should produce the same result as under the unitary approach. The Legislative Guide outlines a framework for a secured transactions law that can be adjusted to the needs and circumstances of each jurisdiction, while also providing background information to the policymakers and drafters on the approaches that have been rejected. The United Nations Convention on the Assignment of Receivables in International Trade (UN Receivables Convention), prepared by UNCITRAL and adopted by the UN General Assembly in 2001, provides for a modern regime designed to facilitate the financing of international receivables and international assignments of domestic receivables.

In addition to the internationally-recognized principles and guidelines, a number of multilateral donors and organizations have drafted model laws and guides on secured transactions reflecting the internationally recognized principles. Such model laws and guides include the EBRD Model Law on Secured Transactions (1994), the OAS Model Inter-American Law on Secured Transactions (2002), and the Draft Common Frame of Reference Book IX on Proprietary Security Rights in Movable Assets.

The OAS Model Law is based on the same principles as the global standards and has been successfully implemented in a number of Latin American economies, especially Colombia.¹⁷⁰ More recently, Peru enacted legislation along the lines of the OAS Model Law, supplemented with the relevant provisions of the UNCITRAL Model Law, such as on the perfection of security rights in deposit accounts by control. This is an illustration of a successful meshing of two models that are based on the same principles.

The EBRD Model Law has been implemented in a number of Central and South Eastern European economies. Subsequently, the Model Law was supplemented by 10

Core Principles that form the basis for assessing a country's secured transactions framework and identifying any areas for reform.¹⁷¹ Its implementation provides a useful lesson, especially for civil-law economies that struggle with the incorporation of modern principles of secured transactions into their civil codes or where a reform of the civil code needs to be coordinated with a secured transactions reform (e.g., Cambodia). The EBRD Model Law deviates in some aspects from the global standards, such as in recognizing an unpaid vendor's charges that protect the suppliers of the goods sold under a retention of title. While a retention of title is re-characterized as a charge, it does not require registration if it is to terminate within six months of its creation (Article 9). The second notable deviation is the enterprise charge that encumbers all things and rights, including immovable property used in an enterprise that operates as a going concern (Article 5.6). Only a company debtor may create this type of charge. The distinct advantage for the secured creditor is the availability of the remedy of selling the enterprise as a whole.

The Draft Common Frame of Reference Book IX on Proprietary Security Rights in Movable Assets sought to develop a common set of principles for European law, drawing on international best practices. Given the context within which it had been developed, it did not embrace all of the approaches of international best practices, including the re-characterization of retained title devices.¹⁷² However, it recognizes the functional approach and covers not only the forms of security rights traditionally deployed within the European Union (e.g., security transfers of ownerships and sales and lease-backs), but also their functional equivalents (retention of ownership devices, such as under hire-purchase arrangements and consignments).

The OHADA Uniform Securities Act was adopted in 1998 and subsequently revised in 2010, taking effect in 2011. The Uniform Act is applicable in the seventeen OHADA member states.¹⁷³ The revised version was based mainly on the 2006 reform of the French law, while also attempting to adhere to

some of the approaches of the UNCITRAL Legislative Guide. The Uniform Act contains 228 articles governing personal securities, such as suretyship and independent guarantees, as well as security rights in both movable and immovable property. Even though the revision introduced some changes to modernize the regime for taking security rights in movable property, in a number of aspects, especially with respect to the asset or transaction-specific security devices, such as the security transfer (assignment) of receivables, the fiduciary transfer of money, the pledge of a bank account, and the pledge of intellectual property rights, it departs from international best practices. It also failed to address a number of critical points, such as the identifiers of grantors for the purpose of indexing registrations and the test for assessing the sufficiency of the information contained in a registered notice (the seriously misleading test). The registration procedures are cumbersome, requiring the register clerk to verify the veracity and legality of the information provided in a registration form against supporting documents, and extra-judicial enforcement mechanisms are available only for certain types of security rights.

The Cape Town Convention applies to discrete categories of movable assets (equipment) that are of high value, mobile (move across the borders), and uniquely identifiable. Thus far, three protocols covering aircraft objects, railway rolling stock, and space assets have been adopted. However, only the Aircraft Protocol has entered into force, with the Rail Protocol likely to enter into force in the near future after gaining a sufficient number of ratifications. The Convention and the Protocols do not override any inconsistent domestic law, but rather provide for an autonomous international interest that may attach to equipment separately from any security right created under the domestic law. The framework protects the rights of secured creditors and the retention of title sellers, as well as lessors (both financial and operating) against default of the debtor outside and within insolvency. Since aircraft objects have been traditionally subject to specialized legislation and registration, general secured transactions laws exclude such assets from their scope, along the lines of

Article 1 of the UNCITRAL Model Law (though there might be some exceptions such as the Australian Personal Property Securities Register). However, only few economies have enacted specialized laws and created specialized registries for interests in railway rolling stock, which would ordinarily fall under the scope of general secured transactions laws. Thus, due consideration should be given to the possibility of ratifying the Rail (Luxembourg) Protocol and coordinating its implementation with a secured transactions reform. The ratification of the Rail Protocol should be considered by those economies that want to grow their rail sectors, such as a number of African economies. Even more consideration should be given to ratifying the future protocol on mining, agricultural, and construction equipment expected to be adopted in November 2019.¹⁷⁴ The equipment to be covered by this protocol squarely falls under the scope of domestic secured transactions laws. Its ratification should be considered by both unreformed jurisdictions that wish to gradually move towards a modern system for secured transactions, as well as those that already reformed their secured transactions laws to provide enhanced protections for the rights of secured creditors and incentivize foreign lenders to extend credit to domestic manufacturers, users of equipment, distributors, rental companies, etc.

The UN Receivables Convention establishes a modern framework for the financing of cross-border transactions with receivables that may be assigned to an assignee in a foreign jurisdiction or assignments of foreign receivables where the account debtor is located in a jurisdiction different from that of the assignor (Article 1.1). Under the Convention, the location of the grantor determines the law applicable to the priority of competing claims to an assigned receivable. For states considering a ratification, annexes to the Convention set out three options that provide for the relevant mechanism to determine the priority, namely, the time of registration, the time of contract assignment, and the time of assignment notification. Only the first option is compatible with international best practices, and the selection of this option would align the perfection and priority

mechanism with that applicable under the general secured transactions laws that apply to domestic receivables and domestic assignments. While conflict-of-laws provisions of a domestic secured transactions law that faithfully implement Chapter VIII of the UNCITRAL Model Law would achieve the same result, many secured transactions laws have been adopted without any conflict-of-laws provisions, e.g., the United Arab Emirates (UAE), thus hindering cross-border receivables finance. Ratification of the UN Receivables Convention would not only address those shortcomings, but also provide a comprehensive framework regulating the rights of the affected parties, which again many secured transactions laws lack.

D. Pertinent Legislation

General considerations:

Modern secured transactions laws do not exist in a vacuum. Nor do they redefine all aspects of laws relating to the relationships they encompass. They function in the context of property, contract, insolvency, negotiable documents and other areas of the laws related to commercial transactions. Procedural laws that facilitate the judicial enforcement of security rights on default should also be examined. Secured transactions laws are significantly impacted by various regulatory frameworks, especially those governing capital requirements or the establishment and operation of loan guarantee schemes. Therefore, the existing laws and regulations must be examined in order to ensure proper coordination with the reformed secured transactions law. Any conflict between the existing law and the new regime will have to be addressed either by an amendment to the former or repeal. Typically, any prior law (e.g., a chattel mortgage act) regulating security rights in movable assets would be repealed, while the laws that govern only some aspects of secured transactions (e.g., a companies act) would be amended. Rather than relying on the generality of clauses that state the secured transactions law prevails over any inconsistent laws, the repeal and override provisions should detail the relevant laws and provisions to be repealed or amended (e.g., as done under Kenya's Movable Property Security Rights Act of 2017).

Legislation and area of impact:

The following examples describe legislation that typically exists in a jurisdiction before a reform to its secured transactions law. There may be other laws that bear on secured transactions reform, so it is necessary to identify all relevant laws before the reform. The examples illustrate the interactions and potential issues that may arise between a reformed law and the existing legislation.

• Contract (sales) law:

Contract and sales laws typically allow the parties to decide when ownership passes from the seller to the buyer. The seller may also reserve ownership until the buyer pays the purchase price in full. A reformed secured transactions regime should include the rights of the sellers under conditional sales contracts within its scope. From a functional standpoint, under a conditional sale, the right of the seller secures the obligation to pay the purchase price. The contractual allocation of ownership is disregarded, and the buyer becomes the owner while the seller retains a security right. In order to replicate the protections previously enjoyed by the conditional sellers, the secured transactions law treats them as acquisition-secured creditors who may get priority over an earlier perfected security right upon the satisfaction of certain conditions that may vary depending on the type of asset financed, whether inventory, equipment or consumer goods.

• Leasing law:

Leasing laws allow individuals and entities to acquire assets, such as motor vehicles and equipment. Commonly lessors are treated as the owners of the leased objects until the lessee exercises a right to acquire ownership by the payment of a nominal sum, or ownership passes automatically upon the payment of a specific sum. In some jurisdictions, financial leasing is treated as a secured transaction; consequently, the legal effect of the rights of financial lessors is regulated by the secured transactions law. When that is the case, the rights of lessors are characterized as acquisition-security rights. Re-characterizing the ownership rights of financial lessors as security rights may be challenging in some jurisdictions. In that case, it is important to ensure that the rights of financial lessors are subject to a set of rules that produce functionally similar results, such as under the non-unitary approach to acquisition financing of the UNCITRAL Legislative Guide. Alternatively, leasing laws, such as in Yemen and Jordan,

may establish the lessor's priority against third parties by a registration in the secured transactions (collateral) registry. Even though operating leases do not create a security interest, some laws (e.g., Australian and Canadian Personal Property Securities Registers) extend their application (with the exception of enforcement rules) to long-term operating leases. The Cape Town Convention and its Protocols apply to all operating leases of the type of equipment covered thereunder, irrespective of the duration of the lease.

• Warehouse receipts law:

Many jurisdictions have specialized legislation on warehouse receipts. While security rights in warehouse receipts are generally governed by a secured transactions law, its provisions should reflect the rules and practices under a warehouse receipts law that may authorize the issuance of warehouse receipts electronically. If that is the case, the secured transactions law should include provisions on the perfection of security rights in such receipts, replicating the rules for paper receipts, which require a delivery to the secured creditor (the UNCITRAL Model Law does not contain special perfection and priority rules for security rights in electronic warehouse receipts). A mechanism of control has been used to provide for the perfection of security interests in electronic warehouse receipts (Malawi Warehouse Receipts Act of 2018). In addition to governing warehouses, warehouse operators and warehouse receipts, such laws provide for pledges of warehouse receipts. Those pledges are popular forms of financing in unreformed legal environments because the creditor is constructively in possession of the collateral so that the grantor cannot dispose of it without an authorization of the creditor; the collateral is protected against loss and damage; and often the law allows the creditor to enforce its rights extra-judicially. Warehouse receipts laws also regulate the rights of warehouse operators to retain the stored goods as security for the payment of any storage fees. Known as warehousemen liens, their priority should be coordinated with secured transactions law.

• Civil and Commercial Codes:

The classical security device of civil codes is the possessory pledge. Further, civil codes may address the transfer (assignment) of rights (e.g., accounts receivable), whether outright or for security purposes, and provide for retention of ownership devices that may be used for security purposes as well as some fiduciary transfers that may be used to secure an obligation. Commercial codes may provide for specific security devices that can be used only by companies, such as floating and enterprise charges. Codes must be examined and, when necessary, amended or supplemented as part of the reform. Amendments of civil codes in civil-law jurisdictions may be particularly challenging. However, the experience from Latin America illustrates the feasibility of introducing conforming amendments to civil codes. The implementation of the EBRD Model Law also resulted in modifications of pledge provisions of civil codes (e.g., in Slovakia).

• Land law:

Examining existing land laws is also important, since, as mentioned in section B above, they may consider that any movable property affixed to immovable property as part of the immovable property. Furthermore, land laws or civil codes may treat growing crops, and even livestock, as immovable property. Often, the grantor may operate its business in leased premises, whereby the landlord has reserved or is statutorily given a lien over the movable property as a security for the payment of rent. A number of conflicts may exist between a secured transactions law and a land law (see Box 7).¹⁷⁵ The land law must also be examined if a state contemplates an extension of the secured transactions regime to security rights in immovable property.

Box 7:*Practical example of conflicting provisions*

Assume that Alfa Bank holds a registered mortgage on Grocer's store. The Grocer then buys a furnace for his store from Acme Heating on credit, and Acme takes and registers a purchase-money security interest in the furnace. Grocer then installs (affixes) the furnace in his store.

Land law: A registered mortgage in the land registry has priority over any right which is not registered in the land registry. Items that are affixed to real estate are deemed to be part of the real estate.

Secured transactions law: A purchase-money security interest in movable property perfected by a registration in the collateral registry has priority over any right in the movable property, which is not perfected as such.

One solution is for the laws to include a priority rule that first recognizes the purchase-money security interest in the furnace to continue post-affixation, and then provide that it may have priority over a mortgage if it is recorded in the land registry before or within a prescribed short period after the furnace becomes affixed.

- **Laws creating liens and privileges:**

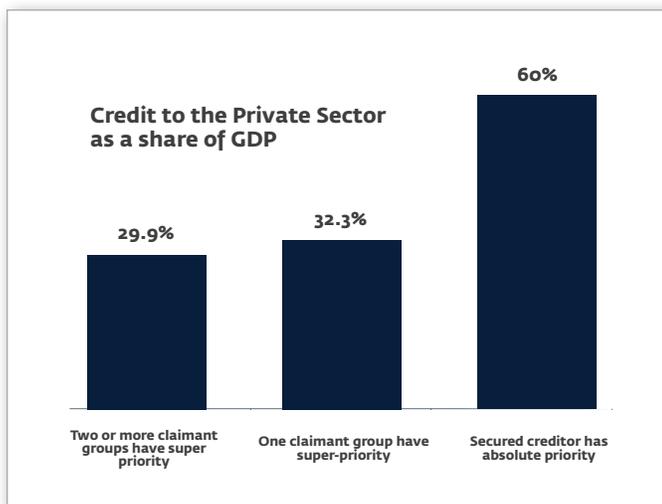
Rights in property created by the operation of the law (liens or privileges) and not on the basis of an agreement between parties may come into conflict with security rights. The classic examples of such liens and privileges are tax liens, judgment liens, mechanic liens, and wage claims. Since these liens and privileges are grounded in specific public policies, such as protecting tax revenues (as in the case of tax liens) or social justice (as in the case of a labor law protecting the rights of workers regarding the payment of wages), they may not be aligned with the policy of increasing access to credit. It is not uncommon for governing legislation to provide unlimited priorities to liens over security rights without any form of public notice. Legislation creating liens and their priorities

must be examined as part of the secured transaction law reform, as it significantly affects the volume of credit that a lender will eventually extend.

At a minimum, the reform should create a predictable legal environment that allows prospective creditors to transparently assess the risk of liens and privileges that may have priority over security interests. The priority of mechanic liens is typically addressed in the secured transactions law that gives the holders of those liens priority over security rights, as long as the lienholder remains in possession of the asset (e.g., a mechanic that fixed an engine on a car encumbered by a security interest). Similarly, the priority of the holders of judgment liens may be regulated in a secured transactions law depending on the timing of the action taken by a judgment creditor, including a registration in the collateral registry. Secured transactions laws should also regulate the timing of the enforcement rights of judgment creditors, allowing higher ranking secured creditors to take over the enforcement process, as contemplated in the UNCITRAL Model Law.

With respect to the other types of liens and privileges, one approach would be to set out all the liens and privileges, as well as their maximum amounts, in a secured transactions law, as recommended by the UNCITRAL Model Law. This approach would also apply to wage claims. Alternatively, the laws that provide for liens may be amended to provide that lien holders or a responsible government agency (e.g., a tax authority) are governed by the perfection and priority rules of the secured transactions law. Ideally, the lien holders, especially the government with regard to tax claims, should register notices of their liens in the collateral registry and their priority should date from the time of registration. This solution is often hard to sell because tax law enforcers generally deem the existing super-priority of liens to be essential for public-policy purposes. However, there are two arguments that can be used to overcome such resistance. First, a World Bank Doing Business study has shown that such super-priority liens cause a significant decrease in access to credit because of the increased risk they present to creditors, and therefore reduce overall tax collections and employment (see Figure 12).¹⁷⁶

Figure 12:
Negative Effect of Super Priorities on Credit



In addition, empirical evidence validates the assumption that where there is no absolute priority rule for security rights, there is a lower recovery rate and a higher risk for creditors. The correlation between priority and recovery is 0.528.177 Publicity by registration also gives lien holders leverage over creditors because their priority might be limited with respect to future advances. In case the super-priority of liens and privileges is preserved, the potential tax or social security obligations can always be generally estimated by the creditor.178 In most cases, the secured creditor would set aside reserves to cover potential losses.

• **Property law:**

This area of the law governs a number of aspects related to secured transactions, some of which have been outlined in sections B and D5 above (e.g., whether growing crops are movable or immovable property). Property law also determines who has rights in an asset and thus who could encumber that asset. Finally, property law may designate certain assets as not being subject to seizure, or otherwise limit the right of the owner to create a security right or preclude enforcement.

• **Conflict of laws:**

A state may have enacted a statute that specifically deals with the law applicable to a variety of transactions, including security rights. Such rules may also be included in more general codes, such as a commercial code. In a court proceeding, the court will apply the conflict-of-laws rules of its own state to determine which state's law it will apply to the secured transaction. This is also the case in insolvency proceedings. Generally, for contractual aspects of the secured transaction, the parties may designate the applicable law; however, the rules governing the proprietary aspects, especially perfection and priority, are mandatory.

• **International conventions:**

A few international conventions deal with secured transactions (see section C above). One example is the Cape Town Convention and its Protocols. The Cape Town Convention provides that priority be established by a registration in an international registry for the type of mobile equipment. As of early 2019, over one million registrations had been made already in the Aircraft Registry. Though security rights in aircraft objects are typically governed by special legislation, for other types of mobile equipment, especially mining, agricultural and construction, the jurisdiction should ensure that proper capacity building is provided to the stakeholders on the interaction of the two regimes. For instance, a domestic security right may need to be taken to supplement an international interest in an object, since the Cape Town Convention limits the extent of proceeds, and the secured creditor may be interested in taking other assets as collateral in the same transaction (e.g., accessions that are not affixed to the object).

• **Insolvency law:**

Insolvency law is an acid test for the effectiveness of security rights. A secured transactions law that is based on international best practices would only provide sufficient legal certainty and an incentive to creditors to extend

secured loans if those rights are certain and could not be impaired in insolvency. Article 35 of the UNCITRAL Model Law provides that security rights should retain their priority in the insolvency of the grantor, unless the insolvency law provides otherwise. Other than priority, insolvency law affects the process of enforcing rights of secured creditors, typically imposing an automatic stay that suspends any enforcement action as long as adequate protection is provided.¹⁷⁹ Re-characterization of title security devices has significant consequences for insolvency, as where in an unreformed regime an asset sold to the insolvent grantor under retention of title might not become a part of the estate; after a reform, the seller would have an acquisition security right in the asset, which would comprise part of the estate.

Insolvency law should reflect the concepts of the secured transactions law, especially the unitary notion of the security right; otherwise, insolvency practitioners and judges would be forced to classify a security right taken under a modern secured transactions law under a particular security device recognized by the insolvency law (e.g., a floating charge), which occurred in New Zealand when the Personal Property Securities Register entered into force, embracing the functional notion of a security interest, but leaving the provisions of the Companies Act providing for charges intact for a number of years. Insolvency law may also provide for specific treatment of retention of title arrangements, as well as financial leases that will be re-characterized as security rights, under the reformed secured transactions law. Replacing the individual security devices with a single security right requires coordination to ensure that the rights of secured creditors are protected in insolvency proceedings. A blanket relabeling of certain provisions will not suffice, as certain rights in insolvency are tied to a particular security device, such as the appointment of a receiver by the holder of a qualifying floating charge. The insolvency law may also provide for preferential claims that must be paid ahead of some security rights, which may again require a qualification of the post-reform security right as one of the pre-reform security device, which remains the case in Kenya after the reforms of both secured transactions and insolvency laws. Insolvency legislation must be considered and, if necessary, amended in the course of secured transactions reform to

ensure it is consistent with the policies, concepts and drafting of the secured transactions law. Ideally, the two reforms should proceed concurrently, and the teams leading them should coordinate the approach and drafting.

• **Intermediated securities legislation:**

It has been estimated that about \$4 trillion annual investment is required in developing countries to achieve the Sustainable Development Goals by 2030. Among other actions, such a high level of investment will require the development and strengthening of the capital markets to increase commercial financing.¹⁸⁰ While an enabling policy and regulatory framework is essential, equally important are the commercial law rules that facilitate transfers of securities, especially for the purposes of securing obligations. However, many secured transactions laws do not adequately deal with or completely exclude security rights in securities (e.g., the UNCITRAL Model Law), particularly those held with intermediaries (intermediated securities). There is a greater need for cooperation among various experts in the implementation of capital markets systems that facilitate the use of securities as collateral. The legal framework for such transactions has been designed by the International Institute for the Unification of Private Law (UNIDROIT), not limited to secured transactions aspects, but providing a blueprint for the modernization of the entire commercial legal infrastructure of capital markets.¹⁸¹ Economies may draw inspiration from other sets of rules specifically designed to supplement secured transactions laws, such as the UNCITRAL Model Law.¹⁸² In many economies, such transactions occur on a daily basis, but suffer from legal uncertainty that increases transactional costs.

• A decision should be made whether to include intermediated securities within the scope of a new secured transactions law or whether to address the security rights therein in special legislation. The instruments adopted by UNIDROIT – the Geneva Securities Convention and the Legislative Guide on Intermediated Securities – may be used as models in fashioning rules to facilitate taking security rights in intermediated securities. These reforms are typically broader (not limited

to secured transactions concerning intermediated securities), requiring examination of the underlying legislation. Ideally, security rights in intermediated securities should be addressed as part of general secured transactions reforms. Though the UNCITRAL Model Law expressly excludes security rights in intermediated securities from its scope, reforming economies may refer to other guidance material which can supplement their implementation of the Model Law.¹⁸³

- **Enforcement law (code of civil procedure):**

Legal obstacles to the enforcement of security rights in case of default can be a very important barrier to the effective use of movable property as collateral.¹⁸⁴ Enforcement laws are often outdated and inefficient, complicating the enforcement process upon default of the debtor. The uncertainty for creditors is exacerbated by the inefficiency of the judicial system. A well designed secured transactions law reform should contemplate three sets of remedies: (i) extra-judicial that should be regulated in detail in the secured transactions law, including disposal of the collateral, accepting it in satisfaction of the secured obligation, and collection of the rights to payment (e.g., the Philippines), (ii) judicial, either by formulating amendments to the relevant enforcement law or providing expedited judicial remedies directly in the secured transactions law (e.g., in Colombia), and (iii) alternative dispute resolution mechanisms (e.g., in Nigeria). The traditional judicial remedies should be supplemented by expedited judicial relief that balances the need for quick disposition of the collateral with adequate grantor/debtor protections.

- **Prudential regulation:**

As explained above, the effect of capital requirements, and especially prudential regulation, should be taken into account from the outset when designing a reform (see chapter 2 section B.1). This aspect is especially crucial in those economies where lending relies heavily on regulated financial institutions, such as banks. In addition to the regulations governing capital requirements, any rules governing the provisions for expected losses should be taken into account, particularly from the perspective of whether those rules consider collateral when calculating the level of provisions.

E. Building a New Secured Transactions Legal Regime

It is important to ensure that the fundamental components of modern secured transactions law are included in the reformed law. The UNCITRAL Model Law includes all such components including:

- Broad scope in terms of assets, transactions and parties;
- Simple creation of a security right by agreement between creditor and grantor;
- Transparent third-party effectiveness (perfection) mechanisms, especially a public registry for the registration of notices;
- Comprehensive scheme to determine the relative priority of all competing security rights and claims in the collateral; and
- Efficient and expeditious enforcement remedies.

1. Scope of the Law

A secured transaction law should address several dimensions in its scope:

- The types of parties, particularly grantors, to which the law applies must include natural persons and legal entities.
- The types of movable assets to which the law applies must include tangibles and intangibles, present and future, including their products and proceeds.
- The types of obligations that may be secured must include pre-existing, present and future obligations, whether monetary or other.

- The types of transactions must include all of those in which the performance of an obligation is secured by a right in movable assets, including the functional equivalents such as outright transfers of receivables.

The UNCITRAL Model Law includes a comprehensive and clear recommendation on what the scope of the law should be, incorporating the recommendations of the Legislative Guide (see Box 8). The Model Law also applies to non-intermediated securities, as a result of which only intermediated securities were excluded from the Model Law's scope of application. Many jurisdictions have enacted secured transactions laws that fully apply to security interests in intellectual property rights as well as railway rolling stock and even aircraft objects.

The temptation to exclude certain transactions, such as financial leases, should be resisted. On the contrary, the scope of the application of secured transactions laws should be extended to some transactions that do not fulfil those functions, especially outright transfers of receivables [see Model Law Article 1(2)], and considered for other transactions, such as long-term operating leases.

A secured transactions law should apply to any type of grantor, whether an entity or individual getting financing for business or consumer purposes. The rights of consumer grantors and debtors are typically also addressed through consumer protection legislation that may limit the extent to which a security right may be created (e.g., up to 60 percent of wages) or enforced (e.g., a security right may not be enforced in some household goods). Such possible limitations are recognized in the UNCITRAL Model Law.

Box 8:

Scope of Secured Transactions Law as Recommended in UNCITRAL Legislative Guide

A secured transactions law should apply to all rights in movable assets created by agreement that secure payment or other performance of an obligation, regardless of the form of the transaction, the type of the movable asset, the status of the grantor or secured creditor or the nature of the secured obligation. The law should apply to:

- Security rights in all types of movable assets, tangible or intangible, present or future, including inventory, equipment and other tangible assets, contractual and non-contractual receivables, contractual non-monetary claims, negotiable instruments, negotiable documents, rights to payment of funds credited to a bank account, rights to receive the proceeds under an independent undertaking and intellectual property;
- Security rights created or acquired by all legal and natural persons, including consumers, without affecting rights under consumer-protection legislation;
- Security rights securing all types of obligations, present or future, determined or determinable, including fluctuating obligations and obligations described in a generic way; and
- All property rights created contractually to secure the payment or other performance of an obligation,

including transfers of title to tangible assets for security purposes or assignments of receivables for security purposes, the various forms of retention-of-title sales and financial leases.

The law should not apply to:

- Aircraft, railway rolling stock, space objects, ships, as well as other categories of mobile equipment in so far as such asset is covered by a national law or an international agreement to which the state enacting legislation based on these recommendations is a party, and the matters covered by this law are addressed in that national law or international agreement;
- Intellectual property in so far as the provisions of the law are inconsistent with national law or international agreements, to which the state is a party, relating to intellectual property;
- Securities;
- Payment rights arising under or from financial contracts governed by netting agreements, except a receivable owed on the termination of all outstanding transactions; and
- Payment rights arising under or from foreign exchange transactions.

The law should not apply to immovable property except insofar as its application to fixtures may affect rights in the immovable property to which a fixture may be attached.

Some legislation has been enacted to apply only to certain types of grantors, such as those who may not create charges registrable under companies' acts (e.g., in Pakistan). This increases complexity and requires the drafting of additional rules that address situations that would not ordinarily arise under a uniform secured transactions law. Other legislation may be limited in scope in terms of the types of creditors that may take security rights under the

law (e.g., only regulated financial institutions, which is the case in Ghana and Sierra Leone).

The fundamental element underlying a modern secured transactions law is the functional approach under which the law applies to any transaction that in substance secures an obligation with a right in movable property, irrespective of its form, the nature of the parties, or which party owns

the collateral. Many unreformed jurisdictions classify transactions based on their form. A pledge of assets is governed by the pledge law, a mortgage by the mortgage law, a sale with reserved ownership by the sales law, etc. Often, the same asset may be encumbered under more than one security device, but the relevant laws provide priority rules only for conflicts between two security rights created under the same law. Adopting a secured transactions law with a broad scope eliminates such legal risks and unpredictability.

2. Creation of Security Rights

Security rights are created by an agreement between the creditor and the grantor. A security right can be created only when the grantor has a right in the collateral or the power to create a security right. The most common right is ownership of the collateral, but it may be a leasehold right, a license or right to possess the collateral. What constitutes a right in the property is determined by the property law. Many traditional laws allow only owners of the asset to use it as collateral, and creditors thus require proof of ownership as part of their due diligence process.

The priority rules of secured transactions laws may vest persons with the power to create a security interest. For instance, if a receivable is sold outright and the ownership is thus transferred to the assignee, the assignor retains the power to transfer it to another assignee who may gain priority over the first assignee if it perfects the transfer first by registration. In other words, even though ownership to the receivable nominally passes to the assignee, until it is perfected by registration, the assignor retains the power to sell the same receivable to another person.

A security agreement may provide for the creation of a security right in future assets, which will arise as soon as the grantor acquires rights in those assets. Laws should expressly provide for this possibility and thus avoid the necessity for the parties to enter into new agreements when the grantor acquires rights in future property. This approach facilitates a number of important financing transactions that rely on ‘fluctuating collateral,’ such as inventory, farm products and receivables.

In a security agreement, the person agrees to grant a security right in movable property to a creditor to secure the performance of an obligation. Modern laws provide that agreements, as well as other documents and notifications related to a security right, may be issued, concluded, submitted, etc. in a tangible form or electronically. Security agreements should not require the satisfaction of any formalities, such as the notarization of signatures or the payment of stamp duties that increase the transactional costs and delay the execution of the agreements. If such requirements are common in the jurisdiction, the law may need to provide expressly that they do not apply to security agreements. Some jurisdictions require the registration of a security agreement as a condition of creation. However, in modern systems, registration is relevant only in the context of perfecting the security right; the time of registration also generally determines the priority.

A security agreement must reasonably describe the collateral, including a reference to ‘all assets’, a type of collateral such as ‘all inventory’, or individually, such as ‘tractor with a serial number ABC123’. Laws should not require detailed descriptions of the collateral in agreements or notices. Prudential regulation may impose stricter requirements on collateral descriptions that banks may wish to comply with if they seek capital relief with respect to the particular secured loan when the prudential regulation allows such collateral to be considered in the calculation of capital charges.

An important aspect of secured transactions laws is a provision that overrides the effect of anti-assignment clauses (see Article 13 of the UNCITRAL Model Law). When included in secured transactions laws, this clause effectively allows grantors to encumber their receivables even in situations where an agreement with the account debtor expressly prohibits their transfer. Such restrictions are not uncommon, especially in agreements between SME suppliers and large companies. The override may be limited to trade receivables (as under the UNCITRAL Model Law) or apply more broadly to other rights to a payment (as under Uniform Commercial Code Article 9). Many recently-enacted secured transactions laws lack such a provision (e.g., in the United Arab Emirates).

3. Priority and Perfection of Security Rights

The rules that allocate priority among competing claims are an important aspect of a secured transactions law . The higher the priority a security right has in relation to other claims, the more likely the secured obligation is to be satisfied from the proceeds of the disposed collateral. Secured transactions laws do not preclude the creation of multiple security rights over the same collateral. A negative pledge clause included in a security agreement that prohibits the granting of competing interests is ineffective against a third-party creditor, but results in a breach of the agreement.

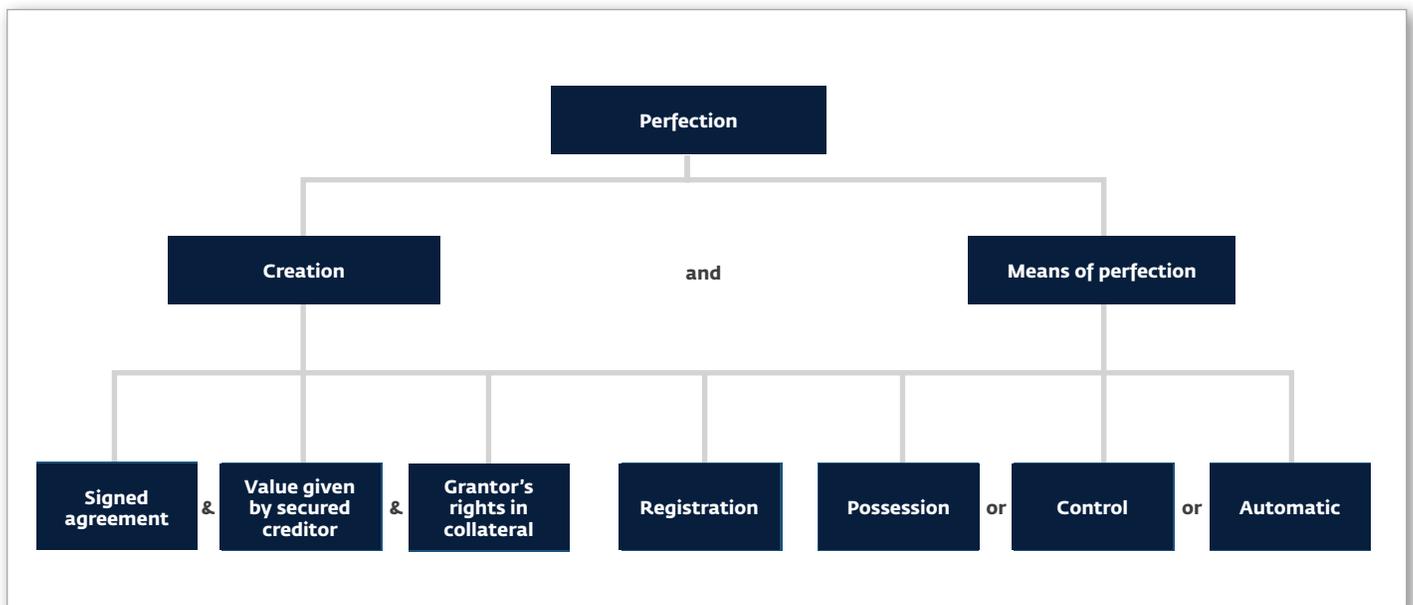
The general priority rule is based on the time of registration of a notice or perfection through some other mechanism (e.g., taking possession). Subject to some clearly-defined exceptions, a creditor who publicizes the existence or potential existence of its security right has priority (as long as the requirements for the perfection of the security right are satisfied thereafter) over other persons who thereafter

acquire rights in the collateral or who thereafter publicize the existence of their interests. Often this rule is referred to as the ‘first to register or first to perfect rule’.

The term ‘perfection’ refers to making a creditor’s rights in collateral effective against third parties, whether other creditors, purchasers or lien holders. The UNCITRAL Model Law uses the term ‘third-party effectiveness’. Perfection usually requires both the creation and the registration of a notice of the security interest. Figure 13 shows the requirements to perfect a security interest.

Under the UNCITRAL Model Law, the registration of a notice is not the only way to provide a public notice with respect to a security right. Those jurisdictions whose laws correspond to the UNCITRAL Model Law provide alternative perfection methods to registration, most commonly possession and control, but also automatic (e.g., with respect to proceeds generated upon disposal of the collateral) and temporary (e.g., when the creditor returns a bill of lading to the grantor to claim the cargo from a carrier in order to dispose of it). Priority

Figure 13:
Perfection Requirements



is accorded to the first secured creditor or other claimant who achieves perfection through any method. The means of perfection will often depend on the type of collateral. For some assets, multiple perfection mechanisms may be available, such as for bank accounts in which a security right may be perfected by registration or control, while for others only a single mechanism may be used, such as for security rights in accounts receivable (registration only). Where alternatives are available, often one provides stronger priority over the other, such as the case of security rights in bank accounts where control prevails over an earlier-in-time registration. In some jurisdictions (e.g., Kenya and Zimbabwe), the law provides for notice only by registration, thus reducing the complexity of the priority rules, but also affecting the flexibility in terms of choosing the most effective perfection mechanism.

The following boxes show further examples of the priority rule.

Box 9: *Applications of the Priority Rule*

- On June 1, a Borrower applies for a loan from Bank A to be secured by the Borrower's delivery truck. Bank A's loan officer obtains the Borrower's authorization to register a notice after which it completes its due diligence. The loan officer does a search of the registry for prior competing interests and, finding none, registers the notice identifying the Borrower's delivery truck.
- On June 4, the Borrower applies for a loan from Bank B to be secured by the Borrower's delivery truck. Bank B's loan officer decides to make the loan without searching the registry. Bank B's loan officer concludes a security agreement with the Borrower identifying the delivery truck as the collateral, advances the loan amount to Borrower, and registers a notice in the registry identifying the delivery truck. Bank B's security right in the delivery truck is perfected.
- On June 8, Bank A notifies the Borrower that it will make the loan secured by the delivery truck. The Borrower signs the security agreement giving Bank A a security right in the delivery truck. Bank A advances the loan amount to the Borrower. Bank A's security right then becomes perfected.
- On August 1, the Borrower defaults on both of the loans. The value of the delivery truck is insufficient to satisfy both obligations. Bank A has priority because it registered before Bank B, notwithstanding that Bank B perfected its security right before Bank A.

Box 10:*Another Example of the Priority Rule*

- On May 1, Bank A lends to the Borrower, taking a security right in the Borrower's painting. The Borrower delivers the painting to Bank A's warehouse on May 2.
- On June 1, Bank B lends to the Borrower, taking a security rights in the same painting and registering a notice on the same day.
- On September 1, the Borrower defaults on both of the loans. Bank A has priority because its interest was perfected on May 2 when it took possession of the collateral. The rationale is that Bank A made its security right public when it took possession; i.e., Bank B should have been alerted by the fact that the Borrower was not in possession of the painting.

Modern secured transactions laws do not recognize certain forms of notice that might have been sufficient under the prior law. For instance, in many jurisdictions, creditors secure the repayment of car loans by naming themselves as owners, or co-owners, in the records of the motor vehicle registry and retaining certificates of title to the car. Neither of these actions are recognized forms of achieving third-party effectiveness under the UNCITRAL Model Law, and creditors that have taken such actions prior to the enactment of a modern secured transactions law must ensure that their security rights are properly and timely transitioned into the new regime to retain their third-party effectiveness and priority.

If the collateral is disposed of to generate proceeds that are identifiable cash proceeds (e.g., inventory is sold for money), or if the proceeds are assets covered by the registered notice's description of the collateral (e.g., replacement inventory), perfection and priority of the security right continues in the proceeds without further action. If the proceeds are assets that are not covered by the description of the collateral in the registered notice, the law should provide that perfection

lapses within a specified short period (e.g., 20 days) after the proceeds arise unless the registered notice is amended to add a description of the proceeds. The secured creditor should anticipate that the collateral may turn into a certain type of proceeds and ensure that it is properly perfected.

The following are special priority rules that should be included in a priority scheme of any reformed secured transactions law.

Acquisition security right:

The priority rule - An acquisition security right or purchase-money security interest (PMSI) is a security right in goods, intellectual property rights or intellectual property licenses that are acquired with the credit advanced by the creditor. The creditor may be the seller or a financier. As mentioned above, a financial lessor's interest is treated as a PMSI. Even if the lessee already created a security right over all of its equipment, including that to be acquired in the future, the PMSI structure allows the lessor to acquire priority over the 'all equipment' security right perfected earlier by registration.

Assets held by the grantor as inventory are treated differently than equipment or consumer goods. Modern secured transactions laws add a requirement for the PMSI creditor to provide a written notice to a secured creditor whose security right covers the same type of inventory as the 'purchase money collateral.' The reason is that inventory generally secures a floor plan or line of credit where the amount of the obligation changes frequently. The creditor secured by the interest in the inventory cannot be expected to constantly monitor the registry for new PMSIs that may impair the creditor's position, so the PMSI creditor must give notice directly, and before the grantor receives possession of the collateral financed by the PMSI creditor.

With respect to a PMSI in consumer goods, there is a division among the reformed jurisdictions as to how perfection is achieved. The first position is to treat a PMSI in consumer goods under the same rules that apply to other goods, i.e.,

to perfect the security right by the registration of a notice. The second position is to provide for automatic perfection, which eliminates the need for a registration with respect to low-value transactions. The third position is for the law to provide for automatic perfection only with respect to consumer goods the value of which does not exceed a certain amount (see Article 24 of the UNCITRAL Model Law). Choosing one of the approaches also depends on whether the law permits the creation and enforcement of security rights in household goods not acquired under a PMSI. If there are no restrictions, the use of those assets as collateral may be common (e.g., in Ghana), allowing individuals to use such assets as collateral for business loans. In those environments, automatic perfection of the PMSI in consumer goods may complicate due diligence of creditors.

The policy behind the PMSI rule is to avoid a monopoly of one creditor over the credit sources. The PMSI structure also replicates the approach under pre-reform laws where a sale on a retention of title basis would not vest any rights in the grantor for a security right granted to a bank to attach to the assets sold by the seller.

When a secured creditor registers notice of a security right in some type of the grantor's property, the general priority rule would give that secured creditor priority over another creditor who supplies credit for the acquisition of a new asset in the future. The general rule would then make it very complicated and costly (e.g., the senior creditor would need to voluntarily subordinate its security right) to a subsequent creditor. Consequently, the grantor may have no access to credit from sources other than the original creditor. The PMSI rule is designed to break this monopoly by granting the second creditor priority with respect to the specific property acquired with the credit provided by that creditor. However, the earlier-in-time creditor is not disadvantaged because the grantor acquires a new asset financed by someone else, and its security right extends to that asset in a junior capacity. Examples of creditors that finance the acquisition of property include financial institutions, such as banks, leasing companies, and sellers on credit.

Preferential claims:

To determine an amount of available credit, a secured creditor must know in which order the obligation will be satisfied

from the collateral. While a registry provides an important and transparent source of information, including to establish priorities, other claims may impair the value of the collateral. Those claims include judgments, liens, tax and labor claims, all of which are explained above (see section D 6) . The UNCITRAL Model Law recommends their identification in the secured transactions law and imposing a maximum cap (e.g., all owed wages for the last 90 days). Secured creditors should deploy proper monitoring techniques to ensure that the grantor satisfies all of its preferential claims or the secured creditor may satisfy them itself and correspondingly increase the secured obligation. A combination of predictable legal rules and efficient monitoring techniques is critical for secured creditors that are regulated financial institutions to satisfy the requirements of prudential regulation on eligible collateral.

(i) Employees (wage claims): The protection of some employee compensation and benefits may be justified on several grounds. When a borrower is also an employer and is in arrears in the payment of salaries, the employees become creditors of their employer. For the most part, the unpaid salaries are unsecured obligations. Under the general rule, they would be subordinate to the security rights in their employer's property. Continued employment may be necessary for many business activities that enhance the collateral's value, such as the processing of unfinished inventory. However, a different approach may apply when the collateral is equipment subject to a PMSI, in which case the employees may not be entitled to priority for the owed wages. In any case, the secured transactions law should cap the amount of wage claims that would have priority over security rights to allow the secured creditor to calculate the necessary reserves.

(ii) Tax claims: When a person does not fulfill its obligation to pay taxes, the governmental entity to which the obligation is owed becomes an unsecured creditor of the taxpayer. If some or all of the property of the person is subject to a perfected security right, the tax claim would, under the general rule, be subordinate to the security right. Similar to the claims of judgment creditors, the perfection and priority rules of the secured transactions law should apply to tax liens. A level playing field with public liens incentivizes lenders, which leads to greater access to credit, generating more business and more taxes in the medium term. Moreover, the registration of a tax lien actually creates an incentive

on the part of the grantor to extinguish the delinquency in order to obtain credit. The inclusion of tax liens within the registration and priority scheme often faces opposition from policymakers. Even where there is significant opposition to establishing the priority of tax liens based on the time of registration, their registration should still be considered to enhance transparency. Technological solutions may be designed so as not to impose any burden on the tax officers (e.g., Azerbaijan's collateral registry is linked with the registry of tax delinquencies so data flows automatically). Other rules may require a state to first proceed against the unencumbered assets of the grantor so as not to affect the prospect of satisfying the secured obligation.

(iii) Judgment creditors: Modern secured transactions laws should address the priority of claims of judgment creditors. The rights of judgment creditors are typically 'perfected' by seizing the asset, which could be effected by actual repossession or tagging (if the asset is a bank account, it may be garnished). Secured transactions laws should provide for an additional step that a judgment creditor may take to perfect its right, which is to register a notice of the judgment lien against the property of the judgment debtor (see Article 37 of the UNCITRAL Model Law). In addition, the secured transactions law should provide for the right of the secured creditor to take over the enforcement process initiated by a judgment creditor, preserving the creditor's control over the collateral (see Article 76 of the UNCITRAL Model Law).

Buyers, lessees, or licensees:

An important priority issue involves the rights of persons who buy, lease or license collateral that may be in a priority conflict with the security rights. The situation where the security right is extinguished or subordinated to a right of a buyer, lessee or licensee presents a significant risk for the secured creditor. If, on the other hand, the law does not extinguish a security right, the buyer, lessee or licensee may hesitate to acquire rights in the collateral. The law must thus strike a fair balance between the interests of these two parties. The general rule of modern secured transactions laws is that a buyer, lessee or licensee of movable property takes subject to a security right if it has been perfected. If a security right has not been perfected, the buyer, lessee or licensee takes free of or unaffected by it. Knowledge of the existence of the security right is immaterial.

A buyer, lessee or licensee of collateral takes its right in the collateral free of or unaffected by a previously perfected security right if the secured creditor authorized the sale, lease or license free of or unaffected by its security right. A prospective transferee should thus search the registry, discover who the secured creditor is, and negotiate for the release of the collateral from the security right. The other exception to the general rule is a sale, lease or license of the collateral in the ordinary course of a seller's, lessor's or licensor's business. Often borrowers obtain credit secured with their inventory. When this inventory is sold, leased or licensed as part of the ordinary business activity, it is necessary to ensure the buyers, lessees or licensees are not concerned with the potential continuation of a security right in the asset they acquire. Generating income to repay the loan depends on the borrower's ability to sell, lease or license assets to its customers. In order not to disturb such commercial transactions, a special priority (taking free) rule should be included in a secured transactions law; that is, a buyer, lessee or licensee who acquires its right in movable property in the ordinary course of the seller's, lessor's or licensor's business takes the right free of or unaffected by a security right (see Article 34 of the UNCITRAL Model Law). Other laws (e.g., Uniform Commercial Code 9) provide that the transferees take free of only the security right created by the transferor. In any event, the buyer's, lessee's or licensee's knowledge regarding the existence of a perfected security right, unless it also knows that the transfer would violate the rights of the secured creditor (see UNCITRAL Model Law Article 34) in the property sold, leased or licensed is not relevant. These transferees are not expected to conduct a search of the registry. On disposal, the security right will automatically extend to any proceeds, including money, receivables or replacement assets.

The rationale and effect of the exception that applies to transferees of assets from the inventory of the transferor also applies to transferees of money, funds, negotiable instruments and documents, and securities. Generally, the rules of negotiability already protect transferees of these assets outside of the secured transactions law. A reform should recognize and reinforce these principles, and protect such transferees.

4. Registration of Notices with Respect to Security Rights

Secured transactions law must provide the fundamental legal authority for the collateral registry, though some technical and administrative details should be reserved for decrees or regulations promulgated under the law. Generally, the law should address the substantive legal aspects, especially those outlined in Box 11. The registrar should not be given any authority to implement features in the system that could affect its operation.

Box 11:

Secured Transaction Law Provisions in Reference to the Registry

- Scope – type of legal interests and types of grantors (natural persons and legal entities)
- Authority –the registry is the system to register notices with respect to security rights in movable assets, and assign responsibility for its operation
- Electronic registration –the electronic record is the official record and may be accessed only electronically
- Centralized – the registry for the whole jurisdiction
- Public access – the record is accessible without proof of any particular capacity or interest
- Notice registration – limited information is required for legal sufficiency of notice; no formalities such as signature or notarization
- Period of effectiveness – stated duration of effectiveness or provision for registrant to select duration
- Types of notice that may be registered – initial notice, amendment notice, termination of effectiveness (also known as discharge or cancellation), and continuation of effectiveness (also known as extension)

- Registry duties and authority – preserving the integrity of the record and not altering any information
- Standards for refusal of registration – limited and objective
- Standards for searching – basis on which to search (search logic)
- Effect of errors in information – registrations are ineffective if they can't be discovered in a search or the information therein is seriously misleading

If the team's legal expert and its registry expert are not the same person, the legal expert should consult with the registry expert to ensure that the law's provisions governing the registry are consistent with the registry design. Ideally, the legal expert who assisted with the drafting of the substantive law should assist with the development of the implementing decree/regulations.

The effect of notice registration is to alert the searcher about the possible existence of a security right in the assets described in the registration. A registration may not relate to an actual secured transaction either because one has not yet been consummated (advance registration) or the obligation has been fully satisfied, but the secured creditor has not yet registered a cancellation notice. A search result provides only the starting point for an inquiry that must be conducted outside of the registry record, including examining the loan applicant's internal records, inspecting the collateral, and obtaining information from the person named as the secured creditor in the registration. Secured transactions laws facilitate such inquiries by empowering the grantor to request the secured creditor to send the current information to the inquiring party (e.g., UNCITRAL Model Law Article 56 empowers the grantor to obtain such information that it may then pass on to the prospective secured creditor).

5. Enforcement of security rights

Efficient enforcement procedures are particularly important in the context of movable property, which in most cases (specifically tangible assets) depreciates in value over time. The key objective is to swiftly convert the collateral into cash that may be re-used for loans to other prospective borrowers. A modern secured transactions system must provide for efficient extra-judicial remedies with respect to both tangible (repossession and disposal of equipment) and intangible (collection of accounts receivable) collateral [UNCITRAL Model Law Article 73(1)]. In addition to the panoply of extra-judicial remedies, a state should consider providing alternative expeditious judicial/administrative mechanisms [see UNCITRAL Model Law Article 73(2)]. The law should also provide autonomy to the party that allows the secured creditor and grantor to designate desirable remedies in their security agreement that must be enforced in a commercially reasonable manner. Finally, the law should not preclude the exercise of other statutory remedies, unless they are inconsistent with the policies and approaches of the secured transactions law [see UNCITRAL Model Law Article 72(1)]. One such remedy may be the appointment of a receiver.

The law should provide for various extra-judicial remedies, including repossession of the collateral, its disposal or acceptance in partial/full satisfaction of the secured obligation, and the collection of ‘payment rights’ such as receivables, bank accounts or debt securities. Their exercise should not be hampered by formalities and other obstacles, such as long periods to resolve defaults or grace periods before which the collateral may be finally disposed. While laws typically impose some notification requirements, exceptions are necessary for collateral that is perishable or quickly depreciates (e.g., vegetables).

Judicial enforcement measures are usually provided in general legislation, such as codes of civil procedure. In many cases, the existing legislation does not provide an efficient or speedy enforcement mechanism. Furthermore, in some jurisdictions where the law does provide for an efficient enforcement mechanism, its implementation by the judiciary and the enforcement agencies is inadequate. As explained above, specific judicial remedies with respect to expedited enforcement of security rights should be provided for in the legislation.

This section examines different approaches to the post-default remedies. It does not address the recovery mechanisms available in insolvency proceedings, which are governed by the insolvency framework. There are two phases in the enforcement process: (i) obtaining possession of the collateral and (ii) its disposition, collection, or acceptance in satisfaction of the secured obligation.

Extrajudicial obtaining of possession of the collateral:

There are two ways in which the law may provide for a secured creditor to recover collateral without resorting to judicial process: (i) repossession by the secured creditor or its agent and (ii) obtaining an award or settlement agreement in an alternative dispute resolution (ADR) mechanism, such as arbitration, mediation or conciliation [see UNCITRAL Model Law Article 3(3)]. A grantor may be incentivized to surrender the collateral voluntarily by a promise of the secured creditor not to pursue a deficiency claim or by a personal guarantee. Where the grantor cooperates in the enforcement the parties should first attempt a negotiated settlement.

The UNCITRAL Model Law (Article 77) allows the creditor to take possession of the collateral upon default without court assistance if provided in a security agreement. In order to maintain public order, the person in possession must not object to the attempted repossession. In any case, the creditor or its agent must proceed in a commercially reasonable manner. Repossession may also be effected whereby the collateral (e.g., crane) is immobilized on the grantor’s premises.

ADR mechanisms have proven to be very effective in resolving disputes in a fast, low-cost and non-adversarial way. The use of mechanisms such as mediation, conciliation or arbitration in the enforcement process is popular in jurisdictions that have developed both the legal (or regulatory) and institutional framework for these mechanisms to be effective, including the protection of third parties that do not participate in such proceedings (e.g., other secured creditors of the grantor). ADR mechanisms may be more appropriate to resolve disputes not relating to enforcement, such as a priority conflict between two secured creditors.

Modern technology opens further opportunities for innovation, especially by implementing online dispute resolution mechanisms (ODR), such as those enabled by the Colombian secured transactions law, implemented through regulations and manuals. In Colombia, the ODR mechanism is not a replacement for other extra-judicial remedies, but rather another option for secured creditors. Its trigger point is the registration of an enforcement form in the collateral registry, which will automatically connect the secured creditor with the relevant ODR platform operated by a Chamber of Commerce in the location of the grantor. In addition to this automatic connection, the system sends an electronic notification to other secured creditors that may have registered a notice against the same grantor, alerting them to the possibility to take over the enforcement process if they have a priority over the enforcing secured creditor. In case of a dispute, the parties will be referred to a conciliation chamber. Nonetheless, when the grantor resists repossession of the collateral, the involvement of a court may be necessary. Upon the entry of a judgment, the ODR mechanism resumes and leads to the ultimate disposal of the collateral through an auction site maintained by the Chamber of Commerce.

Judicial enforcement mechanisms:

When a law does not provide for out-of-court enforcement, or when a creditor decides (or is forced) to enforce its security right judicially, the process for the recovery of collateral should be expeditious to permit the recovery before the assets lose value and without undue risk of concealment or a surreptitious sale of the assets by the grantor.

Whenever possible, when reforming enforcement procedures, the reformed law should include specific fast-track judicial procedures for the repossession and disposal of movable collateral. Some jurisdictions have a pre-judgment procedure by which, upon presentation of proof that the security agreement was validly executed and an act or omission constituting default, the court issues an order empowering the creditor to seek assistance from a law enforcement agency to repossess the collateral. The proof may be simply by sworn affidavit of the creditor. Though a court may issue an order swiftly, the system should ensure that the grantor is not given discretion to raise unfounded objections that would delay execution of the order, as is the case in Azerbaijan. In contrast, in Uzbekistan, a similar expedited court order

mechanism was modified so that a grantor's objections do not suspend the execution. However, the court may order the proceeds of the sale of collateral to be blocked in a court bank account until such time as the case is resolved on its merits and the grantor's objections are addressed.

There are other successful variants of expedited judicial processes. In some jurisdictions (e.g., those in Latin America that implemented the OAS Model Law), a notarized security agreement constitutes an executory deed. The debtor can raise very limited arguments to challenge repossession, such as: (i) lack of jurisdiction, (ii) lack of sufficient grounds for the plaintiff to enforce its rights, (iii) absence of default, and (iv) extinction of the secured obligation. Any other arguments by the debtor can be raised only after the collateral is repossessed. From the available models, the OAS Model Law and the Cape Town Convention provide for expedited judicial enforcement mechanisms.

Disposition of the collateral or its acceptance in satisfaction of the secured obligation:

In order for the secured creditor to maximize the value of the collateral after default, it should be familiar with the secondary market for that type of the collateral. Some laws impose an obligation on the secured creditor to sell the property for market value, thereby putting the onus on the secured creditor of proving the property was indeed sold for its market price. The recommended provision for a modern law is to apply a standard of commercial reasonableness to the creditor's conduct in the disposition of the collateral, putting the burden on the grantor to show that the disposition was not commercially reasonable. A price that is lower than the market price should not lead to an automatic conclusion that the secured creditor did not act reasonably. The secured creditor may buy the collateral at disposition under certain conditions protecting the interest of the grantor and other secured creditors. This is often the case if no third party is interested in acquiring the collateral. Subsequently, the secured creditor may sell the collateral in a process outside of the secured transactions law.

The collateral may be disposed of in a public auction, private sale or other form of disposition, by sale, lease or license. The secured creditor may dispose of the collateral as a whole (e.g., all farming machinery of the grantor) or individually (e.g., tractor by tractor). Whatever methods of disposition are authorized by law, it is important to ensure that the rights of the affected parties are adequately protected by notifying them in advance of the disposition. Parties with a right in the collateral will also share in the proceeds of sale based on their priority.

As an alternative to the disposition of the collateral, the secured creditor may propose to accept the collateral in partial or full satisfaction of the secured obligation. The grantor and other competing claimants must be given a notice of the proposal and an opportunity to object to the proposal. Upon receipt of a timely objection, the secured creditor will be required to dispose of the collateral.

Any secured creditor should be entitled to enforce its security right, even if junior to some other competing claims. However, senior competing claimants should have the right to take over the enforcement process at any time before the junior secured creditor completes the disposal.

Grantor's protection during enforcement:

While enforcement processes are designed to allow secured creditors to enforce their rights efficiently, the protection of grantors' rights (as well as those of affected parties, such as junior secured creditors) should also be ensured. The following are provisions to protect grantors' rights that should be included in any reformed framework:

- **Right to challenge enforcement actions:** Grantors against whom enforcement proceedings are initiated should be allowed to appeal against unreasonable actions taken or to be taken by secured creditors (UNCITRAL Model Law Article 74).
- **Right to be notified of the proposed disposition of the collateral:** The enforcing creditor must inform the grantor and known competing claimants of the proposed disposition a number of days before the actual disposal. Similarly, the grantor and competing claimants must receive a proposal from the secured creditor

to accept the collateral in satisfaction of the secured obligation [UNCITRAL Model Law Article 78(4)].

- **Grantor's right of redemption:** The grantor (or a party affected by the enforcement, such as a junior secured creditor) may approach the enforcing creditor at any point prior to the completion of the disposal and offer to redeem the collateral by fully satisfying the outstanding obligation (UNCITRAL Model Law Article 75).
- **Right to surplus:** If the proceeds from the disposition of the collateral exceed the outstanding obligations, any surplus must be remitted to the grantor [UNCITRAL Model Law Article 79(2)] after satisfaction of any junior claims entitled to a distribution

These protections should not provide any grounds for grantors to stifle the enforcement process or exploit loopholes. Any technical non-compliance with the enforcement rules, such as an omission of some information in the notification of disposal, should not become the grounds to invalidate the disposal. However, the grantor should be given an opportunity to prove that full compliance would have resulted in a higher price for the collateral, as a result of which its deficiency should be reduced or any surplus increased. In case of consumer collateral, the burden may be placed on the creditor to prove that its non-compliance was not commercially unreasonable. Invalidation of the disposal could have a chilling effect on access to credit in general, as prospective buyers might be reluctant to participate in secondary markets where the collateral is disposed of after default.

6. Transitional provisions

One set of legal issues that must be addressed as part of any secured transactions law reform is the transition to a new law. The purpose is to ensure that, eventually, all prior security rights are perfected using one of the mechanisms recognized by the new law. The reformed law should recognize the validity of rights in movable assets created under the prior law. Some of these rights might have been perfected by a method recognized by the new law (e.g., possession), while others by another method (e.g., notification of the account debtor). For the former, no action is needed to

continue the perfection and priority of the security right, while the latter must be perfected in accordance with the new law (e.g., registration of a notice covering receivables). If prior security rights were perfected by registration, such as noting a lien in the motor vehicle registry, the secured creditor would need to register a notice in the collateral registry as its putative ownership right noted in the motor vehicle registry will be deemed to be a (unperfected) security right. In some systems, it might be possible to migrate those records from the motor vehicle or other registry into the collateral registry. Transitional registrations of this kind should not be subject to the payment of a registration fee since the secured creditor already paid a fee for the initial registration. The information requirements with respect to providing the statistical information in the notice may also need to be relaxed so as not to put an undue burden on the secured creditor to collect the information that it did not need when the loan was extended under the prior law. The transition period should be sufficiently long to allow secured creditors to review their files and prepare for the registration of transitional notices, but also not too long to avoid placing an undue burden on searchers to verify whether an asset is subject to a security right perfected under the prior law. If the new law designates a unique number as the indexing/searching criterion for registrations, secured creditors must obtain it from their borrowers.

It is essential for the transitional period not to start running before the collateral registry is launched. This was the case in Zambia where, during the enactment process, a clause deferring the entry into force was removed so that the secured transactions law entered into force when it was gazetted. A premature entry into force of the law or a desire to operationalize a registry shortly after the enactment may have negative consequences on the transition into the reformed regime. The entry into force of a new law also triggers the entry into force of consequential amendments that abrogate or override the effect of pre-reformed provisions enabling the creation of security rights. Furthermore, the registrations in registries other than the collateral registry would not perfect the security rights. Accordingly, creditors would not have the facility in which to register notices of security rights since the collateral registry has not been launched and their registrations in the other registries would have no legal effect. Without the ability to perfect their security rights, creditors may either refrain from extending secured loans or

resort to other perfection mechanisms, such as possession, increasing the cost of transactions. A secured transactions law's premature entry into force also effectively shortens the transitional period for re-registration/re-perfection of prior security rights. It is thus essential to closely monitor the processes leading to the entry into force and coordinate them with the establishment of the collateral registry.

7. Conflict-of-laws provisions

International best practices, including the UNCITRAL Model Law, contain a comprehensive set of provisions that determine the laws applicable to all aspects of a security right, including creation, priority, perfection (third-party effectiveness), and enforcement. Stakeholders in some states view such rules as unnecessary, arguing that cross-border transactions are rare in their jurisdictions and, when they do occur, the parties are sophisticated and able to structure the transaction in a way that sufficiently protects the rights of the secured creditor. Nevertheless, in most states such rules are inadequate to underpin modern secured financing practices, relying on the location of the collateral to determine the law applicable to the various aspects of a security right. While this connecting factor may be appropriate for security rights in tangible assets, intangible collateral, such as receivables, do not have any location. Applying this factor to intangible collateral may result in the application of the law where the account debtor is located. Consequently, the creditor would need to perfect according to every law applicable according to the account debtor's jurisdiction, which would be quite cumbersome particularly for secured transactions relying on pools of receivables. Furthermore, the grantor and the collateral may be located in different jurisdictions or the collateral may regularly move between jurisdictions (e.g., the grantor is a transportation company whose fleet of truck delivers goods to ports in neighboring countries).

8. Implementing regulations

While the secured transactions law provides the legal basis to operate the registry, it may leave technical and administrative matters to subsidiary legislation, such as the regulations, to permit later adjustments without the need for amending legislation. The subsidiary legislation generally consists of

an implementing decree or regulation. This may provide for various administrative details, such as the manner in which registrations are confirmed or search results are issued (see Box 12). Subsidiary legislation is generally promulgated by a governmental body or, in a minority of jurisdictions, by the central bank (e.g., Azerbaijan and Ghana) when the substantive law has vested the central bank with such powers.

Drafting a decree/regulation must be coordinated with drafting the law and should involve the stakeholders involved in developing the law, so that the policies underlying the provisions regarding registration are properly effected in the subsidiary legislation.

Box 12:

Administrative Details in Secured Transactions Decree or Regulation

- Location of operating hours of the registry
- Manner in which the head of the registry discharges his/her duties and obligations
- Requirements to complete a registration, including extension, amendment and cancellation
- Requirements to complete a search request
- Format of registration confirmations and search results reports
- Establishment of user accounts to access the registry and pay fees
- Methods and processes to pay fees

Depending on the drafting conventions, subsidiary legislation may also be used to implement a number of substantive provisions of the secured transactions law, which may be limited to providing the overarching framework. However, the fact that subsidiary legislation may not override the effect of primary legislation should be kept in mind. For instance, the regulations may not include anti-assignment override provisions when the substantive secured transactions law has not included such a rule. This is because the regulation would be in conflict with a general rule of freedom of contract.

CHAPTER 4:

DESIGN, PLACEMENT AND IMPLEMENTATION OF REGISTRY

A. General Implementation Considerations

The registry implementation schedule will vary depending on the business model, procurement methods and other factors. It is important that the timeline be established as early in the development process as possible, so that dependencies can be identified and to permit concurrent development of different components wherever feasible. A Gantt chart or equivalent can be used to identify dependencies and concurrent operations, and thereby help determine the target timeline to implementation. The selection of the tool is not as important as being able to identify the dependencies. The dependencies that must be identified include: (i) finalization of the law's provisions on registration, which must precede the development of the design specifications and (ii) selection of the application software vendor, which must precede the completion of the specifications for hardware and system software. Table 2 below provides a checklist of events, steps, and processes that must be taken into account.

1. Capabilities of Government to Operate Registry, and Private Sector Alternatives

In terms of identifying the ideal administrator for a collateral registry, a detailed analysis should be conducted to determine who should have the legislative mandate to provide the registry services. If a collateral registry or an asset registry (such as a vehicle registry) already exists, the important characteristics of the registry should be assessed, including its: (i) nature and organization, (ii) utilization of information and

Table 2:

Checklist of Events, Steps, and Processes

- Finalize the law's provisions governing registration
- Develop the registry design specifications
- Finalize the law's provisions governing registration
- Prepare and approve application software tender documentation
- Publish request for Expressions of Interest
- Select short-listed application software vendors
- Publish tender for application software
- Prepare and approve tender documents for hardware and system software
- Negotiate and sign contract with software vendor
- Negotiate and sign contract with hardware/system software vendor
- Facilitate passage of law
- Identify or procure location for registry administration office
- Develop staffing requirements and qualifications
- Hire staff
- Prepare public awareness and training programs

- Approve implementation regulation/decreed
- Develop user documentation and operations manual for registry
- Facilitate entry into force of the law
- Deliver public awareness campaign
- Train staff
- Conduct initial round of end user training
- Receive delivery and installation of hardware/system software
- Install application software
- Test and evaluate application software
- Accept application software
- Receive technical documentation from software vendor
- Commence registry operations

communication technology, (iii) existing data, (iv) operational aspects, (v) level of the government at which it operates, (vi) ease of public access, and (vii) staffing and management. The implementation team should assess the existing institutional infrastructure, which would include assessing the human resources and information and communication technology environment, including data center capabilities, business continuity and disaster recovery procedures, ongoing

operating budget, and the registry's understanding of the importance of movable property registration services under the reformed framework.

In case there are no existing registry institutions suitable to undertake the operationalization of the registry, it should be determined whether there is a capable public institution. The capacity of government institutions should be examined without determining whether the institution selected will operate the registry as part of its existing structure, as a new autonomous entity under the institution, or as the oversight partner in a public-private partnership where all or parts of the operation are outsourced (see Box 13). It is also very important to assess any existing government initiatives or reforms of other registries (e.g., the companies registry). That assessment will determine if there is a need to coordinate and leverage the two initiatives.

Typically, a government agency should be identified in the legislation and given the mandate to establish a registry and provide the relevant services. This assessment should be conducted in parallel to the legislative drafting process. The organizational arrangement can be determined based on considerations such as ensuring the registry is not excessively vulnerable to political turnover and maintaining a necessary degree of independence in its operations and finances. Those registries that have been particularly successful retain the earnings to support the development of future functionalities and features to address customer demand (e.g., customizable reports, interoperability with other databases and credit bureaus). If there are no viable public institutions, appropriate private sector institutions that may be viable as an outsourced operator of the registry may be considered. Such institutions may include a private sector credit bureau if it is adequately organized and has a reputation as a trusted third party (e.g., in Egypt and Nepal) or a chamber of commerce. Central banks have become a prevalent model in collateral registry

operations, particularly in Sub-Saharan Africa where they have taken the leading role in reforming secured transactions laws. Central banks of Ghana, Liberia, Nigeria, and Sierra Leone have already established such registries and reform projects in Ethiopia and Zimbabwe contemplate such a model. Similarly, many jurisdictions have empowered central banks to regulate credit reporting services.¹⁸⁵ This structure allows the central banks to more efficiently evaluate the impact of the reform on access to credit, consider adjustments to prudential regulation, lead the financial inclusion agenda generally, and aid in ensuring the overall sustainability of the registry.

Box 13:

Typical Government Counterparts and Factors to Assess their Capacity

Institutions should be assessed to identify their interest, competence and stability of management, economic interest in the success of the registry, and reputation among stakeholder groups and legal competence to deal with implementation. Public institutions that are commonly considered include:

- Ministries that deal with commercial, economic and development matters
- Ministries of Justice
- Ministries of Finance
- Central banks
- Central Information Technology offices

Once the best option among the potential government institutions is identified, it should be enlisted as the government partner for the reform. The next step is to assess its capacity to establish the registry within the institution or as an autonomous entity under its aegis. The following factors need to be considered when assessing the counterpart's capacity:

- Of chief importance is the resident information technology (IT) capacity, including an IT facility to house the servers in an appropriate environment, climate control, power supply, physical security, back-up capacity, and competent staff to maintain operations on a 24/7 basis.
- In addition, the physical facility must be capable of accommodating a small staff that is appropriate for a modern registry.

2. Technology Infrastructure and Support Capacity

There are two perspectives from which to assess the relevant technology infrastructure and capacity to support an internet-based registry: that of the registry, and that of the end user. From the registry's perspective, the important components are: (i) connectivity with the internet, (ii) facilities to support registry software and hardware, (iii) available human resources with the right skill sets to support the various technology components, and (iv) data center and business continuity and disaster recovery facilities/services. From the end user's perspective, the key question is whether all potential users of the registry's services have access to the internet. The potential users whose needs must be considered include banks; inventory financiers, such as manufacturers and wholesalers, lessors, NBFIs, microfinance institutions; and the public at large (e.g., buyers of assets that may be subject to security rights). It is not absolutely necessary for all potential users to have internet access in their places of business as long as connectivity is provided by some other means, such as internet cafes or service providers. There are registry solutions that are now compatible with tablets and mobile phones.

Even if an economy has a stable internet connectivity, many potential users do not have sufficient technological/financial literacy to make use of the internet for registration purposes. In such cases, it will be necessary for policy makers to determine if it is necessary to accommodate their needs with adaptations of the registry's infrastructure or provide alternative means to access the registry, such as the use of an agent or third-party service provider.

3. Process Model and Technical Specification Documents

The first step in developing the design of any system is to understand what the system will do. The sequence of operations within the system may be visualized as a play, and the means used to communicate the lines and actions of all the actors is the script. The script used to communicate the operations of the registry system to the designers and operators of the system is a narrative description of each process, known as a process model narrative (PMN). The PMN describes in detail the role of every actor who participates in the registry system and every function performed within the system. The PMN provides all the information needed by a designer or an operator to understand what the system must do and how it will undertake each operation. It will be used in conjunction with other technical design specification documents to tailor the registry system.

While the PMN is the most essential document for a designer or operator of a registry system, designers will need a more detailed description of the operations and relationships in the system. This level of detail may be provided in graphical representations of the data elements commonly known as business rules matrices, screen maps and flow diagrams of system functions. The registry expert may develop these technical specification documents separately or with the developer of the system.

4. Form of Funding Registry Operations

A key aspect of registry sustainability is the business model that is deployed to support its daily operations. It is essential that the user community have confidence in the registry's continuity of operations. Therefore, it is necessary to determine what form of funding is required to support the registry operations. Generally, a feasibility study is conducted to assess the potential funding models (see Box 14). One option for funding the registry operations is to create a separate special or enterprise fund in the Treasury into which fee revenues are deposited and from which funds can be drawn without appropriation. If the use of a special or enterprise fund is

Box 14:

Factors to be considered in determining the funding mechanism

- Degree of certainty that revenues will cover operational expenses
- Legal or political barriers to creation of special or enterprise funds
- Functionality and stability of the government
- Track record of the government in funding similar operations

the selected model, it will be necessary to arrange for an initial, one-time appropriation to fund operations during the start-up period until revenues are sufficient to cover costs. The amount of the appropriation must be determined by assessing the costs for the period during which revenues will not cover the costs of operation. It will also be necessary to provide in the law that fees can be adjusted over time by regulation in order to assure sufficient funding. The UNCITRAL Model Registry Provisions (Article 33 on Registry Fees) provides for a mechanism to modify the fee schedule from time to time.

If there is a high level of doubt about whether the volume of registrations will be sufficient to fund operations without setting fees prohibitively high, a reliance on appropriations from the general fund may need to be considered, despite the risk of de-funding by the legislative body. The funding risk is less of an issue for collateral registries, which are viewed as a public good.

Some registries, particularly in North America, have an additional source of revenue, albeit not a large one, for selling data in bulk to certain types of users. The U.S. filing offices are expressly authorized by legislation [Uniform Commercial Code 9-523(f)] to sell or license to the public copies of all records. Those public users are generally of two types. The first is data aggregators that provide multi-

jurisdictional searching for clients through a database compiled from regular bulk reports purchased from registries of many jurisdictions. The aggregators often obtain complete transfers of the active database, with frequent updates to keep them current. The second type is credit reporting institutions, either credit bureaus or business reporting firms, such as Dunn and Bradstreet. Credit reporting systems then include the acquired collateral registry data in their reports.¹⁸⁶ In both cases, the registry can charge a fee based on the cost of production or the commercial value of the database, and thereby earn supplemental revenue to keep the costs to other users low.

Table 3:
Payment Method Options

Method	Advantages	Disadvantages	Examples
Frequent user account, also known as client account	User convenience; automated fee accrual and management	Minor risk of abuse by user	Vietnam, Cambodia, Federated States of Micronesia, US states, Canadian provinces, Albania, Bosnia and Herzegovina
Payment through commercial bank	Reduced risk of corruption or loss of cash; eliminates registry labor for payment entry	Minor inconvenience for users who register on paper	Cambodia, Albania, Bosnia and Herzegovina
Payment through treasury offices	Reduced risk of corruption or loss of cash; eliminates registry labor for payment entry	Minor inconvenience for users who register on paper	Federated States of Micronesia
Credit card	Can be used on-line or at intake points by all types of users	Service charges by clearinghouse; risk of dishonor after use	Vietnam, US States, Canadian provinces
Cash to registry or intake point	Simplicity and convenience of users who register on paper	Opportunity for corruption; risk of loss of cash	Vietnam, US States, Canadian provinces
Inter-bank transfer	Convenience of regular account users	Less useful for one-time users	Vietnam, US States, Canadian provinces
SMS payment by pre-paid phone card or account	Convenience of regular account users	Limited to cell phones that are owned and whose owner can be identified by recipient of payment, i.e. caller ID is not blocked	None known to use this method

5. Payment Methods

There are two different types of registry users: (i) regular users, such as banks and leasing companies and (ii) one-off users, such as a self-financing seller of equipment not in the ordinary course of business. Both types of users should be able to pay fees so that they can have real-time access to register electronically. The common payment mechanism for regular users is to maintain an account with the registry to which deposits may be made periodically and to which fees are automatically charged for services. Such accounts can be designed for advance payments, to a draw-down account or to pay periodic statements in arrears. The options for payment methods are set out in Table 3 below.

The post-paid accounts option is more convenient for users and easier to administer by the registry. For users, the convenience is that there is no risk of service interruption when entering registrations, as there would be in a pre-paid system if an unusually high number of registrations in a statement period (e.g., a month) reduces the balance to zero and access is suspended until the balance is replenished. For the registry, post-paid accounts can be fully administered automatically. Further, post-paid accounts do not require a refund of unused balances if the account holder decides to withdraw its deposited funds out of the account. Since holders of such accounts are by definition recurrent users, the risk of non-payment is quite low – the software can be programmed to suspend access if the outstanding balance is not paid, so users will have an incentive to pay on time.

The principal benefit of pre-paid accounts is that their use eliminates the risk that a client may stop using the registry while it owes fees for its last period of use and then refuse to pay. The most obvious drawback of the pre-paid option is the loss of convenience to users and the registry, as compared to post-paid accounts. Beyond the matter of convenience, there is a risk to users in delayed services due to the account balance being insufficient to cover the prescribed fee during the registration process. However, this can be managed by a notification from the system administrator, which may be sent once the threshold has been met.

Since one-time users will need to pay fees in advance of service, the types of payment methods used within the country must be identified. One common method for paying one-time fees are credit cards. The level of credit card service fees and any legal rules for apportioning them should be determined and factored into the feasibility study. The existence of electronic fund transfer functionality and its usage should also be examined. There may be other options, such as mobile payments, phone cards or debit cards.

In some economies, the most viable means of payment may be to use a local bank to receive deposits to a registry account, identify the payor and issue a receipt. In that case, banks with the most accessible branch network and the ability and willingness to enter payment details into the registry system in real time should be identified. The regis-

try can contract with one or more such banks to perform payment intake and payor identification functions for both one-time users and regular users. One-time users can pay fees into the registry's account at the bank through their local branches and the bank can then use an interface to the registry system to enter payment details immediately. The same system can accommodate payments by regular users as well. But whatever payment methods are used, each must permit the identification of the payor so as to validate payments to the accounts of regular users and to minimize the risk of fraudulent registrations by one-time users.

Cash payments to the registry office should not be permitted. Especially in emerging markets, handling cash increases the risk of corruption, loss of cash through inadvertence and loss of accountability between payment and services. In some jurisdictions, governmental agencies do not accept pre- or post-paid approaches. Payments must be completed through government-operated payment systems, such as E-dirham in the UAE or E-Raschet in Belarus.

6. Projected Registration Volume and Concurrent Users

While modern registry IT systems are generally scalable, there is still a need to ensure that the physical configuration of the hardware and the operating system licenses that are procured are sufficient to handle both the data and the number of concurrent users. It is, therefore, necessary to develop projections for the number and size of expected transactions and the maximum number of concurrent users of the system.

7. Legacy Registrations and Data

An important issue is to implement the provisions of the secured transactions law for the transition of prior security rights, especially those that were registered under the pre-reformed regime. It must, therefore, be determined whether there are existing registrations and, if there are, where they are 'located', how they are indexed, what data

elements they contain, whether the data is in a database, what the technology platform is, whether registrations are active, the approximate number of them and their status. This information will be used in determining whether to migrate the registrations into the new database or to provide for re-registration during a transitional period after implementation of the new registry. The latter has been the general approach, as it obviates a number of risks associated with the migration of data. Providing creditors with a period of time (e.g., 6-12 months) to perfect their prior security rights in accordance with the new law is also recommended by the UNCITRAL Model Law (see Article 105).

8. Capital and Operating Costs of the Registry

There are a number of local factors that will affect capital outlays to establish the registry and its continuing operating costs. These factors must be identified and their impact determined in order to develop the budget, which would be included in the feasibility study (see Box 15 below). The cost of registry configuration involves capital outlays and ongoing operating costs of the registry. In both cases, they are affected by the configuration of the information technology system and the location options for the technology, i.e. the degree of outsourcing.

Box 15:

Capital and Operating Costs of the Registry

1. **Application software:** It must be decided whether to buy the application software off the shelf from a regular supplier or to build it locally. In the long run, the former option is most cost-effective and produces the better results. But it must be determined if there is a legal, political or other reason that the purchase option cannot be used.
2. **Procurement options and limitations:** Assuming that the purchase option is used, the applicable procurement requirements must be examined to see what costs are involved and what limitations there may be on bidding processes and eligible bidders. Hardware procurement processes must also be examined to determine the limitations on eligible bidders that may preclude the selection of the least expensive supplier. Because many emerging economies have substantial import duties that increase the price of both software and hardware, it must be determined if such import duties exist, their impact, and whether the client is eligible for an exemption from the duty and whether that exemption can be used by the suppliers of the software and hardware.
3. **Operating costs:** Operating cost factors that must be investigated include the costs of labor and IT support for the registry, as well as associated costs for housing the registry office. Potentially reducing these costs by sharing them with other applications that run on the same platform or in the same facility should be explored. For example, in Georgia, facilities, firewall, domain server, e-mail server and physical security measures are shared with the land registry with which the movables registry is co-located.
4. **Internet costs:** Another significant factor is the cost of internet connection. In some economies, particularly those with wide geographical distribution in remote areas, internet service can be very expensive, to the point that the costs, assuming an off-shore operator of the registry, could be the largest operating cost after server co-location or rental.
5. **Additional cost considerations:** Yet another factor is the additional cost of operating if a paper registration option is provided. In that case, there will be costs of remote intake and providing a backup medium for the paper (e.g., scanning to disk or microfilming). This hybrid access is not recommended even for those emerging economies with significant connectivity problems (e.g., Liberia and Sierra Leone).

Configuration decisions are dependent upon several factors, including uptime reliability, the needs of the selected application software for a particular operating system and database, and the components (firewall, domain servers, e-mail server, etc.) available at the facility where the technology system is located. The minimum hardware configuration, assuming placement in a facility where a firewall, domain server and e-mail server are already available, is one web/application server and one database server. In this case, each server would need an operating system and the database server would need a database. However, a more efficient configuration is redundant servers for both functions, with automatic failover in the event one server crashes. In higher volume systems, it may be necessary to have a shared data array for the database servers. Requirements for computers and peripherals will be determined by the business model selected, whether managed by a government entity, fully outsourced or hybrid systems. If servers are purchased and located in the registry or a data center, the minimum recommended configuration would be redundant web/application servers and database servers, assuming that a separate data array is not necessary and that the facility already has domain, firewall and e-mail servers that can be utilized. Costs for the operating system and database will depend on the choice of product.

If the registry and its IT system will be operated by a government entity, there may be substantial capital costs in preparing the facility for the technology assets if the entity does not already have a facility with sufficient capacity. Those capital costs include a secure room with climate control, an automated gaseous fire suppression system, conditioned power, uninterruptible power supply, grounded circuitry, automated back-up power generators, sufficient rack space for the registry's servers, etc. There would also be capital costs for housing and equipping the registry IT and administrative staffs.

Operating costs will be widely variable and dependent on many factors. It is necessary to assess the relevant factors affecting location, management and outsourcing options. For example, if the registry is located in and managed by a governmental entity, the marginal operating costs of adding the registry will be low if the entity already has a fully-staffed and equipped data center facility, whereas

those marginal costs will be very high if IT staff and facilities are dedicated to supporting only the registry. That is because there should be at least a database administrator and one other IT staff member to ensure 24/7 availability of the system to web users, whether they serve several applications in the government entity or just the registry. Further, if full-time management staff for the registry must be dedicated to registry functions instead of shared with other tasks, there will be personnel and related costs.

If the registry owns and co-locates its servers in a commercial data center, there will be co-location costs, hardware maintenance costs and the cost of removing and storing periodic back-ups of data. If the registry is contained fully within the relevant government entity or if the technology is outsourced to a data center, there will also be internet connectivity costs. Internet rates vary widely by location and by bandwidth. If all registry operations are fully outsourced and shared server space is rented on fully redundant servers with system software and internet connectivity included, there will be no significant operating costs other than the periodic fee to the outsourcer.

9. Different Business Models and Outsourcing

If there is no sufficient capacity within a public sector institution, consideration must be given to pursuing an alternative service delivery model, including outsourcing some or all of the registry services to the private sector. Some secured transactions laws expressly contemplate outsourcing as an option. For instance, Article 34 of Pakistan's Financial Institutions (Secured Transactions) Act of 2016 provides that 'The Federal Government may issue a license to any local or foreign entity for operating and maintaining the register or for performing any of the functions of the Registry in respect of the register.' First, the legal and political constraints on outsourcing must be identified. Some governments are unwilling to permit the day-to-day management of a registry by a third party. In such cases, outsourcing may be limited to the IT system's operation. Other governments, such as a number of Canadian provinces, some U.S. states, and the Pacific island economies,

are open to outsourcing and, in some cases, even off-shoring, if justified by the lack of viable domestic options. It is critical to identify the government's policy and views on off-shoring before making the decision on what kind of external sources to consider.

The spectrum of options to operate the day-to-day functions of the registry range from mere oversight and legal responsibility for a fully outsourced operation of all registry functions (e.g., Vanuatu) to, on the opposite side of the spectrum, operation of all aspects of the registry within the responsible government entity (e.g., Vietnam). The one common requirement is for ultimate responsibility for the registry and ownership of registry data to reside in a governmental entity. Aside from that requirement, all other elements can be considered for outsourcing to other operators, whether public or private.

The extent of needed outsourcing must be decided, based on the analysis of the capacity of the responsible government entity. If the only significant shortcoming is a lack of IT assets, a commercial data center can manage the co-location of servers to include hardware maintenance, running back-ups and off-site storage of the back-ups. In that case, the responsible government entity will retain control of the registry operations, such as help desk, revenue management and user training. The physical location of the outsourcer for data center functions is not operationally important, but there may be political concerns that outweigh mere financial considerations. That is, an off-shore data center may offer the best value, but political unease about having government-owned data housed outside the country may preclude off-shore locations.

If the responsible government entity lacks interest in, or is incapable of, operating the registry, essentially all of the registry functions except for high-level oversight may be outsourced. In that case, the outsourcing options must be evaluated and a decision made on the appropriate type of outsourcing. Guidance on outsourcing is provided in Box 16.

Box 16:

Outsourcing – Considerations to Select a Candidate

Factors in assessing outsourcing candidates include:

- IT capacity
 - Internet communication costs to the outsourcer's location (in some remote countries, internet costs to off-shore locations are high)
 - Secured transactions registry domain knowledge
 - Quality of management and reputation among stakeholders
1. **Domestic candidates** often include the credit information bureau, the bankers' association, a private business services company or a local data center that has the capacity to provide help-desk support.
 2. **Off-shore candidates** include companies that provide outsourcing to other collateral registries, as well as collateral registries in other countries that will share their facilities with the registries of other countries (e.g., the New Zealand Personal Property Securities Registry).

Whether outsourcing solely the IT function or all registry operations, the balance between the capital costs and operational costs should be considered. If financing the capital costs is feasible, the hardware and system software may be purchased and located with the outsourcer. If capital financing is not readily available, the use of leased servers owned by the outsourcer or a third party can be considered. Using the latter option will incur greater periodic operational costs than co-location of servers owned by the government, but the difference in periodic costs is often less than the amortization of the costs of purchased hardware and system software.

If the decision is to use an off-shore outsourcer, the best off-shore option may be the vendor of the application soft-

ware, provided it has the capacity to house and maintain the IT assets and provide technical support to users. If this option is used, it is important to provide in the contract that the vendor must supply a copy of the source code to the registry operator and keep it updated with all upgrades or bug fixes that are made, and further that the vendor will deliver the database to the government or a new outsourcer upon expiration or termination of the contract.

A number of governments have outsourced the hosting of their collateral registries to the company that developed the collateral registry software. These include the Federated States of Micronesia, Jamaica, the Marshall Islands, Palau, Papua New Guinea, the Solomon Islands, Tonga, and Vanuatu. Under a public-private partnership, a private entity developed, maintains and secures the collateral registries of seven Canadian provinces.¹⁸⁷

Depending on the anticipated volume of transactions, it may be viable to rent shared space on an outsourcer's servers and other hardware, and thereby avoid much of the capital outlay and maintenance costs entailed in owning the hardware. The decision will be driven by comparing the present value of the difference in periodic costs of shared hardware and the capital outlay for owned hardware. The analysis should also consider the costs of the operating systems and database, and whether they are included in the shared hardware arrangement. If this option is used, it is important to provide for safeguards against the risks of sharing servers with other users.

In the context of collateral registries, the focus of a business continuity plan is the continued operations of the registry, regardless of the business entity that operates it. As part of business continuity management, registries that outsource services must maintain a plan to handle the termination of an outsourcing agreement. The plan must ensure that, within an appropriate time after termination, the registry will be able to perform the outsourced functions itself or transfer them to alternate service providers.¹⁸⁸ Therefore, registries must ensure that their outsourcing agreements provide that the registry owns the registry data and can access it if the service provider becomes insolvent or discontinues operations.¹⁸⁹ Registries should take appropri-

ate corrective or remedial action following any indications of inadequate performance or failure to comply with applicable laws and regulations.¹⁹⁰ Such action may include terminating the outsourcing agreement, with immediate effect, if necessary.¹⁹¹

10. Staffing, Housing and Equipping the Registry

Planning for the operations of a registry must include the logistical issues of staffing, housing and equipping it. All three of those issues will be affected by the extent to which the registry is automated and the choice of options for location and operation of the technology components. For fully web-based systems, and if the operation of the technology system is outsourced, staffing needs are minimal. In such a case, the only requirement for staff is to run reports on the system's performance and revenues, and, on rare occasions, to respond to a request from a user for help on use of the system. In this scenario, staffing could consist of assigning the registry function to an existing employee or employees in the host organization as an additional function. There would be no need to hire new employees, and there should be no need for additional equipment.

If the registry is fully web-based, but with the operation of the IT system located within the registry's office, there will be a need for IT support, but probably less than full time. If the registry is located within a government office that has an IT staff, the registry could share that staff, provided it has the appropriate skills to maintain the database and hardware. There should be sufficient IT staff to ensure that appropriately skilled people are able to respond within a short time to a failure of the system, so as to maintain 24/7 operation. If there is no possibility to share IT staff, the registry must hire enough staff or contract such services to maintain operations. If existing staff of a host office are used, there will be no need for additional space or equipment.

11. Antifraud and anticorruption measures

The registry design must protect against fraud by users and tampering, whether intentional or inadvertent, by registry staff. Fraudulent activity, such as unauthorized registrations by unknown persons for the purpose of harassing or causing economic damage to persons named as grantors, or fraudulent cancellation of a notice by a person named as a grantor in a registered notice occurs rarely. In both cases, the most efficient deterrent is knowledge by the offending person that he or she can be identified with certainty by the registry. Therefore, the registry design should include authentication measures to ensure that persons who register notices can be identified. In the case of regular users, each individual user will access the system through its user account with a unique user ID and password, and the user ID can be captured and associated permanently with all transactions submitted through the account. In the case of one-off registrants, the system may include means to identify the payor of the fees. If credit cards are used for payment, the system will capture the name of the card holder when the transaction is completed.

Some laws also expressly provide for penalties, including criminal sanctions for the abuse of the registry. The Zambian secured transactions law imposes such penalties for the registration of frivolous or otherwise malicious notices, as well as for falsification of entries in the registry database.

Corruption by registry staff may involve demanding premiums for performing various functions. The factors that enable such corruption are the ability to exercise discretion over the acceptance of a registration and the handling

of cash received from the registrant. The registry's design should eliminate or minimize both risk factors to the extent possible. An electronic registry that applies rule-based decisions eliminates all or nearly all discretionary judgments. Handling cash payments from users can and should be eliminated by using a payment system that does not allow cash payments directly to the registry.

The system must provide a full audit trail from every payment to either the services for which it was paid or a user's account, and from an account to every service utilized by the account holder. The audit trail should also track every payment from receipt to deposit in the treasury or, if the registry is operated by a private outsourcer, to the bottom line of the financial report from the outsourcer to the responsible government entity.

B. Registry Liability

While the focus of the collateral registry's design and implementation is to deliver the functionality envisioned by the secured transactions law, consideration must also be given to the potential liability that the registry may face. The legal framework establishing and regulating the registry generally mandates that the registry provide certain functions and should, but often does not, detail the consequences of failing to perform these functions. In many states, the registry is given full immunity to any liability for several kinds of failures. Consequently, in these states, registry users bear the risk and cost of potential losses resulting from registry failures. In other states the registry, or its operator, is liable for certain types of failures. Providing reasonable registry liability standards may contribute to financial sector confidence in the registry and lower financing costs. For example, Recommendation 56 of the UNCITRAL Legislative Guide provides that where registry users can register notices and search without the intervention of registry personnel, 'the responsibility of the registry for loss or damage should be limited to system malfunction.' Article 28 of the Cape Town Convention elaborates on this approach:

The Registrar shall be liable for compensatory damages for loss suffered by a person directly resulting from an error or omission of the Registrar and its officers and employees or from a malfunction of the international registration system except where the malfunction is caused by an event of an inevitable and irresistible nature, which could not be prevented by using the best practices in current use in the field of electronic registry design and operation, including those related to back-up and systems security and networking.

The Convention does not define 'best practices,' but holds up this nebulous standard as the only safe harbour by which a registry can avoid liability for a malfunction of the system. Under the Convention, the registrar is strictly liable for compensatory damages for losses directly resulting from both personnel errors or omissions, and registry malfunctions — except those arising from events that are inevitable and irresistible in nature, provided it can show that it had followed current 'best practices' of electronic registry design and operation. Taking this approach as a widely accepted standard for apportioning registry liability and adopting best practices can have dual benefits: (i) to serve as sound methodology for achieving the mandate of the registry and (ii) to limit the registry's liability.¹⁹² One of the objectives of the Best Practices in the Field of Electronic Registry Design and Operation project is to develop a guide for registrars and others involved in the registration of notices relating to security rights, especially in the context of various risks that may affect the registrar's liability.¹⁹³ This section focuses on best practices designed to prevent registry malfunctions and protect against threats to its performance.

Information systems security is often described in terms of a triad of three pillars: confidentiality, integrity, and availability.¹⁹⁴ If any pillar of the triad is compromised, the entire system is considered insecure. Thus, risk management focuses on assessing and reducing the risk to confidentiality, integrity, and availability. Implementation of methods to ensure confidentiality and integrity must be balanced with the need to keep registry functions and its data easily accessible and widely available 24 hours a day, 7 days a week.

Confidentiality requires user authentication and access control to prevent unauthorized access to confidential information (e.g., a user's personal information and any commercially sensitive data should only be accessible by that

specific user or as specifically authorized for registry purposes – for example, billing information). Access control is the process of determining whether the user is authorized to access specific registry data and functions (e.g., whether the user has the necessary database server permissions to submit a registration). It encompasses both electronic access (e.g., by internet connection) and physical access (e.g., a technician servicing the IT system). Access control functions should also identify and log the source of authorized changes to the data (e.g., amendments of new notices) for audit purposes, and to diagnose security breaches and prevent future occurrences. Measures to prevent unauthorized access include automatically terminating inactive sessions after a certain time and CAPTCHA technology to thwart automated logins.¹⁹⁵ Security measures to prevent unauthorized access to the registry data include personnel identification badges, closed-circuit television, biometric access controls, locks and other physical barriers. In addition to security measures, data integrity requires a reliable retention of records in tamper-resistant data storage systems, with tamper-evident features to identify compromised records and the ability to restore them from backups, including offsite storage.

Access control strategies should also address threats perpetrated by a ‘trusted insider’ either maliciously or negligently or by an unauthorized actor using the trusted insider’s credentials. To minimize such threats, authorization levels should be sufficiently granular that access can be limited to only those tasks necessary for authorized tasks. Countering such attacks requires pre-employment and ongoing screening and training of all trusted-insiders who have access to the registry (e.g., employees and contractors). A study of 7,800 publicly reported breaches of information systems between 2012 and 2017 found that 50 percent of breaches involved insiders.¹⁹⁶ Negligence, including unintentional exposure of trusted-users’ accounts to use by unauthorized individuals, accounted for 44 percent of insider breaches.¹⁹⁷

Widely-recognized standards related to information systems design, operation, and security are available from organizations such as the International Standards Organization (ISO) and the National Institute of Standards and Technology (NIST) in the United States. ISO develops widely adopted standards through consultation with a broad range of experts guided by technical committees

that oversee the review and update of these standards. The ISO 27001 series of standards for information systems are particularly relevant to collateral registries. NIST has also developed a series of standards and publications addressing information systems security. The 800-series Special Publications include guidelines for information systems security.¹⁹⁸ Cybersecurity addresses similar threats to information security, but focuses on external threats.¹⁹⁹ Independent objective audits and certification that the registry meets international best practice standards provide independent verification of compliance and the transparency that engenders trust among registry users.²⁰⁰ ISO/DIS 16363:2012 - Space Data and Information Transfer Systems - Audit and Certification of Trustworthy Digital Repositories defines procedures suitable for objectively auditing and certifying the trustworthiness of registries.²⁰¹

C. Registry Best Practices

Based on the past half century of experience with notice registries, a set of generally-accepted principles have been established. Recently, it has become possible to better realize the full value of the principles with the use of modern information and communications technologies. Registries should make optimal use of those technologies to enable the full application of the best practice principles. These principles are described in the following paragraphs.

1. Unity or Centralization

Since the principal function of a registry is to provide sufficient information to searchers to decide whether to deal with movable property, it is important that this information be available from one source. Therefore, there should be only one database, whether distributed or centralized,

in which information is captured and retained, and from which information may be retrieved. A unified database provides complete information relating to any registration effected against the movable property of a grantor regardless of its location, whether or not the law under which the registry is established governs the perfection of the security rights or whether the grantor is a natural person or a legal entity. While technologically it is not difficult to establish a unified registry, the structure of the registration system within a country is determined by the substantive law. Political and other motivations may also preclude the creation of a single registry on a national level. In federal states (e.g., the United States), it may not be politically or constitutionally feasible to establish a single federal registry (however, that has not been the case in a number of jurisdictions, such as Australia and Mexico). State or provincial registries must be supported by a well-crafted set of conflict of laws rules that determine the registry in which to register a notice with respect to a particular grantor and collateral.

It is not practical or financially sustainable to preserve or establish specialized registries, such as for financial leases or pledges over agricultural equipment. In some cases, states may decide to preserve an existing registry that operates efficiently (e.g., for liens on motor vehicles as in the United States), but do not exclude such transactions from the scope of the secured transactions law. Special rules for the perfection of security rights will be needed to defer to a lien or registration in the specialized registry for those assets, but only when not held as inventory. The UNCITRAL Model Law, in Article 1(3)(e) provides for the possibility of excluding some of these assets from the scope of the secured transactions law. Furthermore, the UNCITRAL Legislative Guide provides for an alternative form of perfection, which may be accomplished by registration in the specialized registry. These approaches may be considered only in narrow circumstances and would raise a number of issues that economies would need to address to create a comprehensive secured transactions framework. Specialized registries will continue to operate for the registration of ownership, its transfer and other related claims other than security rights. For instance, a motor vehicle registry will continue registering ownership and its transfers, but notices of security rights will be registered in the collateral registry. In sum, unity refers to geographical unity, unity of legal form of interest, unity of type of movable property and unity of type of grantor.

2. Limited Purposes

The registry should only perform the functions envisaged by the law, which are necessary to achieve the objective of that law. The purposes of registration are: (i) to give notice that a security right may exist in the identified collateral, and (ii) to provide the basis for the secured creditor's priority. The law thus should not require the registrant to include information in the notice that is not necessary to alert a potential creditor or buyer of the possible existence of a security right (e.g., the value of the collateral).

Initially, the functions of collateral registries were limited to providing a facility to perfect a security right and to search for potential encumbrances. These remain the core functions today. However, gradually, registries began to provide additional functions, some of which attempted to fulfill a useful purpose, while others resulted from a misunderstanding of the registry's role within a secured transactions framework and the broader financial infrastructure.

A registry should facilitate non-core functions only if they: (i) are contemplated in the legal framework, and (ii) could be made more efficient. Otherwise, cluttered with functions that detract from the main objectives, the registry system may become too complicated for users. Policymakers and designers should be guided by the simplicity of the system, as only a user-friendly system will incentivize its use, reduce the cost of capacity building and continuous education of the users, and avoid disputes. States should not turn the registry into a notification system for information only remotely related to secured transactions. For instance, the UAE law requires a judge to register a notice stating that an order to repossess the collateral was filed by a secured creditor. Furthermore, under the implementing instructions, any notification that must be provided to the debtor and affected third parties during enforcement is to be made by registering a notice in the registry, which automatically transmits a copy to the email address of the third party on record, such as a holder of a competing security interest. While this function may make satisfaction of the notification requirements more effective and less costly, the UAE framework requires registrations of notices wholly irrelevant to the enforcement process, such as the secured creditor's offer to third parties to redeem the collateral and any acceptance of that offer resulting in redemption.

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Many features may be implemented under the guise of providing an additional service to users. For instance, some registries provide for 'flexible searches' not contemplated by the legal framework. Thus, in addition to a search against a grantor identifier, which determines the legal effect of the registration, the registry may provide for a search by the grantor's names or even by its address and email. Because the law clearly designates that only a search against an identifier is legally relevant, the practical utility or legal effectiveness of flexible searches is doubtful. When such searches retrieve a registration that could not be retrieved by a search against the grantor's identifier, and would therefore be legally ineffective, protracted legal disputes may arise from the misunderstanding of why a registration is ineffective if it is retrieved in a flexible search.

One function regularly included in the registry design is to collect various types of information for different purposes, but especially to facilitate the assessment of the impact of secured transactions reforms and to aid related policy discussions. For those purposes, many registries now require registrants to enter information that is not necessary to perfect

a security right, including the loan amount (or maximum amount to be loaned), the interest rate, whether the grantor is a new or existing customer of the secured creditor, the industry in which the grantor operates, and its composition (e.g., whether a majority stake in the company is owned by women) and size (e.g., micro, small, medium or large). The function of this information is purely statistical and should not affect the legal effectiveness of the registered notice. This is ensured by provisions in the law (or the regulations) that require: (i) entry of this type of information in an initial notice for the registration not to be rejected by the registry, (ii) removal of the information from the other information necessary for the perfection of a security right, and (iii) its storage in a database that is not publicly available to searchers. The effect is that statistical information has no impact on the effectiveness of the registration, since that information cannot seriously mislead reasonable searchers. Generally, registries should not require an entry of confidential information or information that is not necessary for the system to fulfill its function, which is to alert the searcher about the possible encumbrance. Such unnecessary additional information includes the date of registration of a company in a business registry, names of officers of the debtor company, value of the collateral, and so on. Policymakers and registry designers should be mindful that the secured transactions system also supports credit that is not extended by regulated financial institutions that customarily collect this type of information. The structure of the statistical information should be simple enough to allow easy registration of effective notices by car dealers and individuals who may, for instance, sell used farming machinery to their neighbors on credit. Statistical requirements should also be waived for the transitional registrations relating to security rights granted prior to the entry into force of the reformed law. Such requirements would impose a high administrative burden on financial institutions to not only re-register information relating to their prior security rights in the new collateral registry, but also to request additional information from potentially hundreds or thousands of grantors.

As mentioned above, many features complicate registry design and raise a number of legal challenges. Recently, some states provided for a variety of registration functions related to enforcing a security right. Historically, the registry has not played any role in aiding the enforcement process, and the international best practice does not provide for such a role. This new trend is found, for instance, in states that have implemented the OAS Model Law on Secured Transac-

tions, which provides for the registration of an enforcement form upon default of the debtor (see Article 54). A similar registration function was provided in the legal framework governing the operation of Ghana's collateral registry.²⁰² Although this appears to be a straightforward function that merely requires registration of a simple notice, its implementation uncovered a few challenges, such as when the debtor cures a default that would entitle it to cancel the registration of the enforcement form. While this may not occur frequently, the provision of this registration function necessitates the design of an additional function for situations when the default is cured. Furthermore, both notices may remain on the public registry record, cluttering the file with largely irrelevant information. Nevertheless, this registration function is not as problematic as those where the secured creditor must provide a notice (by way of a registration) to the registrar of the disposal of the collateral or even a proposal to accept the collateral in satisfaction of the secured obligation (as in Uganda's Security Interests in Movable Property Act of 2019). There is no practical need for such registrations. Other enforcement process-related approaches completely misunderstand the function of registries and may undermine the confidence of creditors in the secured transactions framework. For instance, the Rules for the Effective Implementation of Ghana's 2008 Borrowers and Lenders Act provide that a lender may register a notice to indicate the intention to realize the collateral extra-judicially only once the 30-day period after the borrower received the notice of default expires. The same regulation then empowers the registrar to 'certify the realization process by issuing a certificate to that effect'. The process thus requires the lender to provide evidence to the registrar that it sent a notice of default to the borrower and that the 30-day wait period expired. This has the effect of empowering the registrar to make decisions with respect to the enforcement process, which introduces a great deal of uncertainty, delays, and bureaucratic interference in one of the most important aspects of a secured transaction that often determines whether a secured loan would be made in the first place.

One other misguided approach is the inclusion of a registration function promoted as being protective of the grantor's rights and ability to obtain secured credit – a notice of objection (e.g., the UAE and Uganda). Essentially, the grantor is given the power to register a notice stating an objection to the registration, such as where the grantor believes the registration was submitted without any authorization or contains inaccurate information. It is believed that the abil-

ity to register a notice of objection would ease the grantor's access to credit. However, the effect is the opposite; a prudent creditor that discovers, in a search of a registry, an initial notice and then a notice of objection is highly unlikely to proceed with the transaction knowing that the notice of objection was registered by the loan applicant itself. In any case, regardless of the notice of objection, a prudent creditor would ordinarily inquire further to confirm the effectiveness of the initial notice before extending credit. Accordingly, a notice of objection does not serve any practical purpose in protecting the grantor. Rather, it complicates the registry system's design, as it essentially grants persons other than the secured creditor/registrant access to the registration with the power to register a notice of objection. This may be easily abused especially when the borrower is on the brink of default or in a dispute with the secured creditor. This is especially problematic in registry systems where registrations are maintained in user accounts of the registrants. Besides, this feature carries additional risks that arise from the consequences of registration of a notice of objection. For example, some laws provide that the secured creditor must obtain a court order confirming that the registered notice is effective and that the registrar is authorized to remove the objection from the public record. The failure to do so, often within an unrealistically short period of time, will result in the cancellation of the registered notice. This is a significant risk for secured creditors that is expected to disincentivize secured lending or increase the cost of credit. Furthermore, the misunderstanding of this function has led some states (e.g., UAE) to provide for objections to other forms of perfection such as possession i.e., the debtor may object to lawful possession of the collateral by the pledgee.

Other approaches, though less significant than those summarized above, attempt to make the voluntary nature of certain registrations mandatory. Examples are provisions in laws and regulations that make it mandatory to register an amendment notice to reflect an assignment (full or partial) of the security right. Generally, an unamended registration provides adequate notice to third parties who could inquire as to who is the current holder of the security right. Similarly, a third party would be put on notice if it finds two registrations against the same grantor, especially where the record does not show that the two secured creditors have entered into a subordination agreement. Driven by a desire to generate revenue from registration fees, some frameworks mandate the registration of an amendment to reflect both of these situations. Regardless of the inutil-

ity of mandating such registrations, these frameworks do not specify the time periods within which such registrations must be effected or any consequences for the failure to do so, generating legal uncertainty. Future reformers and states with such frameworks should reconsider these approaches and simply provide in their laws/regulations that such registrations may be made on a voluntary basis. In any case, other than the risk of paying some penalty, secured creditors would naturally have incentives to make such registrations, including to strip the transferor/secured creditor of the power to register further amendments or cancellations to the assigned registered notice.

3. Rule-Based Decision-Making

Registrations in and searches of the registry database should not involve human discretion on the part of the registry staff. The registry's rules, as set out in the law and subordinate regulations, and implemented in the registry design, eliminate the discretion in accepting or rejecting a notice and a search request. The UNCITRAL Registry Guide includes model registry regulations in Annex I for consideration by states, especially those that are in the process of enacting the UNCITRAL Model Law.²⁰³

Acceptance and rejection standards for registrations must be concrete, limited and objective, so that no discretionary judgments are involved in the decision-making process. The information technology system should be capable of making acceptance or rejection decisions automatically. The rules for performing searches in the registry database must likewise be concrete and objective. Rules for acceptance and rejection are embodied in a system's validation of required fields to ensure that all required fields include some information. In some cases, the rules will require the entry of information in at least one of multiple alternate fields. If a registrant fails to fill in the required fields, validation checks will cause an error message to be generated to direct the registrant to correct the omission. If omissions are not corrected, the system will reject the registration. If all validation checks are passed, the system must automatically accept the registration.

With respect to searches, the rules set out in a secured transactions law and implementing regulations must be embodied in the system search logic so that all entries in

the database that match the search criterion are returned in the search results. In the case of numeric searches, such as against a national identification number of a grantor, registration number or serial number, the logic is quite simple, i.e., it requires an exact match of every character. In the case of searches by name of the grantor, the logic may include a normalization process whereby certain minor differences are eliminated by the system. For example, individual names may be broken into separate fields for surname, first given name and second given name; punctuation and case differences are eliminated; resulting surnames are compared for exact match; and first and second given names are compared for exact match or, if only an initial is given or the middle name field is left blank, compared for the correct initial or blank space, which are also considered as matches. Legal entity names may be normalized by elimination of punctuation, case differences, selected words or phrases indicating a type of entity (e.g., Inc., Corp., Ltd., etc.); the resulting character string is then compared for an exact match.

The logic used for searching by a grantor name, whether an individual's name or an entity name, is less exact and more complex than the logic of a numeric search. Therefore, if there is a reliable, immutable and unique number that may be used to identify a grantor, numeric identifiers are preferred to names. For example, if a jurisdiction has a system that assigns a permanent national identification number to all individuals, if each citizen can have only one number, and if there are no restrictions under the law on the number's use, it is preferable to a name identifier. Very likely different types of identifiers may be needed for different types of grantors. For example, the national identification number may be the best option for citizens. For legal entities formed under the law of the state that is reforming its secured transactions law, the tax identification number or a number issued by the companies or similar registry may be designated as the identifier in the law or the regulations. Box 17 below contains additional information about registration information.

4. Accuracy and Validation

To enhance the reliability of the data entered, the registry technology system should include a number of verification features to detect or avoid errors in data entry to the extent

possible. Such measures include validation checks that will detect whether a mandatory field has been filled or, where a particular type of data is required in a field, whether the data is the right type (e.g., numeric or alpha). Another type of error detection technique that should be included in a registry's design is the use of a check sum in the registration number assigned to a notice by the system at the time of registration. When a change to a notice (e.g., amendment, continuation or termination) is attempted to be registered, the amendment notice must identify the registration number of the initial notice in order for the system to associate it with the initial notice. The check sum enables the registry system to determine whether the initial notice's registration number was correctly entered in the amendment notice and will cause the system to reject the amendment notice if the initial notice's registration number is incorrectly entered.

5. Speed of Registration and Timeliness of Information

The registry technology system should immediately accept or reject a notice upon its submission by the registrant, without the need for registry staff intervention. The registry system should immediately generate a printable confirmation of registration, to include the date and time of registration, the registration number assigned to the notice, and all information entered in the notice. Since a searcher must be confident that the information found in a search reflects all effective registrations at the time of the search result, it is essential that all effective notices be included. Therefore, a notice must not become effective until it has become searchable.

6. Availability and Accessibility

The registry should be available to users for registration and searching 24 hours a day, seven days a week via the internet, except for scheduled maintenance. Information in the registry is public and should be available to any user without restriction. A collateral registry can provide a variety of ways for users to gain access to its functions. The vast majority of modern registry systems (e.g., Australia, Colombia, Jordan, Kenya, or Uzbekistan) permit only one method of access, i.e. direct electronic entry and search of

Box 17:

Information Required for Registration

1. **The identifier of the grantor:** The form of identification of the grantor must be specified for each type of grantor in the law or the implementing decree or regulation, since the grantor's identifier is the key criterion used to search the database and therefore determines the legal effect of the registration. The identifier may be the name, national identification number, company registration number or other unique identifier.
2. **The identifier and contact information of the secured creditor or its representative.**
3. **A description of the movable property (collateral):** Collateral descriptions may be entered by registrants into the relevant box in a notice or selected from a drop-down menu. Laws should not require a submission of the security agreement for registration, and registries should not be designed with the capability to attach documents to registrations. When collateral consists of a motor vehicle that is not inventory, the law may provide for indexing and searching by a vehicle's serial number, also known as vehicle identification number or chassis number, which may be entered in a corresponding field separate from the general collateral description field to allow for its indexing.
4. **The duration of registration:** The UNCITRAL Model Law (Model Registry Provisions Article 14) provides for three options with respect to duration of the effectiveness of a registration. If the law gives registrants the option of selecting a period of time, the registry must be designed accordingly.

registration data. The most common means of access is from the user's computer over the internet, but for high volume registrants, it may be advantageous to provide for access via a wide area network. Users who do not have access through their own internet connection can use other public access points, such as internet cafes, government kiosks or computer access facilities in public agencies. In some economies, intermediaries, including lawyers and business services companies provide access to register or search on behalf of users.

An electronic system is much less costly to operate since registration and searching are done by users or their intermediaries. Secured creditors and searchers have complete control over the timing of registration, as well as error avoidance, since they need not rely on registry staff to manually enter or scan registration information submitted in hardcopy form. The potential for error, omission or fraudulent conduct on the part of the registry staff in dealing with registration data is eliminated, with a resultant reduction of registry liability risk.

In considering whether the internet access is sufficient, it is important to highlight that many users of the system will not be registrants, but rather will only need to use the search function. While banks and other creditors that both register and search will generally have internet access, those users that only search may not. They include buyers of farm products or other movables, where the sale is not in the ordinary course of business of the seller, as in the cases of the purchase of used equipment. Consequently, when determining what means of access must be provided, it is not enough to ask whether all the potential creditors that will register notices have access to the internet; accessibility of the registry services from the perspective of potential searchers must also be considered.

There should be no requirement for any searcher to demonstrate a reason for conducting the search. It should be noted that some countries with modern secured transactions systems require a searcher to state the purpose of the search (e.g., Article 173 of the New Zealand Personal Property Securities Act). Such requirements are misguided and, in any case, can be easily circumvented by the searcher. The law and the registry design should not otherwise complicate access to the registry information, such as by requiring searchers to establish user accounts to submit registrations.

7. Simplicity

The registry technology system should use simple, user-friendly interfaces. Information requirements should be limited to those relevant to the purposes of registration. The law and subordinate regulations must not provide for capturing unnecessary formalities, particularly requirements for signatures, notarization or personal appearances by parties to secured transactions. The real risk of fraudulent notices being registered is minimal because perpetrators cannot gain a significant legal advantage by doing so; such risk can be countered by technology system controls on access to the system. Modern systems make it possible to identify a person who submits any registration electronically.

Simplicity is achieved by system design in a number of respects. First, screens should eliminate clutter and crowding, with presentation only of the relevant fields that a registrant must populate. Second, screen flows should be intuitive to users, so a registrant is led through the process from start to finish. Finally, the user should be able to gain access to the system easily, which must be balanced with ensuring the security of access and prevention of unauthorized entries.

8. Cost Effectiveness

The costs of registration should be kept reasonably low. Such costs include those associated with submitting notices and the fees paid for registration and searching. Submission costs can essentially be eliminated by providing electronic registration. The operational, overhead and transactional costs of the registry should be kept as low as possible by making maximum use of technology to minimize staffing and archiving needs. Registration fees should be assessed per notice and should be set to recover only the costs of operation. The level of fees required to cover the costs of operation may vary from jurisdiction to jurisdiction. Since the largest costs of operating a registry are fixed, a large jurisdiction with a high volume of registrations will need less revenue per registration than will a small jurisdiction with a low volume of registrations. For example, in New Zealand, the fee for each an initial, amendment and continuation registration, regardless of the term, is \$US 10.50. In Australia, the fees are assessed based on the term or duration of the registration; an initial, amendment and continu-

ation notice for a duration of seven years costs \$US 4.70, while for similar registrations with a duration of up to 25 years, the fee is \$US 23.40. A fee of \$US 81.80 is imposed for an initial or amendment notice registered for an indefinite period. Conversely, in the UAE, a fee of \$US 27.20 is applied for all notices, and there is no charge for searches. In Palestine, an initial notice may be registered for \$US 7, while \$US 4.20 is imposed for amendments and searches are free. In Egypt, the registration fee depends on the value of the secured obligation but does not exceed \$US 29.80, while searchers must have an annual subscription which costs \$US 29.80. Finally, some states provide for categories of registrations that determine the fee. For instance, in Liberia, for any loan that does not exceed \$US 7,000, the registration fee is \$US 1, while for loans in excess of \$US 50,000 the fee is \$US 3.00.²⁰⁴ Access to information by online search could be with or without fee. Some registries charge a fee for all searches, while others do not unless additional services, such as certification of the search result is requested by the searcher.

9. Informativeness

Modern registry systems require users to collect and enter information that have no effect into notices (i.e., it is not necessary for the perfection of a security right, but it is used for statistical purposes, as explained in C 2 above).

10. Add-only

Add-only refers to the registry system's preclusion of data alteration by any person, including the registry staff, in the database. This is essential so that the history of the registration is available to the searcher. Add-only also refers to the retention in the active database of all registrations until their lapse at the end of the registration period, regardless of whether a cancellation of the registration may have been entered. If the state chooses an alternative, the registry must be designed to transfer a registration into the archive once an authorized cancellation notice has been registered. The UNCITRAL Model Law contemplates both of these approaches. A search that identifies a cancelled registration will present the registered cancellation notice along with

the initial notice and all other entries, such as amendments and continuations. The same approach applies to amendments. That is, the state of the record before the amendment notice was registered should not be altered, and the amendment notice should simply be added to the record.

11. Security and Data Integrity

Since information in the registry database determines the priorities among competing rights and claims in collateral, it is essential that the information be secure against all types of risks. The types of security that must be considered include: (i) security of data against electronic tampering, (ii) security against natural or human-caused disaster, and (iii) physical security of the registry facility. Security should be addressed comprehensively in a security strategy. If necessary, the services of a security specialist may be helpful in devising the strategy to ensure that all aspects are addressed. The registry's users must have confidence in its continuity of operation and in the reliability of its information. It must, therefore, provide for security against disruption of operations and for protection of data integrity.

Security measures against electronic tampering include the use of firewalls and anti-virus programs, as well as controls of user groups and access rights. Security measures against disasters include location and hardness of the facility, fire suppression system, continuity of power and regular back-up of data to a secure remote facility. There are many acceptable ways to do back-ups, including a data drive mounted on the data server, replication to an off-site database, etc. The recommended approach will vary according to the IT capacity of the country and the registry, as well as other factors. Security measures against physical penetration include both technological controls, such as electronic combination locks, and administrative controls, such as knowledge of all authorized entrants to the facility.

D. Operating Budget Estimate

The factors that must be included in an operating budget will vary according to the business model chosen and, to a lesser extent, according to the design of the IT system, including its ability to accommodate the anticipated number of concurrent users, the projected number of users, data transmission, storage requirements, etc. Estimates of the relative costs of different models may be an important consideration in deciding which model to use. Once the model is chosen, more precise estimates must be made to establish an operating budget for the registry. In making these estimates, it is useful to examine the different categories of costs.

1. Connectivity

Regardless of the business model used, there will be costs for internet connectivity. In the case of outsourcing of the complete operation, connectivity costs may be bundled in the package price, so may not need to be considered separately. In all other business models, it will be necessary to compute projected connectivity costs.

Unless the registry will share a domain with a parent governmental entity, it must acquire a domain and pay an annual fee to maintain it. The more significant cost, however, is the internet service provider. Some providers charge a variable fee based on the amount of traffic per month, while others charge a flat monthly fee. In both cases, the fees will vary according to bandwidth, so it is important to determine how much traffic is anticipated and what level of service users expect. After the bandwidth decision has been made, the periodic cost of connectivity can be computed. If the provider charges based on traffic, it will be necessary to estimate the amount of traffic per month, based on the expected number of registrations and searches, and the average size of each. For registrations, the traffic estimate will be based on the average notice size times two of the number of notices, since the returned confirmation will be approximately equal in size (bytes) to the inbound notice. In the case of searches, the estimate will be based on the number of searches times the

sum of the average request size and the average report size. Once the periodic fees have been estimated, they should be annualized, and the annual domain cost added to it to determine the total connectivity costs per year.

2. Operation and Maintenance of the Information Technology System

The costs of operation of the IT system will vary greatly depending on the business model that is selected. If the registry operations are outsourced, the costs will likely be bundled, so need not be considered separately. In all other business models, however, different combinations of cost factors must be considered. In all such business models, there will likely be a maintenance cost for the application software after the warranty period, which is generally one year from its acceptance. Software maintenance costs can be defined with either a flat annual fee or with an hourly rate for actual services. If it is the latter, the estimated annual cost will be based on projected needs for maintenance and upgrade of the software.

If hardware, including system software, is purchased, it may be located in the registry facility if it has the requisite security and environmental features, such as physical access controls, hardening against natural disasters, conditioned power, grounded circuitry, uninterruptable power supply, back-up generator with fuel supply, 24/7 air conditioning with failure alarm, gaseous fire suppression system, provision for off-site storage of data back-ups, and professional staffing consisting of at least a database administrator and another IT professional. In this case, the budgeted operating costs, excluding personnel, will include utility costs, fuel costs for the generator, and maintenance costs for the facility and all its security and environmental systems. If the registry facility is inadequate for location of the hardware, the servers may be kept in a managed co-location facility, which may be operated by the central government or a commercial enterprise located in the country or off-shore.

The costs of managed co-location will be charged on different bases by different co-location facilities, but generally consist of a rack space charge per unit of space, a maintenance fee per device for minor services, such as swapping out drives, a charge for periodically removing and installing back-up media in an automated back-up device, off-site back-up storage charge, and an access charge to permit maintenance by registry IT staff or contractors. All these components are generally flat periodic charges, so budgeting for them is straightforward. To reduce the capital costs, it is possible to lease servers in a co-location facility. In this case, the costs will be similar to the costs for managed co-location of owned servers, but with the addition of the lease charge.

If hardware is purchased, there will be maintenance costs for the hardware and system software (operating system and data base) after the warranty periods. Those costs may be charged on a periodic flat rate per item or on a per call basis. In the latter case, the number of hours of each type of maintenance service must be estimated and multiplied times the rate for the type of service. If hardware is leased from the co-location facility, the system software maintenance costs may or may not be included, so it is necessary to determine that when budgeting.

3. Staffing, Housing and Equipping the Registry

Staffing costs will also vary according to the selected business model. In the case of complete outsourcing, staffing of the registry's oversight entity will be negligible, as it will only be a part-time requirement for oversight of the outsourcer and perhaps payments to it under the contract for services. In all other business models, there will be some staffing and related costs, though they may be low.

Staffing in the case of a fully web-based registry, where servers are co-located in an external facility, will be only

one or two persons from the existing staff of the entity that administers the registry. Costs may be apportioned to staff based on the projected time spent on running reports and responding to assistance calls from users, but should amount to only a fraction of one full-time employee equivalent. There should be no housing and equipping costs, assuming that the staff already have access to computers with an internet connection.

If servers are located within the registry facility, the staffing costs will include costs for a database administrator and other IT professionals. If those functions are shared with other functions in the entity in which the registry is located, the staff costs may be apportioned according to the projected loads for support of the registry IT system and others within the entity. If staff must be dedicated only to the registry, its housing and equipment costs must also be included in the budget. There may also be a space charge for the servers, whether apportioned or dedicated.

4. Budget Factors in Complete Outsourcing

If all operations of the registry are outsourced under a single contract, budgeting is quite simple. Such contracts generally provide for a flat periodic fee that covers all functions, including hardware usage. The only additional cost that may arise is an apportioned staff cost for oversight responsibility in the responsible government entity, though that should not be significant. As noted above, the only other operating cost is for maintenance of the application software after the warranty period.

E. Procurement

1. Allocation of Components and Number of Procurements

The form and number of procurement processes is dependent on the business model that is selected, as well as the resources that are available within the registry's organization. The number of different procurement actions may be anywhere between one and seven. The different components that may or may not require procurement include the application software license, hardware and system software, server co-location, internet services provider services, local IT support, office space and office equipment.

The outsourcing business model has the simplest procurement requirements if it includes complete outsourcing of the registry's operation. It requires only one or two procurements, since all components, with the possible exception of the application software, can be included in one tender that includes the provision of hardware and system software, connectivity, maintenance, help-desk support and all staff-related components, such as housing and equipment. It may be possible to include the application software license in the same procurement, since most vendors of registry software also have the capacity to provide the other components and are likely to have the expertise to provide help-desk and maintenance support.

Under all other business models, there must be at least separate procurements for the application software license and for the purchase or lease of hardware with system software.

The decision between a purchase or a lease will require a cost-benefit comparison of the options. The procurement of internet services is also necessary, unless the entity in which the registry is located already has a contract for such services that can be extended to cover registry functions. Unless the registry's own IT staff is capable of maintaining the application software and the hardware/system software, it is advis-

able to procure a local IT firm to maintain those after the warranty period expires.

If servers are to be located within the registry's facility, the space for servers and staff may have to be procured if the entity in which the registry is located does not already have sufficient space. In any such case, the IT staff and registry operations staff will need office equipment, so it must be procured.

If servers cannot be located in the registry facility, a tender will be required for a managed co-location facility, unless there is a central government co-location facility that can be used. If a commercial facility is required, it may be possible to combine the co-location and internet service procurements, provided that the major co-location facilities in the market are operated by internet service providers, which is quite common in many emerging economies.

2. Rules That Must Be Applied

Before commencing any procurement, it is necessary to determine what procurement rules govern the process. The determination will depend on several factors, but the most important factors are the funding source and the nature of the funding commitment, i.e., loan or grant. Because of the number of variables that must be considered, it is necessary to do the research in each case. But, in general, if the funding source is a donor, the donor's rules will normally apply. If the funding is in the form of a loan, local procurement rules may also apply. If some funds are provided by another donor, its rules may also bear on the procurement process. Most donors generally have procurement offices in-country or regional offices that can provide expert assistance to project staff or consultants, so they should be called upon in any uncertainty about the procurement process.

3. Type of Bidding Process for Each Procurement

The bidding process used for each procurement will depend first upon the relevant procurement rules, but also on local factors and the anticipated value of the tender. Therefore, it is necessary to conduct an evaluation of the rules and facts in each case before deciding on the process. Since the rules and value limits are subject to change over time, they will not be addressed further here, but must be investigated case-by-case.

Several local factors must be considered in determining what process to use. First is the availability of bidders for the product or service within the country. In the case of internet services and purchases of office equipment, it is clear that the procurement will be local and, in most cases, competitive. The exception to competition is where there may be only one viable option, as commonly happens in countries where the local telecom has a monopoly on internet service. For application software, a managed co-location facility and hardware/system software, it may be advisable to use international competitive bidding, since it may lead to more competition or may be necessary because adequate goods or services are not locally available. Other local factors that may affect the decision to procure by local bidding include the effect of customs duties or taxes on the bottom-line price. In this respect, there may be government exemptions that can be applied to mitigate the effect of such duties or taxes, so their effect must also be determined and considered.

F. Testing and Acceptance

Testing and acceptance of both the application software and the hardware and system software must be done before operationalization. Testing and acceptance of the hardware and system software are technical and objective and can be assigned to IT staff of the registry, a local IT firm retained to maintain the system or the technical staff of a managed co-location facility if so provided in its contract. The process described in the remainder of this section addresses a procurement managed by the donor, since most procurements of application software will be so managed. In the case of a procurement managed by the client country, the donor should provide similar advice and support.

1. Composition of Acceptance Team

In order to ensure that the application software conforms to the requirements set out in the registry specifications and tender documents, the testing of the installed software should be overseen and evaluated by an acceptance team composed of the main stakeholders and IT experts. The team should include, at a minimum, the registrar or responsible manager in the governmental entity in which the registry is located, an IT professional from the registry or local IT support provider, a representative of one of the major institutional users of the registry and the donor's registry expert.

2. Development of Test Scenarios and Scripts

During the development or modification of the application software, the vendor will conduct unit testing of the different application modules. The vendor and the registry expert should jointly develop test scenarios and scripts for the operation of modules for use in unit testing.

When the vendor installs the application software, it will have to conduct integration testing of the whole application. In preparation for this, the registry expert, a representative of the registry or the governmental entity in which it is located, and the vendor should develop test scripts for all types of registry operations by all types of users.

Development of Acceptance Scoring Documents:

Acceptance is critical to both the client government and the vendor, since it will be a milestone for the vendor and the last chance before implementation for the client to require fixes to the software. Therefore, scoring by the acceptance committee must be fair and transparent. The registry expert should develop scoring sheets with detailed points on which the software will be scored during testing. The scoring of each point should be objective and should identify the minimum performance level for acceptance on the point. If the team finds that the system fails to meet the minimum performance level on any point, acceptance will not occur until it is corrected by the vendor.

Oversight of Testing and Acceptance Processes:

The registry expert will set the schedule for integration testing and meetings of the acceptance committee. The expert will also monitor the integration testing and all meetings of the acceptance team to ensure that evaluation of the software is procedurally correct and fully documented. The expert must notify the vendor of failure of the software on any evaluation point.

G. Start-up Management

It is critical for the secured transactions law to include a mechanism to bring itself into force (see Article 107 of the UNCITRAL Model Law). In addition to readiness of the registry system, other factors in setting the effective date include providing for adequate public notice of the law's effective date and initial training of users of the registry (see chapter 5 below). When the date is set, it should be officially published, and user training and a publicity campaign should be scheduled to lead up to implementation.

It is essential that all contracts for continuing services that support the registry's operation be in place before the implementation date. If the operation of the registry is fully outsourced, the outsourcing contract must be in place well in advance of implementation, since it will cover testing and installation, as well as operation of the registry after the implementation date. In other business models, service contracts may be with one or more internet service providers, a managed co-location facility and a local IT support firm.

The registry expert will ensure that the application software vendor establishes a bug reporting and tracking system that enables the registry and the governmental entity in which it is located to submit bug reports or complaints to the vendor for fixes under the warranty. The tracking system should permit all parties to view the status of each bug or complaint until it is remedied and accepted by its submitter. Fixed bugs and complaints will then be archived and made accessible to the vendor and the registry. The bug reporting and tracking system should be transferable to whatever IT resource will assume software maintenance responsibility after the warranty period, whether it is registry IT staff or an IT support firm.

CHAPTER 5

PUBLIC AWARENESS BUILDING AND TRAINING

Raising awareness is critical to initiate the reform process and obtain buy-in from the relevant stakeholders. Post-reform, awareness raising and capacity building are essential activities for effective implementation. These activities range from generally informing the public through billboards and radio ads to specialized training sessions on the mechanics of asset-based lending. A public awareness campaign should target primarily those expected to be directly affected by the reform, such as lenders and borrowers, but also the public at large. A great number of transactions involve individuals who, for instance, buy used motor vehicles from other individuals. They need to be aware of the existence of the registry and the need to conduct a search to determine whether the motor vehicle is subject to a security right.

Capacity building activities should target primarily lenders and their lawyers. This is also the primary focus of the UNCITRAL Practice Guide (2019). Nonetheless, other groups of stakeholders must be trained on various aspects of the new secured transactions framework, such as loan officers on the use of the registry, lawyers and judges on every aspect of the new law, and regulators on the impact of financial regulation on secured transactions, and especially the effect of the latter on certainty and enforceability of creditors' rights. Many capacity building programs are more effectively delivered in person. Planning for awareness and training events must take into consideration remote location users. While the main representative bodies of lenders and lawyers would be typically located in capitals, associations of many borrowers, especially in the agricultural sector, may be located in rural areas.

For training on the registry functions, once the government entity that will be responsible for the registry is selected, its training and public relations capabilities should be assessed to determine whether it is competent to manage the awareness and training activities associated with launching

the registry. The assessment should determine whether the entity or its parent has an existing public relations function that can support awareness raising efforts or if it has an existing training structure that could support both staff and user training. Regardless of those findings, the assessment should also determine whether the public relations and training functions have a budget line item and, if they do, whether it is sufficient to cover the costs for registry awareness and training activities. If there is no existing capacity, or if capacity is insufficient to support awareness-raising activities and training of registry staff and users, resources will have to be identified and arranged.

A. Capacity of Media to Support Public Awareness

Print and broadcast media are the principal tools of the awareness campaign. For broadcast media, the essential elements are format and coverage. For television, that means identifying outlets with national coverage and that have news and public service programs that reach the target audience. Regarding radio, many smaller economies have one outlet that carries only local news and public affairs content and on which most of the population relies for information that affects their lives. If there is such an outlet, it should be identified. Radio outlets that have substantial news and interview content should also be identified as resources for awareness-raising interviews with registrars or officials from the entity responsible for the registry.

There are three broad types of print media that should be assessed. The most effective type are specialized publications that are distributed primarily to membership organizations

whose members have a natural interest in secured transactions (e.g., bankers' association, leasing association, bar association, chamber of commerce, etc.). The second type are newspapers that focus on business issues. The final type includes newspapers of general circulation. Each type of outlet should be identified and their willingness to carry articles on the law and registry should be determined. Recently, social media outlets became a popular tool to disseminate information. The availability and popularity of various social media should be assessed for circulating messages related to the reform.

While an initial round of training is the most critical to implementing the law implemented and commencing registry operations, there must be continuing opportunities to train new participants in the system. Institutions that can provide such training should be identified. Appropriate institutions include professional associations such as bankers' associations, bar associations, or business associations. Institutions of higher education, such as business and law schools, should also be identified and information distributed to them for use in courses on business finance.

B. Public Awareness

The persons who need to know about the secured transactions law and registry extend beyond creditors and include businesses and consumers (see Box 18).

Different target groups will be most effectively reached by specific media and delivery methods, so it is critical to select media tailored to the target group at an appropriate time. There are many situational factors that will cause the media mix to be different for any situation, but the following media recommendations may be useful as a starting point: generally, the registry or its administrator has the principal responsibility for public awareness; however, before and during implementation, an international legal and registry expert should participate in the preparation of written materials such as white papers, articles for professional publications, news releases, public service announcements and brochures. The international expert(s) may also participate in speaking engagements with professional associations. However, it is not recommended that the international expert(s) be the principal speaker(s)

at press conferences. The main function of the international expert(s) is to equip those who will act as trainers going forward. Written materials should explain the economic rationale for the reform of the law and registry, address the mode of operation of the registry, refer to international best practices, provide directions to additional information on the relevant websites and provide information on training events or resources available to users. The public awareness effort's costs will vary greatly according to the size of the jurisdiction, availability of media outlets, communication and transportation infrastructure and other factors.

The persons who need to know about the secured transactions law and registry extend beyond creditors and include businesses and consumers (see Box 18).

Box 18:

Target Groups for Awareness Raising

- Major financiers such as banks, NBFIs, leasing companies and buyers of accounts receivable
- Trade financiers who take purchase-money security interests in the sold/leased goods (these might include manufacturers, wholesalers and retailers)
- Businesses that may gain access to credit by giving security interests in their existing movable property or that may finance the purchase of equipment by giving a purchase-money security interest
- Retailers, manufacturers or agricultural producers who may obtain operating lines of credit by giving security in their inventory, accounts receivable, or crops
- Business and commercial lawyers who serve any of the foregoing groups
- Consumers who may acquire expensive durables such as vehicles
- Courts with jurisdiction over commercial disputes
- Financial reporters from business-oriented print media
- General media outlets

C. Training

1. General Considerations

Training prospective creditors is essential to ensure utilization of the reformed framework. A well-designed training program for registry operators will facilitate the use of the registry system. The judges and enforcement officers should also be trained on how to apply the law. The following description of training methodology and mechanisms applies to all groups involved in the implementation of modern secured transactions systems (see Table 4 for details).

As a matter of principle, each training program should follow a ‘train the trainer’ approach; that is, it involves training people who can eventually train their colleagues. Capacity-building exercises should generate training material for subsequent

reference of the trainees, but also others. For example, the training program for registry staff should include written material and instructions for training of future registry employees. If budgetary or time constraints limit the scope of coverage, training should start with the most important groups – creditors – and continue with borrowers, lawyers, and government officials. All trainees should receive the tools to allow them to transfer their knowledge to their colleagues.

Training on the secured transactions law and registry may be delivered in different formats. The most common format is a seminar or workshop, which generally runs for one to three days. A second tool is a study tour for selected individuals to jurisdictions with successful experience in deploying secured transactions systems. A study tour may be important from

Table 4:
Training Tools and Modes of Delivery

Medium/mode	Target Groups	Timing
Guest article for professional or trade publications	Bankers, bar, leasing, business and trade association publications	Generally, before implementation or shortly after
Press release	Business-oriented and general media outlets	Generally, immediately before and at time of implementation
White paper	Courts, and business and law schools	Before or after implementation
Press event or news conference	General media outlets	Concentrated just before or at implementation
Guest appearance on broadcast medium	General broadcast media outlets	Just before and after implementation
Direct mail	Banks, NBFIs and leasing companies	Before implementation
Participation in event of professional or trade association, as speaker or otherwise	Bankers, bar, leasing, business and trade associations	Any time
Public service announcements or paid advertisements	Buyers of equipment, farm products and livestock; trade financiers; business borrowers and line of credit operators; consumers	Starting just before and continuing after implementation
Invitation to training	Banks, NBFIs, leasing companies, lawyers and courts	Before and just after implementation
Brochures distributed through public institutions	Buyers of equipment, farm products and livestock; trade financiers; business borrowers and line of credit operators; consumers	Any time
Guest instructor engagement	Business and law schools	After implementation

a practical and political standpoint because it can increase substantive capacity and diminish doubts regarding the efficacy of such systems. Another tool is a conference, which is generally used to share information, often among several jurisdictions, and may lead to considerations on the harmonization of laws and technology. Other tools include online training programs and interactive electronic media programs with simulations of the registration system that allow new users to practice before handling live registrations.

Target groups: the groups identified for secured transactions training are:

- Creditors and debtors
- Judges, enforcement or execution officers
- Registry operators
- Other groups such as lawyers
- Regulators of financial institutions

2. Training to Creditors

The first and most important target for training are institutions that provide credit. These may include banks, micro credit organizations, leasing companies and businesses that sell goods on credit. Trainees from credit providers may include management level personnel such as credit department managers, and operations level personnel such as loan officers, leasing agents, risk managers and enforcement staff.

The preliminary training may be offered to a large number of participants and can function primarily to raise awareness. It should set the platform for a more specialized training plan that will focus on each of the topics described below. More specialized sessions can be offered to smaller groups of creditors to allow more interaction and to deal with specific issues related to different types of creditors such as banks, microfinance institutions and leasing companies. The training

should be provided to two or three representatives from each creditor institution. Training workshops should make use of the most effective mix of available training methods and media. In addition to lecture and discussion, training should include visual media, preferably a live demonstration of all aspects of the registry system.

More detailed suggestions for training topics include:

Changing attitudes towards movable property:

Historically, movable property has been considered less desirable collateral than immovable property. Financial institutions have been reluctant to extend loans secured with movable property for a number of reasons, including the depreciating value of movables, the difficulty to assess their value, the risk posed by easy relocation of the collateral beyond the creditor's reach, etc. In reality, the market value of movable property such as construction or agricultural equipment, accounts receivable, or intellectual property such as patents or trademarks often exceeds the market value of immovable property such as residential units or even land. Further, movable property, especially accounts receivable, is often more liquid than land, enabling faster recovery for the creditor. Coupled with an effective legal system that protects and facilitates enforcement of security rights, movable property becomes valuable security for creditors, increasing their willingness to provide secured credit. A well-designed training plan will begin with a general overview of the legislation and the operation of the registry. This overview should also highlight the main differences from the prior legal system and outline how the limitations on secured lending have been addressed in the reformed law.

Introduction to secured transactions law:

The training should familiarize creditors with new concepts and principles of secured transactions laws, focusing on the scope of the law, creation of security rights, notice registration, priorities, and enforcement. Creditor training should introduce trainees to the concept of the unitary and functional security right that includes all types of property rights that secure an obligation with a movable asset. This includes not only all traditional forms of security, such as

the pledge and chattel mortgage, but also those that have not been viewed as security rights, such as conditional sales and sales of receivables. Training should also address the types of property in which a security right may be created under the law.

Creation of a security right:

The training should cover the conditions required to create an enforceable security right between the creditor and the grantor. Specific exercises should be designed to illustrate adequate descriptions of collateral and secured obligations in security agreements, as well as the other requirements to conclude an effective security agreement. The timing of creation should be discussed in conjunction with the ability to register a notice prior to the completion of a security agreement, which is a novel feature in many reforming jurisdictions. A sample security agreement may be used during training (the UNCITRAL Practice Guide contains some sample forms accompanied by explanatory text).

Perfection:

The training should explain the recognized methods of perfection and their availability to perfect certain security rights (e.g., possession only applies to tangible assets). Typically, laws provide for alternatives to registration, such as taking possession and control, but a few jurisdictions recently enacted laws limiting the methods of perfection to registration. The methods of perfection affect the respective priorities, as some may provide for a ‘super-priority’ even though a competing security right was perfected earlier.

Priorities:

One of the most important areas of modern secured transactions laws is the scheme of priorities between conflicting claims in the same collateral. There are some fundamental priority rules that are adopted by a vast majority of jurisdictions undertaking secured transactions reform, including ‘the first-to-perfect or first-to-register’ and for buyers in the ordinary course of business. Other rules are more specific, less central and not always adopted as part of the reformed law (e.g., rules allocating priorities

between security rights in accessions).

Use of the registry:

Creditors should be trained on the use and operation of the registry for both registering notices and searching for information relating to security rights potentially encumbering the assets offered as collateral. If facilities are not available for a live demonstration in conjunction with the lecture/discussion, all the interfaces that a user of the system will encounter must be presented visually as their functions are discussed, with copies provided to all participants. Optimally, all participants should be able to test the functions on a simulated system. At a minimum, the creditor training on the registry system must include the following topics:

- How to search the registry by different criteria, including by a grantor identifier and serial number
- The importance of accuracy in choosing and entry of the search criterion, and the search logic used by the system for each type of criterion
- The structure of the registry web-site and how to navigate it
- How to establish, access and maintain a user account, including addition or deletion of authorized users
- The methods that may be used to pay registry fees
- How to register a notice of a security right
- How to register a change to an existing registration, including amendment, extension, and cancellation
- The law’s requirements for identification of grantors and description of collateral in a notice
- The different outputs of the system, including a confirmation of registration and the search result

Enforcement:

Creditors should be trained on the enforcement mechanisms provided in the law. This is particularly important to overcome the reluctance of creditors to rely on movable assets as security because of their distrust in traditional ineffective enforcement mechanisms under which seizure and disposition of collateral can be excessively time-consuming and costly. A training program that introduces modern enforcement approaches as part of the secured transactions reform should address these concerns. Training of creditors on enforcement should include the following topics:

- Repossession of the collateral: to include both: (i) the legal requisites for self-help repossession by the creditor, and (ii) the process and the elements of proof for an expedited judicial proceeding.
- Disposition of the collateral, to include: (i) maintenance and preparation of the asset for disposition, (ii) notices required to be served on the grantor, other creditors, and holders of other interests in the property and exceptions to that requirement for certain types of property, (iii) permissible methods of disposition under the law, (iv) standard of care that the creditor must satisfy when enforcing its security right, (v) the potential role of enforcement agencies in disposition, (vi) distribution of proceeds and the rights of transferees of the collateral, (vii) legal requisites for retention of the collateral by the creditor in satisfaction of the secured obligation, and (viii) collection and other enforcement actions with respect to intangible collateral, such as receivables, bank accounts and securities.

Other aspects of the law:

Secured transactions laws should address a number of other aspects of secured transactions, especially the conflict-of-laws rules and rights and duties of the parties. Training exercises should include scenarios with ‘foreign elements,’ such as the receivable owed by an account debtor located in a foreign jurisdiction.

Lending practices using movable assets as collateral:

In jurisdictions where pre-reform laws did not facilitate the use of movable assets as collateral, financial institutions have not developed the expertise and skills that are required to profitably lend against movable assets. Those skills extend well beyond mere familiarity with the secured transactions law and use of the registry, and include, among others, due diligence on the collateral, and especially the existence of competing claims, valuation of the collateral, constructing a borrowing base, monitoring, and identification of secondary markets, etc. Further, financial institutions that have not relied on movable security do not usually have the internal structure to support such credit products. For example, they likely will not have staff dedicated to monitoring the collateral, i.e. to physically verify the existence and condition of assets that are proposed as collateral and to periodically visit the site where the collateral is kept to ensure it is still present and properly maintained. Consequently, training should extend beyond just the secured transactions law and registry, and include comprehensive training of financial institutions on the skills and organization generally required to support secured lending.

The following summarizes a detailed program outline for creditors:

Overarching Themes:

Creditor training should focus on understanding the financial needs of SMEs, the features and requirements of asset-based lending and the function and uses of the collateral registry. It is important that creditors understand the financial needs of SMEs in the context of the working capital cycle and how SMEs function in the context of supply chains. The training program should include an overview of the key requirements for movable ABL products (see Figure 3 above), and those that may become available following reform. Comparing movable asset-based finance to other types of commercial finance available to SMEs will help creditors understand how to incorporate movable ABL products into their

offerings. Emphasis should be placed on the concept of underwriting the collateral, rather than the client – the heart of movable asset-based lending. Training should cover the key points of a typical ABL revolver, such as maintaining an acceptable collateral to loan ratio. Finally, understanding registration and the applicable legal framework is essential for creditors to be comfortable with taking security rights to support various movable ABL products. Specific training topics should include the following:

1. Receivables Finance:

In many cases, SMEs that lack tangible assets generate accounts receivable that may be used to secure a loan or sold to a factor. This is especially true when the SME's clients are well established, credit-worthy businesses with whom the SME has a long-term relationship or contract. In such cases it is the SME client's ability to pay that reduces the lending risk and enhances the value of the accounts receivable as collateral. The training topics for receivables finance include:

- Accounts receivable lending methodologies
- Collecting on accounts receivables, including insolvency/bankruptcy
- Advance rate considerations
- Eligible and ineligible accounts receivables
- Verifying the existence of receivables
- Credit and collection systems
- Cash management and full dominion
- Internal record keeping
- Necessary reporting
- Registration system to protect the rights in receivables

2. Lending on inventory (including raw materials and work in progress):

- Inventory and its components/definitions
- Types of inventory
- Inventory cycles
- Valuation
- Inventory in transit or offsite
- Lending concerns and security of the collateral
- Eligible vs ineligible inventory
- Testing and field assessment
- Insurance
- Secure warehouses and lending on warehouse receipts
- Floor-planning finance, working with original equipment manufacturers and distributors
- Repurchasing arrangements
- Collateral registration system

3. Operations/Loan Administration/Account Management:

Although ABL focuses on underwriting the collateral, rather than the client, due diligence requires the creditor to be continuously aware of its borrowers' financial health. This requires actively monitoring borrowers' financial condition, their business practices and the state of their operations. Training should make creditors aware of monitoring methods and tools, how to recognize warning signs, understand their implications, and respond to protect their interests. Training in this area should include:

- Monitoring client activity
- Warning signs of deteriorating situations
- Trend analysis
- Taking corrective action/delinquency
- Daily monitoring techniques
- Advance requests
- Technology and software company products available
- Possible demo showing leading commercial system

4. Other Collateral:

Specific expertise is required to perform reliable valuations and monitoring of certain types of movable assets. This is particularly true of assets, such as manufacturing and industrial equipment, crops, and agricultural products. The value of these assets can be affected by their condition, as well as by market conditions and trends. In the case of crops and agricultural products, weather conditions and natural disasters present risks. Advances in technology, regulatory changes, and trends in consumer preferences can impact the secondary market value of equipment. A machine in good working order may have little resale value if a more efficient model is available or market trends favor a newer design. Likewise, the costs of removing, transporting, and reinstalling equipment must be considered. Training should enable creditors to recognize when to consult an expert appraiser who is familiar with the type of asset in question and its secondary market.

5. Underwriting Practices for movable ABL Products:

Creditors seeking to provide movable ABL products must be familiar with the best underwriting practices in order to price the credit risk accurately. In particular, new entrants into secured lending (as well as existing lenders) in an economy must understand the risks peculiar to movable collateral, such as the need to ascertain the existence of the collateral, as well as the grantor's rights to it; to monitor perishable collateral closely; to ensure that the collateral is adequately insured where required, etc. The training program for creditors must facilitate their understanding of the risks to be considered in the underwriting process, as well as inform them on how to maximize use the reformed secured transactions regime to reduce the credit risk. To this end, the following sub-topics should be included in the curriculum:

- Typical underwriting process
- Typical collateral risks and how to mitigate them (importance of due diligence)
- Factors that lead to fraud
- Extent of fraud and abuse
- Fraud detection and prevention
- Workouts/liquidations/enforcement of rights
- Perfecting security and liens
- Liquidation
- Financing in bankruptcy
- Dealing with default
- Import and export lending

6. Loan Documentation:

The lending process often requires the submission of multiple documents that reflect not only the financial condition of the borrower (and grantor if different from the borrower), but also the ownership or other rights to the collateral, the “Know Your Customer” processes of the lender and, in the case of an enterprise, its business structure. Lenders must understand the importance of each document collected during the loan preparation stage, including the standard documents typically collected in the jurisdiction, so as to request only those documents that are necessary for facilitating the decision to extend credit. This is important to reduce the decision time and the cost of credit, while ensuring that the lender has the right information to make a credit decision, conduct due diligence on the borrower and the collateral, as well as protect its security right accordingly.

7. Discussion and Workshop on Practical Issues:

During the training, emphasis should be placed on demonstrating the application of the core concepts of movable ABL products under a reformed secured transactions regime to avoid a purely theoretical approach to the training curriculum. This can be achieved using case studies and participatory discussions that illustrate the practical effect of implementing the best practices and the potential issues that may be encountered in a typical asset-based lending transaction. In addition, to build local support (among creditors) for reforms to the secured transactions regime as well as its implementation, case studies showing the impact of reformed secured credit frameworks in similar economies should be provided, with relevant examples/testimonies of the benefits that have accrued to lenders in those economies.

3. Training of Registry Staff

Modern electronic collateral registries contemplate no intervention by registry staff in the registration and search process. The extent and types of staff processes and related training depend on several factors, including:

- The extent of outsourcing of registry functions to private sector entities;
- Whether the organization in which the registry is located has its own IT assets and support, and whether the capacity of the technology is sufficient to meet the needs of a collateral registry (e.g., 24/7 operation with near 100 percent up time);
- Whether the payment receipt process requires staff intervention; and
- The level of sophistication of the staff who will provide user support and their existing understanding of registry processes.

The registrar should be trained on the policies and procedures of the registry, including the registration provisions of the law, the implementing decree or regulation, and the registry access policy. The methodologies used to train registry staff will vary according to the type of staff to be trained. For all staff, study tours to jurisdictions that have successfully implemented similar registries may be a starting point for the training program. Registry staff may also benefit from taking an active role in the creation of the registry guides on policies and procedures. Suggested training topics include:

General management:

The operation of the registry office in general, and the functions it is to provide to users i.e., its limited administrative role.

The registry IT system:

Whether or not the IT function is outsourced, the registry manager must be trained on how to use the IT system and how to communicate requirements and problems to the IT staff. Staff training should include simulations of registrations, searches, and other functions of the system. The registry staff should understand not only the management of the registry system, but also the client side of the application (see Box 19 for typical training topics on collateral registries). It is recommended that an operational guide for the use of the registry IT system be developed in conjunction with the training of the registry staff.

Customer services on technical issues:

The training of registry staff should include customer service or help-desk functions. Importantly, staff should be trained not to provide legal advice in the course of responding to requests for assistance. Finally, staff should be trained on how to manage Frequently Asked Questions from the registry web site (see Box 20 for typical user issues that require technical assistance).

Box 19:

Training on Secured Transactions Registry Systems

- Managing user accounts
- Entering registrations
- Performing searches
- Running reports and queries
- Maintaining user values such as fees and default values in drop-downs
- Adding, maintaining and deleting user groups
- Managing the registry website

Box 20:

User Issues Requiring Technical Assistance

- Loss of passwords to use the registry system
- User's rights are locked for excess failed log-in attempts
- Registry web site does not work
- Administrative matters, such as means of access
- Fee questions
- How to open a user account
- How to make a payment on a user account

4. Training of judges

The training of judges has a long-term rather than immediate impact and therefore can be offered in the second phase of a training program. The training is more effective when delivered by peers, rather than an international legal/registry expert who might play a secondary role. Secured transactions disputes often arise in the context of bankruptcy/insolvency proceedings, so this training should not only target judges but also legal professionals, such as trustees that administer/act in insolvency proceedings. Judges should be trained on a variety of issues, but especially those outlined below.

Issues relating to scope:

In some jurisdictions, courts failed to appreciate the fundamental change introduced by the functional approach and classified a transaction according to the categories prevailing under the prior law. It is critical for the judges to understand how the reformed law applies to transactions that previously did not create security rights, and the effect of failing to register a notice.

Issues arising between the parties under the security agreement:

Judges should be trained on the legal requirements to create a security right, and specifically the content and form of a security agreement.

Resolution of priority disputes:

Judges must be familiar with the priority rules, specifically the general rule and its exceptions. The training should include a discussion of the policies underlying each priority rule or its exception as well as a discussion of the principles underlying the prior law and how they have been reflected in the reformed law (e.g., the priority of sellers under conditional sales and the functionally similar priority that may be achieved under a PMSI).

Enforcement questions:

While modern secured transactions laws provide for self-help enforcement, it is important to prepare the judiciary to adjudicate cases where various aspects of the enforcement process are challenged, particularly the legality of repossessing collateral and conducting the adjudicating process in a commercially reasonable manner. The training should include illustrations of repossession actions that do not breach the peace, including whether aspects of the disposition of the collateral such as advertising, notifications, etc. were completed in a commercially reasonable manner.

5. Training of Regulators

Regulators that supervise financial institutions, such as banks and microfinance institutions should be trained on the impact of the reformed laws on the operations of the regulated institutions, particularly with respect to the use of movable assets as collateral. The training should focus on aspects related to prudential regulation and its interface with secured transactions. Such understanding broadens the appreciation of regulators to contemplate steps to facilitate lending against movable assets, especially receivables and

inventory. As discussed in Chapter 2, a modern and effective secured transactions law may have a positive impact on capital requirements and provisioning.

6. Training Costs

The effort and related costs for the design, preparation and implementation of training are jurisdiction specific. However, experience shows that with the use of modern technology, the costs are not as significant as their potential benefit. Costs can be minimized, and benefits maximized, by relying on techniques such as training-of-trainers or self-training of stakeholders through the training modules provided on the registry website. Training-of-trainers involves the initial training of persons who can subsequently be qualified to provide training to their colleagues. This method not only reduces costs, but also promotes sustainability as trainees become trainers, and the registry itself can replace the international donor by providing long-term online support.

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174. See Study LXXII K – *Development of a Fourth Protocol to the Cape Town Convention on Matters Specific to Mining, Agricultural and Construction Equipment*, UNIDROIT, <https://www.unidroit.org/work-in-progress/mac-protocol>, (last accessed May 24, 2019).
175. A purchase-money security interest is taken in goods to secure: a) the purchase price of the goods if financed by the seller, or b) the value given by a third-party financier to enable the acquisition of the goods.

176. Source: World Bank Doing Business Project database.

Note: the relationship between private credit and priority status of secured creditors is statistically significant when controlling for country size, income level, enforcement, legal origin and regions.

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178. The formulation of the UNCITRAL Legislative Guide is more concrete, i.e. 'Insolvency law generally respects: (a) the effectiveness of a security rights under secured transactions law, except to the extent the security agreement is subject to avoidance; and (b) the priority of secured creditors under secured transactions law, except to the extent privileged claims are recognized that should be set out clearly in the law.'

179. See also UNCITRAL Legislative Guide on Insolvency Law, 87-88 (2004).

180. See Capital Markets, *WORLD BANK* (Feb. 2, 2018), <http://www.worldbank.org/en/topic/financialsector/brief/capital-markets>, (last accessed May 24, 2019).

181. See The Unidroit Legislative Guide on Intermediated Securities, *supra* note 62.

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183. *Id.*

184. This is also the case for immovable collateral. See generally, *EBRD supra* note 171.

185. Credit Reporting Knowledge Guide, *supra* note 2, at 6.

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187. New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island formed the initial partnership with UNISYS in 1996, Northwest Territories and Nunavut signed on in 2001, and Yukon joined in 2016, see Personal Property Registry System (PPRS), *ACOL*, <https://www.acol.ca/en/pprs/about/what-is-acol>, (last accessed May 24, 2019).

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189. *Id.*, ¶ 75.m.

190. *Id.*, ¶ 105.

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193. The BPER project is a joint undertaking between the UNIDROIT Foundation, the Harris Manchester College Commercial Law Centre at the University of Oxford and the Global Business Law Institute at the University of Washington.

194. See, for instance, Michael Nieves et al., NIST Special Publication 800-12 Rev 1: An Introduction to Information Security, *NIST* (2017), ¶ 1.4. defining 'security controls as 'The management, operational, and technical controls (i.e., safeguards or countermeasures) prescribed for a system to protect the confidentiality, availability, and integrity of the system and its information.' and explaining that 'In this document, the terms security controls, safeguards, security protections, and security measures have been used interchangeably.' Available at <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-12r1.pdf>, (last accessed May 24, 2019). See also Minimum Security Requirements for Federal Information and Information Systems, Federal Information Processing Standards (FIPS) Publication 200, *NIST* (March 2006), <https://doi.org/10.6028/NIST.FIPS.200>, (last accessed May 24, 2019).

195. CAPTCHA is the acronym for 'Completely Automated Public Turing test to tell Computers and Humans Apart'. To continue a session, users must correctly identify numbers or letters contained in randomly generated CAPTCHA images.

196. See Tucker Bailey et al., Insider Threat: The Human Element of Cyberrisk, *MCKINSEY & COMPANY* (Sep. 2018), <https://www.mckinsey.com/business-functions/risk/our-insights/insider-threat-the-human-element-of-cyberrisk>, (last accessed May 24, 2019).

197. *Id.*

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199. See ISO/IEC TR 27103:2018(en) at Intro.

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201. *Id.* at ¶ 1.1, stating that the scope of the document is 'the entire range of digital repositories.'

202. See Regulation 17.

203. See UNCITRAL Guide on the Implementation of a Security Rights Registry, *UNITED NATIONS* (2014), <https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/security-rights-registry-guide-e.pdf>, (last accessed May 24, 2019).



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