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PART B

PROPERTY RIGHTS IN AN INFORMATION VOID

On Cadaster, Land registration, and Protection of Property Rights for Mortgage Finance Development

Submitted as Part B of PhD Dissertation

'Danish Mortgage Finance, Property Rights Protection, and Economic Development'

By Karin Haldrup
November 2010

Aalborg University in Cooperation with VP Securities A/S
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Structure of Thesis

VOLUME I: (printed version)

Part IO. Introduction and Overview
Summary and brief versions of each Part, including discussion of research methodology

Part A. All Credit to the Balance Principle
On Mortgage Credit and its prerequisites

Part B. Property Rights in an Information Void
Property rights, property registration and security of collateral

Part C. Collateral Security or Collateral Damage
On Economic Development, housing finance and property rights protection.
Presentation and discussion of topical theories)

VOLUME II: (printed version)

Part D. Case studies Introduction and Documents
- ◊ Nicaragua Report, documentation
- ◊ Ghana reports & documentation

Appendices
Documentation, Data, Proposed screening formats, and References

PART B - TABLE OF CONTENTS

B. PROPERTY RIGHTS, LAND REGISTRATION AND SCREENING FOR READINESS 5

1. BACKGROUND AND INTRODUCTION 5
   1.1 Overview of Screening Tasks and Challenges 5
   1.2 Concepts and definitions of Indicators 10
   1.3 On Indicators in the Field of Property Rights Protection 13
   1.4. An Inventory of Information available on Property Rights Protection 15
2. A REVIEW OF STANDARDIZED INVENTORIES OF NATIONAL CADASTRES AND PROPERTY REGISTRATION SYSTEMS 21
   2.1 Selected Country Inventories on Cadastres and Land Registration Systems 21
   2.2 Comments to the Cadastral Template 22
   2.3 European Information Sources on Land Cadastre and Property Registration 25
3. A REVIEW OF COMPARATIVE STUDIES OF TRANSACTION COSTS AND FORECLOSURE 29
   3.1 Overview of Selected Performance Studies 29
   3.2 Comparative Studies on Legal Enforcement and Foreclosures 30
   3.3 The EU financed COST Action G9 Study 32
   3.4 Comments to ZERP, Study COMP/2006/D3/003, "Conveyancing Services Market" 33
   3.5 Concluding Observations 36
4. DEVELOPMENT OF INDICATORS AND MONITORING SYSTEMS IN LAND ADMINISTRATION 38
   4.1 Global Demand for and Efforts in Developing Comparative Studies on Land Issues 38
   4.2 Comments to the US-AID Rapid Assessment of Land Tenure and Property Rights 40
   4.3 World Bank Land Administration Studies and Comparative Framework 43
   4.5 Summary of findings on Monitoring Systems of Cadastre, Land Registration and Land Administration 52
5. MACRO-ECONOMIC INDICATORS AND RATING SYSTEMS 56
   5.1 Overview of macro-economic Indices with Sub- Indices on Property Rights 56
   5.2 Macroeconomic Classification Systems 58
   5.3 Methodology Issues of International Ranking Systems 59
6. COMMENTS TO SELECTED INTERNATIONAL RATINGS REL. TO PROPERTY RIGHTS PROTECTION 63
   6. 1 World Bank Ranking of Ease of Doing Business and Property Rights Issues 63
   6.2 International Property Rights Index 70
7. MACRO-ECONOMIC INDICATORS OF GOVERNANCE AND ECONOMIC DEVELOPMENT 75
   7.1 Overview 75
   7.2 World Bank: Worldwide Governance Indicators (WGI) 76
   7.3 World Economic Forum: Global Competitiveness Indicators 78
   7.4 Heritage Foundation: Index of Economic Freedom 86
   7.5 Transparency International Corruption Perception Index (CPI) 88
   7.6 Risks Indicators of Relevance for Property Rights Protection 90
8. ANALYSIS OF MACRO-ECONOMIC RATINGS 92
   8.1 Global Analysis of Composite Indices 92
   8.2 Regression Analysis of Property Rights and Macro-economic Indicators 94
   8.3 Discussion of Potential Applications of Macro-economic Indices 97
9. DISCUSSION AND PROPOSALS ON SCREENING OF READINESS FOR MORTGAGE CREDIT 99
   9.1 Criteria and Strategic Options for Screening 99
   9.2 STEP 1: Country Classification and Segmentation of Global Markets 104
   9.3 STEP 2: Rapid Assessment by Country 108
   9.4 STEP 3: Differentiated Country Profiles acc. To Country Classification 109
   9.5 STEP 4: Detailed Screening with Market Analysis and Geographic Differentiation 112
   9.6 Concluding comments on Screening Methodology and Monitoring in Cadastre and Land Registration 113
10. INDICATORS OF PREREQUISITES FOR MORTGAGE FINANCE DEVELOPMENT 115
   10.1 On Development of Detailed Indicators and Data 115
   10.2 Discussion of Indicators of Economic Prerequisites 116
   10.3. Discussion of Indicators of Working Legislation and Sound Institutions 117
   10.4 Discussion of Collateral Prerequisites: Secure Property Transactions and Mortgage Pledging 123
   10.5 Discussion of Housing Policy and Market Prerequisites 126
   10.6 Concluding Discussion on Property Rights in an Information Void 129

”Det menneskelige Samfund har efterhaanden, gennem Aarhundreder maattet gøre sine Erfaringer under Realkredittens Udvikling, tunge Erfaringer om, hvilke Grundsætninger der maatte skabes og gennemføres som de herskende Retningslinier for denne mægtige, forviklede og ofte vildsomme Udvikling, om den ikke skulde glide ind paa Veje, der førte til Undergravning eller Svækkelse af Samfundet.”

”Tinglysning samt nogle Spørgsmaal i vor Realkredit”, af Vinding Kruse, November 1923, M. P. Madsens Boghandel (Rechtwig & Tryde) København MCMXXIII, p. 196: Fra 9. Kapitel. Realkredittens Udvikling. Nye Problemer

Informal translation:

”Human society has over the centuries had to make its own tough experiences with the development of a financing system for real estate. They had in particular to do with which principles that had to be established, to be subsequently realized in practice, which would serve as guidelines for this mighty, complex and often untamed, development, to avoid its skidding onto ways that would undermine or weaken Society itself”.

From Frederik Vinding Kruse's (1880-1963): ”Registration of Real Property and Some Questions regarding Our Mortgage Credit System” - November, 1923 (in Danish), p. 196, Chapter 9: The Development of Real Estate Financing. New Challenges.

B. PROPERTY RIGHTS, LAND REGISTRATION AND SCREENING FOR READINESS

1. Background and Introduction

1.1 Overview of Screening Tasks and Challenges

Objectives and Overview

An overview and summary of the whole study including an overview of findings is available in **Part IO**, Chapter 1.1.

The purpose of Part B is to develop strategies and approaches to mapping out the status and performance in other countries of readiness for introduction of a mortgage credit system according to the Danish model with a special focus on preconditions of property rights protection, and associated infrastructure required for the functioning of the property and mortgage markets (ref. to Appendix 1).

Therefore the focus of Part B is on analyzing information sources and developing a systematic process of screening in respect to the proposed prerequisites, so as to support feasibility studies on mortgage finance development in markets outside a Danish context.

In **Part A** the Danish mortgage credit system has been explored in view of its national context and development conditions over time. An analysis of the development path illustrated how the Danish mortgage system grew in interaction with events and how legislation and other framework conditions enabled its success. The securitization system was not seen as tied to a Danish context, but it was suggested that certain conditions must be in place for its functioning elsewhere. As a result a set of generalized criteria was suggested for its possible introduction outside a Danish context, including a certain level of macroeconomic stability. It was discussed what specific preconditions need to be in place, in order that the Danish mortgage system may serve as a mass-financing system under low risk conditions.

Since the Danish mortgage finance system largely reduces financing risks to credit risks, the centrality of the relation between real credit and mortgage pledge is enhanced. The mortgage finance system depends on clear and transparent property rights and collateral security for securing a low risk foundation, but historic evidence suggested bidirectional patterns of causality between mortgage finance and the property market, and illustrated how healthy incentive structures had contributed to market discipline.

Part C focused on the role of property rights in economic development and illustrated how transaction costs affect economic development, how clear property rights contribute to economic development, and how a modern global money economy is founded on credit. Lowering of credit risks was found to depend both on collateral security and commitment mechanisms for borrowers not to renege on debt. The historic case showed how introducing robust and simple housing finance models like the Danish Mortgage system could potentially contribute to economic development as was evidenced by the history of the Danish mortgage finance system. However, it was also argued that mortgage finance systems cannot fix severe problems in the real sector.

The centrality of property rights, collateral security and transparent land registration and management regimes justifies a deep analysis of these topics in preparation of mortgage market development.

Previous chapters have documented the indispensable condition of property rights protection for development of mortgage credit systems as defined by the concept of collateral security. The challenge is consequently to explore how well property rights are defined and protected in a given country in preparation for development of mortgage finance. This involves both the overarching issue of rule of law providing an overall protection of property rights, and specific issues of protection of mortgage pledges through formal systems of registration, access to information, effective foreclosure and other land issues.

It is therefore well justified to explore how the preconditions of mortgage credit can be screened in respect to services of cadastre, property registration, valuation and security of collateral, etc.

Propositions on prerequisites for introduction of mortgage finance are structured with emphasis on issues of property rights, land supply, and collateral security, but also include the macro-economic context, (ref. to Part A, Chapter 12.4.):

1. *Economic prerequisites*:
   a. Macroeconomic level stability
   b. Microeconomic level affordability (income, income distribution, employment)
2. *Institutional prerequisites:*
   a. Stable institutions - overall governance
   b. Working legislation & Rule of Law
   c. Detailed legislation on property rights protection
   d. Sound institutions in the domain of landed property
3. *Collateral prerequisites:*
   a. Secure property transactions and mortgage pledging
   b. Effective foreclosure and access to collateral
   c. Security of collateral (mortgage pledges , collateral quality, and value)
   d. Access to information for assessing collateral and credit risk
4. *Housing policy and market prerequisites:*
   a. Housing policy and a clear role for the public sector
   b. Demand for new housing and upgrading
   c. Land supply and physical infrastructure
   d. Construction sector,and urban housing markets

Table A.21. *Prerequisites for Mortgage Finance (with reference to UN-ECE, 2005)*

Methodology development involves suggesting strategies and approaches to capturing of the status of the cadastre and property registration systems in a given country to determine its readiness for introduction of a mortgage system, i.e. the protection provided of property rights and mortgage pledges. The question analyzed below is how such investigations can be conducted in a systematic manner through use of standard data sources, indicators and monitoring systems.

Approach and Methodology in Part B

Part A and C provide guidance on what type of indicators could be suited for capturing the status of the property rights protection and mortgage pledging.

Part B is predominantly application oriented, while more theoretical questions on property rights, mortgage finance and economic development are discussed in **Part C**. Accordingly, the approach taken has been directed at solving an operational task under the given circumstances and constraints.

An overall difficulty in methodology development stems at first from a lack of a conceptual model of property rights protection and mortgage pledging, and secondly from the lack of data, indicators and monitoring systems on property registration, cadastres, etc. Inventories and overviews on the topics were also found to be in short supply.

Development of a theoretical model or new indicators was beyond reach in this study. The emphasis in the study is laid on explorative research and analytic reasoning. Observations of a generalizing nature are interwoven with some concluding observations on the research and development challenges ahead.

The analysis in part B comprises two main components:

1. Explorative study of available indicators and indices of relevance for screening of the criteria for mortgage finance development

2. Outline a proposal for screening of a country's readiness for mortgage finance development based on available information.

Re. 1: At first, it is explored what (re)sources are available on the status of property rights protection in cross-country studies, with a review of what monitoring systems and (meta-) data is available on property registration systems.

Re. 2: In view of the findings on indicators and macro-economic development indices a strategy is proposed based on a tiered top-down approach of screening with an analysis at first of more general issues. Like sifting through a set of sieves, stumble stones for mortgage credit systems can be found at different levels and in different scales of magnitude.

The general approach outlined suggests a screening process with successive steps of more detailed analysis tailored to those countries, where the environment is found to be more enabling or at least not to be excluding development of mortgage credit according to the Danish model on the short term. If an analysis at a more general layer shows hostile conditions to long term credit of this kind, a more detailed analysis may be irrelevant for potential investors at the time, but could serve other purposes.

Structure of Part B

Part B proceeds from inventory of information sources to analysis and development of proposals on screening strategies and methods.

In the first chapters (Chapters 2 to 8) is presented an inventory of potential information sources on property rights protection and on criteria for mortgage finance development, and it is discussed how these information sources could potentially be applied. The inventory has been structured starting with sector specific indicators on cadastre and land registration moving towards more general indicators before proposing screening strategies. Findings and conclusions are integrated with the analysis in each chapter

As a first priority the sector specific indicators and data on cadastre, land registration and land administration were analyzed. Due to lack of cross country data in these areas, a search was made for other types of indicators of potential use for screening, and expanded to macro-economic indices.

The review includes selected composite macro-economic indices, including indices related to property rights protection, and patterns of correlation between different indices were explored (Chapters 7-8). On that basis proposals on a strategy were outlined for screening, by use of available indices and preparation of structured information, and through dedicated feasibility studies in support of the financial sector's effort of expanding mortgage finance to other markets.

Chapter 10 adds a discussion of detailed indicators and data as an extension to the above. The chapter should logically have preceded the analysis above, but has been placed at the end due to its bulky character, so as to allow a better connection between discussions in the preceding chapters.

Chapter	Subject
Chapter 2	A review of standard inventories of national cadastres and property registration systems
Chapter 3	A Review of Comparative Studies of Transaction Costs and Foreclosure
Chapter 4	Indicators and Monitoring Systems in Land Administration
Chapter 5	Overview of macroeconomic Indicators and Rating Systems
Chapter 6	International ratings related to Property Rights Protection
Chapter 7	Macro-economic Indicators on Governance and Economic Development
Chapter 8	Analysis of Macro-Economic Ratings
Chapter 9	Proposals on Screening for Readiness for Mortgage Credit
Chapter 10	Discussion on detailed indicators

Part B is also to be seen in connection with the case studies documented in **Part D**.

The case studies have illustrated peculiarities and difficulties in specific cases (Nicaragua and Ghana), where introduction of the Danish mortgage finance system is considered. The cases have also served for demonstrating the use of the proposed screening approach, ref. to Chapter 9.

Case studies were useful for setting the scene for screening, and for demonstrating the proposed methodology. Experience from case countries with (non) availability of information was informative in development of proposals both on indicators and on operational approach to screening. The feasibility studies /desk studies prepared for the two case countries, opened for reflections on suitability of criteria and indicators. The nature of cases, which can be considered extreme in some respects, illustrated the need for focusing on risks and constraints in the initial screening steps. Furthermore, the cases illustrated the potential role of macro-economic prerequisites and the feasibility of using macro-economic indices.

The two country case studies (Nicaragua, Ghana) were found to be too limited to allow drawing conclusions for generalization in respect to e.g., defining threshold values of criteria. While classifications and standard formats can be applied at an explorative stage, the challenging environments in each of the countries showed the necessity of specific assessments of feasibility by financial experts.

Some special requirements emerged during the case studies. For example, it became evident that there is needed some measure to distinguish between different forms of deed registration systems, which in some circumstances may perform adequately for the mortgage finance market, in other case not. Indicators of qualitative differences between different forms of deeds registration systems, and of title registration systems are required to service the financial sector. A search for differentiated modeling and monitoring of cadastres and land registration systems did not lead to results beyond simplified classifications in deeds' and title registration systems (the cadastral template, see Chapter B.2.2), which is not representative of the quality of protection offered in each case. It was not possible in the present study to overcome this fundamental shortcoming.

From the start the study was aimed at serving the needs in the financial sector for tools to rate the conditions in different countries of the infrastructure for protection of property rights and mortgage pledges as a basis for mortgage finance development, in accordance with the PhD-agreement.

However, as the study evolved and shortcomings in the monitoring systems on property rights and land registration were found to be so colossal, that there is hardly any monitoring data produced by the land sector. In consequence, the findings of the project was seen as potentially providing an outline of the reform requirements in the land sector through clarification of, at first requisites to information in the service of the housing and mortgage markets, and secondly by contributing to the debate on how reforms of the property rights infrastructure may possibly proceed so as to engender financing and economic development.

Therefore, the proposed monitoring framework might serve as a guide for reforms and an aid in setting priorities. In this way lacking data for key indicators needed by the financial sector, is also indicative of the need for a top-down structure of reforms in the land sector with improvements of the information and transparency of land institutions from the outset, although here presented in a generalized form.

Part B focus on clarification of monitoring data and systems, while the wider implications on economic development are discussed in Part C in view of reform strategies in real property registration and development of necessary market infrastructure.

Discussion of the Role of Property Registration Systems for Mortgage Finance in Denmark

The 200 year long time line of the Danish mortgage system illustrates how the mortgage finance system evolved along an evolutionary path with many interdependent factors. The sequence of events confirms the role of legislation and basic rights for development of mortgage credit.

Key conditions of the real property infrastructure were in place prior to the introduction of the Danish mortgage system, but adjustments thereof were made over time with the explicit purpose of strengthening the mortgage credit market.

Legal reforms of the Danish property registration systems have taken place in support of the functioning of the capital market, ref. to the fundamental legal reform in 1926, and to the full digital reform of 2009. These reforms are suggestive of the role of legal registration for the operation of the mortgage finance market.

Because property rights have been well ordered during the whole history of the mortgage credit system, it is difficult to assess the proper role of the cadastre and land registry for mortgage finance in Denmark beyond observing that it has provided a secure legal basis and a low risk environment for investors.

Property rights have not only been secure; but also clear and transparent thanks to the public principle of the land registry. Financial experts emphasise that clarity and transparency of property rights systems have added to the protection of investors in Danish mortgage bonds (Golin, 2006, p. 112):

> *"Further adding to the protection of mortgage bond investors are the Danish title number system and land registration system and efficient compulsory sale procedures. The title and land registration systems ensure that ownership and encumbrances on individual properties are easily identified and that the information is available to the public."*

The historic events show how the growth of the Danish mortgage credit system exposed, where legislation was inadequate, leading to amending its legal basis over time. When the first mortgage credit act was passed in 1850, provisions on the foreclosure process were strengthened (Hein 1888), but an enabling environment was in place: Reliable and functioning basic systems secured property rights through a cadastre and public legal (land) registries were largely complete. Furthermore, provisions and practices were well established for pledging of real property, even with rather advanced features of ordering pledges in priority and provisions for refinancing (Ørsted, 1835).

The constitution of 1849 opened democratic access to the legislative process and unleashed the dynamics of a stemmed up demand for credit by granting basic rights, such as e.g., the right to forming associations, as well as guaranteed property rights (Stubkjær, 2008).

The Danish legislation on title registration has for centuries provided a high degree of protection of both primary and secondary interests in land, and offered clear protection of mortgage pledges. At no time during the history of the Danish mortgage credit system has there been uncertainty of real property rights or of mortgage pledges, because cadastres and legal registration were complete and functioning prior to introduction of mortgage finance. In a similar way, foreclosure and access to collateral has been effective.

However, the question of security of collateral and mortgage pledges goes deeper than the word of law. According to Glud (1951) trust in underlying assets was also built over time. This may refer to the implementation aspects of getting access to the collateral, and the question if the value of the collateral had been assessed prudently, so that a forced sale would cover outstanding debt even in a negative market.

A milestone of particular importance was the legal reform of the land registry Act (Tinglysning) in 1926, which had a particular focus on clarifying secondary rights. The new law was founded on solid research and well conceived ideas (Kruse, 1923). The principles of the title registration law reform of 1926-27 were so meticulously prepared in respect to protecting creditors' interests that few adjustments have been required since then - despite an increasing volume and complexity of mortgage credit ever since. Conversion to electronic registration has largely concerned format and organization but not required changing the founding legal principles, which have continuously protected lenders e.g., against depreciation of the underlying collateral value through property mutations, such as e.g., subdivisions (Olsen, 2008). Meticulous legal provisions also protect investors during the critical steps of a property transaction.

A fully implemented legal registration system supported by a cadastre goes hand in hand with transparency in the property market, reduces uncertainty and – with appropriate procedures - lowers transaction costs.

On Costs and Sustainability

It was suggested that mortgage finance is contributing to the strengthening of land registration systems' *sustainability* over time, as much as mortgage finance is dependent on property registration systems in the first place, Chapter A.10.3. Revenues from mortgage pledging in the form of registration fees are considerable in the case of mass securitization system, ref. to Part A, Chapter A.1.6.

A complete technical reform of the cadastres and the land registry during 1980-2010 was designed to provide advanced and fully digital services. Implementation, though, has proven more difficult than foreseen. The costs incurred by the market due to delays in registration of transactions during the transition phase proved the cash value of swift and secure registration systems in the property market, just as the recurring savings to the market of the instant transactions in the future are expected to be substantial (Olsen, 2008).

Once the advanced features are fully implemented, the way is open for further development of transparency and services with associated direct and indirect benefits to the stakeholders. Such development of information infrastructure and information services will open for provision of better services to an ever more advanced and globalized housing and capital market, including the EU inner market.

Throughout the history of the Danish mortgage credit system fully functioning legislation and supportive administrative systems have served to reduce uncertainty at any time, and has enabled a continuous and efficient legal basis of critical importance for the type of long term contracts that mortgage credit represent. But the system has also provided steady revenues to the state.

The case of Denmark illustrates the central role of clear property rights and functioning legal system for enforcement over time. Since there is no Danish historical situation, when that has not been the case, it is difficult to forecast what would be the prospects of applying the model under diverting conditions. On the other hand, analytical arguments suggest that if property rights were not clarified and registered in advance, each case of mortgage pledging and property rights had to be adjudicated ad hoc, leading to higher transaction costs for individual cases..

Volume of registration systems is therefore presumed to be an important market factor, and the benefits gained from scale of economics are crucial to transaction costs and affordability of credit, especially with the Danish model of mass-securitization.

1.2 Concepts and definitions of Indicators

General Definitions

Before venturing into the review of information sources and indicators, follows a brief discussion of the nature of indicators and monitoring systems with reference to property rights protection.

Indicators and indices are produced in many types and forms. A distinction is made according to *what* phenomena they represent, and to *how* the given factors are measured.

A distinction can be made between two basic forms of indicators (OECD, 2008): An indicator measuring specific qualitative or quantitative dimensions of a phenomenon is here denominated a 'simple indicator'. Other indicators are composite indicators, typically generated from other (simple or composite) indicators on the basis of a model of the phenomenon. In practice indicators can be classified along a spectrum from simple to composite types.

The following definition by OECD (2008, pp. 13-14) clarifies the dependency of indicator design on an underlying model:

> *"**An indicator** is a quantitative or a qualitative measure derived from a series of observed facts that can reveal relative positions (e.g., of a country) in a given area".*
> *"**A Composite indicator** is formed when individual indicators are compiled into a single index on the basis of an underlying model. The composite indicator should ideally measure multi-dimensional concepts which cannot be captured by a single indicator, e-g-, competitiveness, etc. .."*

A distinction is made as well concerning *what* is being measured. Kaufmann and Kraay (2008) distinguish between indicators that measure formal rules (de jure) and indicators that measure the practical application or outcomes of these rules (de facto). Since the gap between the two is particular serious in developing nations, rules-based measures need to be complemented by outcome-based indicators in governance related matters, where both aspects count. As an example, an indicator representing existence of legal provisions on foreclosure is a rule based indicator, and statistics on e.g., the duration of foreclosure proceedings is an outcome indicator.

Composite indicators are typically generated by use of indicators from a number of (heterogeneous) sources. When applied in a standardized manner on a larger number of countries, rankings can be generated as relative positions of countries according to their scores on an ordered scale of a given indicator or composite indices.

As implied by the definitions of indicators, designs of indicators rely on an underlying model, and thereby on a theoretical understanding of the phenomenon being studied. Selected indicators in the area of property rights are discussed below in a search for suitable and available indicators for screening of readiness for mortgage finance.

Clarity of what the indicators are designed to achieve, shall be seen in relation to what are the different dimensions of a system being studied. Indicators differ according to what aspect of the system is in focus and what issues are measured in case of de-facto indicators (OECD, 2008):

- Input: Resources available
- Performance: Average time required, transaction costs, etc.
- Process: Quality, suitability, etc.
- Perception: Satisfaction with …
- Output: Deliveries
- Outcome: Impact

Perception based indices lend themselves better to measuring some dimensions of systems, while hard data is required to represent other dimensions.

Composite indicators like e.g., the Worldwide Governance Indicators are constructed by use of a range of other indicators of different types. The World Bank 'Ease of Doing Business' indicators (chapter B.6.1) are generated from expert responses to standard questionnaires representing transaction costs, while the 'Global Competiness Index' produced by the World Economic Forum (Chapter B.7.3) is composed of two-thirds expert ratings (perception based) and one third hard data.

The phenomena of property rights and economic development are complex per se, so the area invites representation by composite indices. Moreover, many development factors will be interdependent, such as e.g., the quality of institutions, the level of transaction costs, and the level of formalization of property rights.

However, composite indices must rest on an underlying model of the phenomenon, and no modeling of property rights for mortgage credit development has been found to me available for the purpose, and efforts of developing composite indices on property rights protection appear to be scanty. Simple indicators, though, have been under development for some time as discussed in the following chapters.

Open Questions on Causality and Factors in Development

Definition of (simple) indicators needs to build on implicit or explicit assumptions of causality and dynamics (in accordance with the OECD definition). This is not as demanding as building full models for development of composite indices, and indicator development in the area of cadastre and land registration has been ongoing for some time.

In Part A the Danish mortgage finance system was described and analyzed, but no theoretical model was developed. Instead characteristic features of the system were derived through a series of observations, and a set of prerequisites for mortgage finance development was proposed with emphasis on matters of property rights and mortgage pledging. In the case of mortgage finance development and property rights protection,

suggestions on causality are mostly constrained to suggesting enabling factors, apart from fundamental legal preconditions of mortgage pledging.

Based on observations on relations between given parameters in cadastre and land registration and observations in Part A and C, some simple indicators on property rights protection and mortgage pledging are suggested below as suited for screening. The prerequisites for development of housing finance are characterized by a range of qualitative and quantitative parameters. In so far as statistics is available, quantitative indicators would be preferable for comparative analysis.

Some aspects of the framework conditions are inherently qualitative and need to be represented by qualitative indicators, which on the other hand can be designed as a rating system in order to allow comparisons and analysis. International organizations, such as e.g., the World Bank, OECD and others produce a large number of rating systems based on standard inquiries, which allow conversion of performance into standard ratings, which again may be converted into relative performance represented in the form of international rankings.

As an example, a central question of causality arises from the prerequisites at macro-level: What macro-economic factors or specific factors of property registration represent the preconditions for introduction of a housing finance system, and what factors represent the outcome? Correlation of factors does not prove causality, although some overall patters can be seen of a positive correlation between housing credit portfolio and the GNP per capita (UNECE_2005b, p. 55-56). Richer countries can better afford a legal system, but what triggers development is open for discussion.

In Part A it was illustrated how mortgage markets developed economies have the upper hand in relation to the property market.

The Danish case has shown that when mortgage credit constitute a large volume compared to the national economy (GDP), changes in the mortgage finance conditions affect not only the capital market, but the national economy, as was seen e.g., during periods, when mortgage credit regulations were used as a tool in economic policies in Denmark. It was found that the mortgage finance system was such a powerful factor in the economy, that attempts to tighten households spending through credit rationing (stricter mortgage credit conditions) had unforeseen serious effects on the Danish economy. Restricting mortgage credit markets was found to be a powerful, but an unsuited instrument in the economic policy (Hoffmeyer, Jelved, 1997).

That global capital markets, mortgage credit, the national property markets and national economies are tied together has been evidenced during the global financial crisis, which was sparked off by the so-called sub-prime crisis in the US in 2007.

In emerging markets a central question of causality concerns what is the interference between formal registration and property market development. Registered property titles are needed as a basis for mortgage credit, according to the definition of mortgage pledges, chapter A.1.1. Irrespectively, a common objection against land titling projects is that they have not proven to have an effect on use of properties as collateral for long term credit, as envisioned in the project objectives (ref. to discussion in Part C).

A logic response to the critique of titling programmes is that registered title is a mandatory, but inadequate requirement, with reference to the range of prerequisites set up in Table A.21. Titling programmes may even have targeted areas, with limited prospects or desirability of market development. This example is illustrative of the complex causality at play due to the many different factors influencing both the supply and demand side of a market based mortgage finance system.

Local mortgage markets are strongly dependent on affordability, a ratio dependent on factors of demand and supply, both composed of complex factors related to macro-economic factors (economic opportunities, employment, inflation, etc.) and to local factors, such as land supply.

Due to complex relations between context and financing system, untangling of the Danish mortgage finance system from contextual factors remains a challenge. A large number of interconnected institutions and good information permit the Danish model to operate efficiently.

What the most critical components of the framework conditions are is difficult to pinpoint, but mounting evidence described in Part A and C is pointing to the crucial role of general rule of law, transparency and clear property rights as having been indispensible for the mortgage finance system as well as for economic development in general. The propositions on prerequisites for mortgage finance development set up in Part A, Chapter A.12, are implicitly suggesting causality, although not in a stringent fashion allowing modeling or deriving relations on a detailed level.

1.3 On Indicators in the Field of Property Rights Protection

Indicators on Property Rights Protection

Property rights protection cannot be represented by a single factor, and both rules based indicators and outcome based indicators are significant for profiling the situation of land tenure and the property regime.

Definitions of property rights show that property rights are essentially dependent on factors outside the specific property in question, as discussed in Haldrup (2008).

In consequence the phenomenon of property rights protection is characterized both by hard facts as well as by complex features like availability of services, their quality and legal security, so a complete representation of property rights will need to be represented by composite indices.

The analysis of historic events in the case of Denmark has illustrated what were important (but non-exclusive) factors along the development path and argued what factors were supportive of mortgage market development. These factors were compared with - and were found to be largely concordant with - criteria for mortgage credit development deducted from authoritative sources on housing finance (UNECE 2005, etc.). Hereby, it is suggested that through analytical generalization it is possible to derive a set of relevant indicators applicable in other countries, while still leaving open what are precise criteria or threshold values. Indicators can thus be applied for mapping out opportunities and risks so as to narrow down the number of unknowns.

Since many factors of the prerequisites for readiness for mortgage finance are qualitative are broad by nature, a review has been made of international monitoring systems of qualitative dimensions (rule of law, governance, etc.) to analyse how they may support the screening of readiness for Danish Mortgage Finance.

Macroeconomic monitoring systems encompass more and better global indicators on governance and rule of law, but within these a few addresses property rights protection. The review of macro-economic indicators and rating methods contributes to the methodology discussions associated with development of screening and monitoring in the field of property registration systems and property markets.

It can be added that housing Indicators is a huge field of its own, as evidenced by the comprehensive work on housing indicators by Angel (2000). No similar work has been found in the area of property rights.

A survey of international indices and ranking systems by Bandura (2005) covers over 130 composite indices, and the survey features the main characteristics of each system.

As was shown by Oia (2008), monitoring systems and indicators have mushroomed over the latest decades in many subject areas, but less so in the area of property rights and land registration, despite an apparent demand for information in that area.

The inventory of indicators below is intended at providing an introduction to different type of indicators on property rights protection, but the amount of literature and documentation on these topics is huge, so the

present review is limited to discussing selected elements thereof in a search for information and suitable methods for country screening of readiness for mortgage credit development.

An Increased Focus on Indicators of Cadastre and Land Registration

The decade since 2000 has seen a growth of comparative studies and an increase in efforts of developing indicators and monitoring systems in the area of cadastre and land registration. However, even basic data like e.g., formal registration system coverage, number of parcels, land distribution, structure of holdings, changes/year, and capacity appear to be in short supply or difficult to access.

The initial focus was directed at exploring available sources of information on the status of implementation of cadastres and property registration as well in individual countries as in cross-country comparative studies.

The picture emerging is one of fragmented information sources on property rights and land registration. Information on the conditions and status of real property rights is still dispersed or difficult to capture on a generalized level around the world for a number of reasons, including e.g.,:

> *1. Informality*: High level of informality of land tenure still prevails in many countries. When property rights are not held within formal systems, it follows that data and information systems on real properties will be unavailable.
> *2. Complexity*: Even where real property rights are formalized, complexity of organizations, including de-central structures and multiple organizational responsibilities, makes stock-taking difficult. Information may be distributed or only available at high levels of detail for specific applications.
> *3. Historical character*: Registration systems have been developed incrementally over time, and often the formats of records and archives prohibit easy information extraction, in particular of generalized summary information;

In addition little attention has been given to generation of statistics for monitoring of cadastral developments and land registration, although some studies have been produced lately highlighting certain dimensions of property rights systems, which allow measurement, for example of transaction costs. On this background an inventory of potential sources of information becomes even more pertinent.

A global trend is an increased interest in understanding the character and quality of a country's property institutions for a number of reasons, e.g.,:

- *Global economic and capital market interest*: Global investors require better information on the property rights regimes, ease of doing business and protection of investments in different countries as a basis for decision making in a globalized economy;
- *Focus on Good Governance*: Due to the key role in good governance of the governance of land, national governments and their development partners have increasingly taken an interest in land tenure security. Property rights protection and the development of real property registration systems are central parts of the rule of law, as well as in land management systems and public infrastructure measurement;
- *The surge of the monitoring culture in policy development and management*: Performance measurement is being introduced into the public sector around the globe, combined with tendencies to compare, monitor and benchmark many types of services, which have not previously been subject to performance measurements; The demand for indices has grown in response to the call for transparency and monitoring requirements from development partners (Bandura, 2005).
- *Focus on property institutions' role in development*: The institution of property have attracted new attention with the role of property rights played in theories introduced by economists, e.g., the New Institutional Economists, Douglass North, and the Peruvian economist, Hernando de Soto; In emerging economies the negative consequences of a lack of properly functioning property registration systems have brought the need for reform of property institutions onto the center stage;
- *Spatial Data Infrastructure developments*: In developed economies land and real property information systems are central to development of SDI for planning and provision of modern public administration services. The role of cadastres and land registries is becoming visible in the data

models and information systems design. Innovation and development of SDI carries a potential for efficiency enhancement or even more fundamental reforms.

It is well known that there is a gap between formal law and practices in many countries, especially in developing economies outside Europe. This gap is not necessarily captured neither by descriptions of the systems, nor by quantitative data on informality: A formal representation of the situation will not reveal the level of irregularities in land management. Informality, on the other hand, may not be equivalent with illegality. Capturing the level of protection of property rights in these countries is therefore a challenge.

Recent progress in building monitoring systems in this area was reviewed in a search for possible sources of use for feasibility studies in housing finance. Indicators of the risks and opportunities in this regard would be especially informative for financial experts working with housing finance development. The status of indicator development is discussed below in chapters B.2-B.4.

1.4. An Inventory of Information available on Property Rights Protection

Types of Information Sources

The first step of an inventory concerns what source data is accessible with wider country coverage on cadastres and land registries, so as to feature the key functions of property rights protection. A range of quantitative and qualitative data is required for generating indicators on implementation level of formalization (or informality), and property market development in a given country.

The sources found of relevance for the status of property rights protection have below been grouped into the following types of information:

1. *Sources on the status of cadastre and immovable property registration;*
2. *Comparative studies of land administration systems;*
3. *Performance studies on transaction costs and foreclosure;*
4. *Macroeconomic indices of relevance for property rights protection*
5. *Macroeconomic indices on economic development and governance.*

The characters of each type of information source are distinct. The sources of type 1 and 2 tend to originate from professionals and practitioners in the field of land administration /property registration, who strive at generating information among peers mostly with the purpose of further improvements, and for general exchange of information.

A distinction is made here between studies on cadastre and land registration, and studies in land administration. The latter tend to be wider in scope covering as well land policy, land management, etc., but with less focus on legal issues.

Another distinction can be made according to how information was generated for the comparative study. The most detailed studies rely on research teams with special expertise, who have prepared country studies, and compiled national data. When information has been generated by use of questionnaires filled in by informed representatives, the level of detail may (deliberately) be limited to fit into the given assumptions and format.

The above types and groups of indices are not precisely defined or delimited, but the macroeconomic indices and ranking systems on aspects of property rights protection have largely been developed by economists within a broader perspective of gauging the business environment, the stage of governance, and the level of macro-economic development. Macro-economic indices based on (perception) surveys are inherently relative and rather abstract in nature, and do not lend themselves easily to specific, detailed analysis. Instead they serve well in representing perceptions of complex or qualitative features, which can hardly be measured otherwise, e.g., the perception of corruption level or quality of services and institutions.

Each type of information represents different dimensions of the property regime. Information on the status of development, type of tenure system, coverage, etc. may range from technical data to system characteristics, which is left open to the reader's interpretation in respect to what it means for property rights' protection. On the other hand, basic quantitative and qualitative data could be readily applicable for further analysis.

An Overview of Sources of Information on Cadastre and Property Registration

Available information sources on the status of cadastres and land registration systems around the world are mostly descriptive, but often complemented with some data and statistics in a report format. A search for specific information is generally made difficult by an uneven and unstructured nature of information, and the lack of organization of information sources.

The following types of information sources have been explored:

National Reports and Country Case Studies on Cadastre and Land Registration
These basic sources are closest to the subject matter with mostly inventory type information, predominantly in descriptive form on

- Land tenure systems principles and legislation; property rights registration and structure;
- Technical dimensions of cadastral services, information systems, SDI, etc.,
- Organization and management of immovable property registration and land administration.

Despite the rich nature of many national reports, it is cumbersome to dig out useful information for monitoring in general and for the present study in specific.

Comparative international studies and monitoring systems
Some comparative studies cover a number of countries in the form of

- Systematic inventories of general features of property registration systems
- Monitoring systems of progress of registration, service delivery, etc.

But still comparative studies are deficient in coverage and depth.

Specific performance studies, e.g., on transaction costs and conveyancing service, foreclosures
Dedicated studies are available on selected dimensions of land registration, e.g.,

- Analysis of how selected systems functions seen from the perspective of users through benchmarking of i.e. processes of transactions and costs, which both include process analysis and selected quantitative indicators on transaction time and costs;
- Analysis of specific topics, such as e.g., foreclosure effectiveness;

Reports on cadastre and legal registries typically describe central system characteristics such as historic background, legal basis, organization and actual reforms, activities and services. Depending on the source, information can often be found on the technical systems, coverage and services. Delving deeper into national reports may reveal some statistics on registration, property rights distribution, property market activities and transactions etc. as needed for creating an overview of the status of property rights protection. However, often reports have been prepared for a special occasion or purpose, where – for good reasons - the emphasis is determined by a certain professional perspective rather than providing a complete representation of the status of property rights protection in general. Such reports may therefore neither be well suited for comparative purposes, nor cover essential information in the areas of protection of property rights and mortgage pledging.

The studies reviewed on transactions costs and conveyancing services represent in-depth analysis of the subjects of relevance for the present study. The modeling of transactions in a form suitable for international comparison provides a methodology and system for replication of the effort in other countries than the case countries included in the study. However, most transaction cost studies cover developed countries with a mature system of property conveyancing and property market. The research methods applied for such detailed analysis do not lend themselves easily to replication in an analysis of a wider group of countries as required for the present study. Benchmarking depends on modeling, which presumes a level of standardization and maturity of organization.

Challenges are encountered even in countries with fully developed property registration systems, with scarcity of integrated statistics covering the area of land tenure and property rights registration, despite a high level of computerization. On this background it is not surprising that in countries with widespread informal tenure arrangements, hard data /statistics on property rights registration are close to non-existent.

Level of analysis: detail and geographic dimensions

The questions' matrix was structured to reflect the range of detail and geographical resolution entailed with a full inventory. Clearly, a full coverage at these levels would be beyond the limits of a single study, but the macro level is the predefined entry point of the present analysis.

Some dimensions of the analysis are naturally embedded in the national level. This is the case with factors like statuary law, policies and macroeconomic conditions. In fact property rights are "delivered" through a national macro-structure. Ownership and enforceable rights arise through third party guarantees defined in legislation and secured through the overall judiciary and administrative system. Without a legal-administrative system properties will be held in possession, only.

However, an analysis of the potential for mortgage credit would require delving deeper into the subject matters at sub-national level: Partly because the basic phenomenon is local: Land is spatial and real property markets are local by nature; Partly because national averages may conceal important development differences. As a consequence a full country screening will require regionalization, disaggregation, etc. to reveal in-country variance and dynamics characterizing e.g., urban areas vs. rural and leading regions vs. the periphery.

It follows that the conditions to be screened concern different levels of analysis:

1. Cross-country comparisons supported by statistics, indicators and rating systems
2. National level analysis – country studies - concerning
3. Sub-national level of territorial administrative units incl. major urban conglomerates

Only the levels 1 and 2 were included in the study. Further work is required to prepare disaggregated analysis at level 3 of sub-markets within each country. This is likely to be an important and rewarding task.

On National reports and country case studies on Cadastre and Land Registration

At a global level, an abundance of country case studies can be found on a wider range topics within land tenure, urban land markets and property registration at web-portals like e.g.,

http://www.fig.net
http://www.landcoalition.org
http://www.lincolninst.edu/resources/,
http://www.unhabitat.org/
http://www.worldbank.org/landpolicy

When comparing the core data of the different international studies, they mostly rely on the methodology of obtaining data through country representatives, but little data and meta data is included for many good reasons. The standard formats applied for reporting are more or less stringent, and in some cases standard questions are not able to capture the characteristics of the system at more than a highly generalized level. Basic data may include e.g., an estimate of total number of parcels or registered properties distributed by rural and urban areas.

Statistical data on formality and transactions in the country reports is rather limited presumably for reasons of non-accessibility, and the scarce data on cadastre and land registration demonstrates the difficulty of collating detailed statistics in that area. General purpose data included in country reports typically offer a measure of the order of magnitude of the system, but is insufficient for benchmarking.

FIG members covering most countries of the world contribute with rich conference papers on cadastres and land registration topics, available as web resources at www.fig.net. Documentation on Latin American land

administration systems have been increasingly covered by dedicated web-portals like CADRI (www.cadri.org) dedicated to Land registration in the Spanish speaking world, mostly Latin America, and by Landnet Americas on land administration (www.landnetamericas.org).

The CADRI website is a rich information portal with reports, legislation and statistics in the area of land registration from the Spanish speaking world. It also holds news items like interviews and news cuts from the press on property rights issues. The website is established and maintained by the Spanish Colloqium of Notaries, who arranges annual courses in land registration - as the name suggests (Curso Anual de Derecho Registral Iberoamericano). Since it is more a web-portal than a system of monitoring, it will not be further described here, but the CADRI website serves well for searching information for case country studies in Latin America.

The challenge of using country reports is their inhomogeneous and bulky character. Most of the above type sources describe and compare cadastral systems and land registration systems predominantly by use of qualitative information.

Such descriptive information may be difficult to interpret from a user perspective, and in respect to what are practical implications of the described national systems for protection of property rights, transactions and for pledging of properties. Similarly, it is difficult to derive risk assessments from general descriptive information sources as necessary for monitoring the protection of investors. For such purposes are required performance measures and statistics.

All available international sources on property registration systems form important sources to be explored, but more pointed extracts of key information is required for use in screening of countries for readiness for mortgage finance, so a search for such data has been made in the mentioned sources.

On Comparative Studies and Monitoring of Cadastres and Land Registration

Comparative Studies in cadastre and land registration and Monitoring of Land Administration Systems have been prepared with different purposes by comparisons of different aspects, e.g.,

- Types of cadastral systems /land administration systems and level of implementation
- System designs and organization against 'best practices'
- Performance of systems or selected operations, services or transactions, or
- Outcome against policies.

Some comparative studies have a normative character with reference to principles and norms recommended by international bodies, such as e.g., UN-ECE, FIG.

Comparative studies in cadastres and land registration (land administration) are prone to a number of difficulties, first and foremost lack of basic data where land tenure is informal or registration systems are deficient or simply by lack of reporting. It follows that where property rights are precarious, it is also difficult to profile the legal and administrative environment of the land market in quantitative and qualitative form.

In the case of comparative studies on cadastres, the trend is to emphasis technical system dimensions and Spatial Data Infrastructure. The results of comparative land administration studies, on the other hand, tend to be broad in scope however rich in information. If the analysis covers wider land administration issues, such generalized findings may be difficult to apply for assessment of the specific conditions of mortgage finance and pledging.

Data collection using expert responses to standard questionnaires may not capture special performance problems of the cadastre and land registration system, while stakeholder surveys of perception based ratings have other shortcomings.

Furthermore, every national land registration system has its native character embedded in a particular legal, administrative and cultural context. If comparisons are to be more than descriptive, then standards have to be

defined on how to measure certain dimensions of performance and service delivery in land registration, see discussion in Chapter B.4.

The European sources are focused on capturing the characteristics of fully implemented cadastre and land registration systems, but do not deal with informal tenure, which is hardly an issue in Europe. Thus the questions of importance in a European context are what type of protection and services the systems provide, how efficient do they work, what information is provided at what costs, etc.

It can be concluded that a possible feasibility study for implementation of the Danish mortgage credit system in mature and complex environments such as in Europe, cannot be based on the mentioned general monitoring systems and information sources, but will require a highly detailed and well targeted country study.

On Performance Studies on Transaction Costs and Foreclosure

Transaction costs play a special role in the land market as well as in theoretical debates on economic development, and so do the issues of rule of law and juridical enforcement irrespective of costs, see Part C.

Therefore, performance studies on benchmarking of transaction costs have been reviewed, see chapter B.3. Unfortunately transaction costs studies are not conducted with wide geographic coverage nor regularly. Dedicated and detailed transaction cost studies are available on selected European countries on a limited scale.

A transaction cost study can perhaps be compared to a kind of X-ray of the system, which may help diagnose its general construct and health status, and in case of high cost levels, help pinpoint the trouble areas. Where, comparative transaction costs studies are available, they may function as indicators in screening of the market conditions of mortgage finance.

Transaction costs are related to the qualities of the legal system and to legal enforcement: How long time and at what price does it take to achieve protection through the legal system?

Legal enforcement of credit contracts and effective foreclosure are fundamental to mortgage finance. Comparative cross country studies on level of legal formalism, judicial enforcement and foreclosure demonstrate the vast difference among countries on performance of their legal system, and measures through advanced econometric analysis the effect on e.g. credit market development, ref. to chapter B.3.

Studies on legal enforcement and foreclosure are available on a global scale e.g., through the international organization of law firms, Lex Mundi, http://www.lexmundi.com/lexmundi/Default.asp.

On Macroeconomic Indices of Relevance for Property Rights Protection

Another level of information is available in international rankings based on composite indices (def. see Chapter B. 1.5). Some indices and ranking systems have been developed by international development agencies like the World Bank and branches of the UN for gauging the levels of good governance, conditions of business development, or for monitoring international development goals. Such indices are typically generated through perception based indicators by use of survey responses and expert assessments measured at a relative scale in standardized form across a large number of countries.

Some macroeconomic indices are of special interest for screening, because they include dimensions of property rights protection or depend thereon, as is the case with e.g., rule of law and governance indicators. Or macro-economic indices and ratings could potentially be inspiring for future developments of indicators on land governance and property rights from a methodology perspective.

Furthermore, macro-economic indicators open for an analysis of the relation between the three grand topic domains of the study: Mortgage credit (A.), property rights (B.) and economic development (C.), an analysis pertaining to the macro-level.

The following macro-economic indices have been found to include factors of property rights protection:

Indices, Rankings and Organisation	Latest no. of countries	Year*	Links
Ease of Doing Business (World Bank)	178 183	2008 2010	http://www.doingbusiness.org/economyrankings/ Own surveys, original indices
International Property Rights Index (Property Rights Alliance)	115		http://www.internationalpropertyrightsindex.org Composite indicators based on other sources ('remix')
Index of Economic Freedom (Heritage Foundation)	162		http://www.heritage.org/research/features/index/ Own surveys, etc.
Worldwide Governance Indicators (World Bank)	212	2008	http://info.worldbank.org/governance/wgi/index.asp Composite indicators based on 35 separate data sources
The Global Competitiveness Index** (World Economic Forum)	133	2009	http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm Sources: Based on surveys and on hard data
Transparency International, Corruption Perception Index (CPI)	180	2009	http://www.transparency.org/policy_research/surveys_indices/cpi/2009; Sources: Own surveys

Table B.1. *Overview of Macroeconomic Indices reviewed*
**Uncertainty of dating input data; **Reference to chapter C, where it is discussed*

Below follows an overview of selected studies with reflections on the contribution of each initiative, followed by a discussion of potential applications for screening of readiness for mortgage finance. Only comparative studies including cross-country data have been commented. Specific sources on cadastre and land registration are discussed at first, followed by an introduction to selected international indicator and rating systems including components of property rights protection.

2. A review of Standardized Inventories of National Cadastres and Property Registration Systems

2.1 Selected Country Inventories on Cadastres and Land Registration Systems

Overview of Sources

Recent initiatives have been taken by different actors in overcoming the information void of comparative information on real property regimes and protection of property rights. The efforts are here grossly divided into the following categories:

1. (Standardized) Reporting developed by international professional networks in order to promote comparative reporting from real property institutions to international networks. (Cadastral template, Eurocadastre)
2. Development of standards in meta data to facilitate international access to information systems on real property (EULIS, Eurogeographics, FIG, UN-ECE)
3. Development of monitoring systems by development institutions as an aid in developing good governance programmes, including land administration (-registration) systems. (GLTN, USAID, WB, etc.).

National reports in a more or less standardized format are accessible through a wide range of sources but with a European dominance:

a) The Cadastral template, Steudler, D. et al, 2004-2008
b) UNECE, Working Party on Land Administration, 2005 (b), "Inventory of Land Administration Systems in Europe and North America"
c) Eurocadastre, (national reports from national cadastral agencies in various dates) and by
d) Eurogeographics, Working group on Cadastre and Land Registration, 2008, "Cadastres and Land Registries", http://www.eurogeographics.org/documents/CadastreandLRBenchmarkinformationpdf.pdf
e) Nordic country studies.

Despite global efforts, there is a European dominance in systematic inventories of cadastres and land registration, as represented in the (non-exclusive) list of cadastral /land registration inventories shown in table B.2 (but it is possible that there could exist other major systematic inventories, which have escaped attention here). An overview is provided, and selected information sources are commented below.

A global project was launched to establish a worldwide reporting system on cadastres through the "Cadastral Template" project, www.cadastraltemplate.org. The global coverage represented by the 42 countries in the database by end 2009 is rather uneven, and not even the European countries are fully represented. The non-European countries included range from micro-size countries as Kiribati to mega countries of China and India, all represented by one data set.

The template is an example of an emerging trend towards comparative studies in cadastre with the ultimate purpose of benchmarking. As information on property registration in other countries is becoming more accessible, the tendency is to strive for standardization and facilitation of comparative studies, whether technical or performance based. Thus there is a converging trend between standard reporting and efforts of developing benchmarking systems in this area.

The sources a.), b.) and d.) are standard format reports collected through a questionnaire approach, while c. provides more or less free-style reporting on national systems, but all information is delivered by key experts (country representatives). The information is predominantly descriptive, although some studies are fully structured and include some quantitative data. The study, d.), prepared by Eurogeographics features selected benchmarking parameters on processes and costs of registration similar to the principle of the World Bank Ease of Doing Business indicators, but the reporting has been made from a single source, a representative of the national cadastral authorities.

ORGANISATION	REFERENCE	Core Concepts	Data contents	Countries incl
University PhD-work; (FIG) Source: National informants Updating: Volountary, Possible, Ad hoc	FIG Cadastral Template http://www.cadastraltemplate.org/ A Worldwide Comparison of Cadastral Systems Established by D. Steudler in 2003-4 Steudler, D. I. P. Williamson, and A. Rajabifard. 2003. "The Development of a Cadastral Template." *Journal of Geospatial Engineering* 5 (1): 39–47. Voluntary work with no resources for maintenance	**Template** for country report on the status of cadastre and land administration; National, descriptive with few quantitative data, non-spatial data;	Standard reporting format: - Country Context - Institutional Framework - Cadastral System - Cadastral Mapping - Reform Issues - Cadastral Principles - Cadastral Statistics (few data fields)	Status 2008: 42 countries worldwide Voluntary ad-hoc updating (if any)
Nordic Study	Nordic studies of Cadastres and Land registration systems			5 Nordic countries
UNECE Source: National informants Updates: No	http://www.unece.org/hlm/publications.htm UN-ECE, 2005 "Inventory of Land Administration Systems in Europe and North America", Fourth Edition, Produced and published by HM Land Registry, London on behalf of the UN ECE Working Party on Land Administration, July 2005, http://www.unece.org/hlm/wpla/publications/Inventory%204th%20Edition.pdf	Standard questionnaire filled in by national agencies' representatives Rich information source with a good structure	Key features of Land registration system; Cadastral and Topographical Mapping Systems; Land Use Recording systems Organisation and government responsibility; Some quantitative data.	41 countries in Europe and North America Report not maintained
EURO-CADASTER Source: National Agencies Updating: Ad hoc /static	http://www.eurocadaster.org/ http://www.eurocadaster.org/eng/documentseng.html Rich website with a large number of country reports of different formats, but rather comparable to conference papers, than standardized monitoring data/reports This is a non systematic information source	Country reports, predominantly descriptive Country data attempted, but scattered, and not consolidated into a table. Incomplete, but anyway informative information source.	Strength: descriptive. Include no. of parcels, rural-urban distribution, registered properties, etc. Some country information refer to IACS others not.	EU member countries (27) Information is not tagged with a date, but reports are dated Ad-hoc contributions
EUROGEO-GRAPHICS: Source: National Agencies Updating: Unknown	New initiative to benchmark the European Cadastre and Land registries is conducted by a working group of Eurogeographics: Cadastres and Land Registries Source of information, March 2008, http://www.eurogeographics.org/eng/documents/CadastreandLRBenchmarkinformationpdf.pdf To be seen in context with EULIS	Integration of previous efforts of the cadastral template and WPLA of UN-ECE Strength: structure and comparative format Data fields are still basic	Basic country statistics Duration, process and costs of: Conveyance of property Registering a mortgage Subdivision of a parcel Performance indicators	EU member countries 2008 First basic version with comparable data; Expansion and maintenance expected

***Table B.2**: Selected standardized country reports on cadastre and land registration*

2.2 Comments to the Cadastral Template

Background

Steudler (2003) pioneered work on development of international benchmarking of cadastres with a team from University of Melbourn, Australia, to overcome the difficulty of collating cross-country information and statistics on cadastral systems.

FIG, the International Federation of Surveyors, with partners in the academic world, has contributed to development of a standardized approach to getting comparable data on national land administration systems, including cadastres and land registration systems (Enemark, 2004).

The proposed evaluation framework for land administration systems represent four evaluation elements, — objectives, strategies, outcomes, review process—and links them with the different stakeholders within the organizational pyramid.

Steudler et al (2004) and the FIG working group on cadastre have furthermore worked on establishment of a cadastral template for collating data on national systems, for establishing a Worldwide Comparison of Cadastral Systems, based on standard cadastral country reports, a system presented as the jointly developed PCGIAP/FIG template, see www.cadastraltemplate.org. These efforts were endorsed by UN mandate by Resolution 4 of the 16th UNRCC-AP in Okinawa, Japan in July 2003. The UN endorsement for cooperation included the support of the organizations UN-ECE WPLA, UN-ECA CODI, and PCIDEA.

The cadastral template represent a highly commendable effort of nurturing a better understanding of the role the cadastre plays around the world with particular reference to the spatial data infrastructure (SDI). It was also envisioned as a basis for comparative studies and for improving cadastres (Steudler, et al, 2004).

> *"In consequence, the project of the "cadastral template" is an endeavour to establish a standard form that allows cadastral organizations to present and describe their national cadastral system in a standardized way. The standardized structure of the cadastral template will then allow the identification of similarities and differences in matters such as national land policy, laws and regulations, land tenure issues, institutional arrangements, spatial data infrastructures, technology as well as human resources and capacity building."*

The template is composed of two parts: A Country Report, and a Questionnaire, see documents available at http://www.cadastraltemplate.org/admindocuments/index.htm.

The Questionnaire is targeted at capturing basic cadastral principles of the system and statistics on degree of implementation. Responses to questionnaires are summarized in tables accessible online.

The template features both characteristics of the cadastres and land registration systems. It captures the basic principles of the cadastre and land registry together with its order of magnitude as described by selected cadastral statistics (no. of parcels, no. of strata titles). The template also includes some information on level of implementation and coverage in rural and urban areas, and on the number of professionals active in cadastral work, provided respondents have submitted information on the matter. There are no performance measurements included (costs, delays, etc.).

By September 2008 42 countries (of in total +200 countries worldwide) had submitted country information (overlap with but are not identical to the 42 countries covered by UNECE, 2005).

The cadastral template proves to be a fine introduction to national cadasters represented with valuable information, but the template has so far not developed into a monitoring system.

Information Contents of Cadastral Template in View of Criteria for Security of Collateral

The cadastral template includes two sections: I. Country Report and II. Questionnaire. An abbreviated version is shown in Appendix 3.

All the information of the Cadastral Template is relevant and of importance for country screening according to the criteria for introduction of mortgage credit concerning existence of a property registration system and the status of implementation. If country reports and information is available in the format given by the cadastral template, important information can be extracted on the legal principles of registration and on the status of cadastral implementation or maturity of the system. The distribution between rural and urban implementation is central, as is information on volume. Questions of professional capacity are also addressed, which allows relative estimations of capacity as suggested by Burns (2006), see Chapter B.4.3.

Each section of the Cadastral Template has a distinct character. The first part of the Template includes geography and country context in descriptive forms (*Geographical Context, Historical Context and Current Political and Administrative Structures*). Similar information is included in many other country fact sheets, which could potentially be applied as standard information sources. Hereby the task of updating e.g., population figures and urban-rural distribution would be simplified.

The section on history of the cadastre is relatively static, so updating thereof will not be critical, but the structure of the historical presentation could potentially be standardized.

Some elaboration of questionnaire could potentially help profile the quality of the cadastre and registration system – perhaps in a more simple way than through specifications on mapping; especially the issue of identifiers and access to information. The protection provided by deeds' registration systems depend on its implementation and practices. Of particular importance is its organization principle, whether the key entry (ID) is personal name, or dates of registration or case names, or the entry principle is location based with unique IDs of location through addresses, or parcel /property identifiers. The existence of a registry index map is critical in this respect. In this way the template could be seen as a point of departure in developing a qualitative rating of cadastres and registration systems, which is not possible with the current information.

For screening of the criteria for mortgage financing, more information on the registration system and practices would be extremely helpful, beyond what is currently portrayed in the cadastral template, especially on:
- Existence of legislation on mortgage pledging and foreclosure,
- Extent of mortgage pledging (Occurrence of use of real property as collateral),
- Procedures and practices re. foreclosure,
- Availability and access to cadastral and land registry information, and
- Transaction time and costs.

When browsing the country reports available in the system by end 2009 on 42 countries, it can be seen that the first part, the country reports, are dominating. Some of the country reports are very well prepared. They provide concentrated and rich overviews, and may in many cases serve as an excellent entry point to further information. The use of questionnaire data for comparisons is somewhat difficult, because central information on e.g., cadastral principles is highly generalized. As an example, the registration in the Danish registration system has been shown as 'optional', which is theoretically correct, but all property transactions are in practice registered due to the compelling incentives embedded in the system.

Completeness of the actual contents of the cadastral template and lack of updates is an Achilles heel of the systemic weakness of information collection relying on voluntary contributions by individual country representatives.

For these reasons it would be desirable to convert the cadastral template data into a score and ranking system for comparative purposes similar to macro-economic indices and rating systems. For that purpose the qualities of the services need to be graded, and classification systems set up of registration system legal principles, and level of system implementation. The methods of data collection and reporting for the monitoring system could also find inspiration in the structure of macro-economic indices commented below in Chapter B.8.

Concluding Observations

The analytical structure suggested by Steudler (2003, 2004) is helpful for elaborating other specific formats of profiling of cadastral systems and could potentially be further developed, as suggested by Steudler et al. inviting suggestions thereon (ref. to cadastral template).

Although the goal was benchmarking of cadastral systems and best practices, the limited country coverage and updating also demonstrated the challenges of implementation at a global scale. Unfortunately, it was not

backed by the needed resources for establishing a continued production or generation of automated extracts of key data and feeding of information into the cadastral template.

The information of the cadastral template falls somewhat short of achieving its declared objectives, but constitutes a valuable point of departure for screening of cadastral systems, wherever national information is available. For the specific purpose of country screening as required for analyzing conditions of mortgage financing, further elaboration of information contents and format would be required, for example concerning protection of mortgage pledges and foreclosure.

If the cadastral monitoring system is to match other international indices, comparative data is required in the form of scores and indices in a kind of rating system. Refinements of sub-indices could potentially feature different dimensions of the system, and a composite index its overall quality and performance in respect to property rights protection, security of collateral and access to information (SDI).

What can also be concluded is that the approach of data collection through a national reporter and voluntary reporting appears to be in-adequate and unsustainable - despite the backing of professional organizations with worldwide membership. Approaches to building macro-economic indices in other fields such as in rule of law and governance may serve as inspiration.

2.3 European Information Sources on Land Cadastre and Property Registration

Nordic Studies of Cadastres and Land registration systems

The Nordic situation of the Cadastres and Land Registration systems has been described and compared in a comprehensive study through a cooperative effort of the National Agencies of Cadastre and representatives of Universities in each of the countries (KMS, 2006, http://www.kms.dk/Matrikelogejendomsdannelse/Nordisk+ejendomsregistrering/Nordisk.htm). This is a compilation of country reports prepared in an exemplary structured and meticulous manner, but not a monitoring system.

The comparative studies of property formation and transactions in the five Nordic Countries (2006) provide a deep review of the cadastres, land administrative system and property registers in each of the Nordic countries. The study includes overviews and summaries in a format, which might be relevant for application for other country studies. Some key data is included in the comparative study, but not a full set of indicators.

The reports of the Nordic Cadastres and Property Registration systems (2006) include a summary chapter (Stubkjær, 2006) pp. 311-337 with a compressed and comparative version of the findings covering formation and transactions of property in the Nordic Countries.

The Nordic systems are also well documented through preparatory studies produced in preparation for the latest reforms of the legal registration in Norway, Sweden and Denmark. However, much information is available in national languages, only.

It is doubtful, if the in-depth character and format of the Nordic studies can be applied for comparative studies elsewhere, as it derives from rich information resources available in mature systems.

UNECE Inventory of Land information Systems

The UN Economic Commission for Europe (UNECE) has been active in the area of land administration and housing finance through the Working Party on Land Administration (WPLA). Continued efforts are made in developing inventories, standards and guidelines within housing and land administration. The most recent inventory of Land Administration Systems in Europe and Northern America, includes information on cadastres and land registration with relevance for registration of mortgages (UNECE, 2005 (b)).

An earlier study of the UN-ECE, 2003, was dedicated to issues of restrictions on agricultural land, and covers responses received from 31 countries and jurisdictions in Europe and North America. The study

includes a few questions on mortgages, which might be of general relevance, but it has not been found applicable for the present study.

Another UNECE study on housing finance is thoroughly commented on in part A (UN-ECE, 2005a).

The structure of the UNECE-Inventory (2005b) is adapted to a European context, and therefore goes deeper into areas of design of the land registry and cadastres. Whereas the cadastral template has a natural emphasis on cadastres (but also includes general land administration issues), the UN-ECE inventory took its point of departure in the area of legal registration, while also including information on cadastres and mapping. The resulting inventory includes responses from 42 countries in Europe and North America (2005), based on a standard questionnaire. The information on cadastre and registration principles is rich, and includes as well principles and statistics as references to legislation and organizational structure.

The questionnaire connects to matters of relevance for mortgage pledging, by including questions on e.g. access to information, state guarantees of registration and priority rules for registration of rights:

> B2. *Please indicate which of the following items are included in these records*:
> 1. Purchase Price Paid, 2. Legal Rights, 3. Existence of Secured Loan
> B5. *Is this data open to public inspection?*
> B6. *Is the system of property transfer/land registration guaranteed by the state?* Y/N
> B7. *Do you have a system to protect an application to record a change of ownership against another pre-dated transfer?*
> (for instance by establishing priority rules for registration applications)
> B9. *If records are maintained of the following information please indicate the approximate number of properties transferred annually*:
> 1. From State Ownership to the Private Sector? 2. Within the Private Sector? 3. How Many Mortgages Were Registered

As can be seen, the current version of the inventory does not include information on legal protection of mortgage pledging and foreclosure. This is understandable considering the difficulties of collating other basic information. Further development of the monitoring system calls for inclusion of additional and more detailed data on mortgages and the property market.

The UNECE inventory (2005b.) could be seen as a step on the way towards developing a more comprehensive monitoring system of land administration.

Since many cadastres and formal registries generally outside Europe have evolved from European concepts, the UNECE could potentially be a relevant actor in developing models of monitoring and reporting building on the work already done, and taking off-set in launching the monitoring globally through the UN regional commission structures. The strategic plans of UNECE continue to focus on the area of housing and land market, but do not suggest ambitions in regard to expanding its monitoring activities.

EU Sources - EUROCADASTER and EUROGEOGRAPHICS

The most obvious source of information on cadastre and land registration in the European Union is the website of the Permanent Committee on Cadastre in the European Union, EUROCADASTRE, the representative body of national cadastral institutions in the European Union, http://www.eurocadaster.org/. The Eurocadastre website functions as a web portal to country reports and other relevant documents, http://www.eurocadaster.org/eng/documentseng.html.

Country reports are available in individual formats. Detailed, but scattered, data can be found, but country data is not consolidated, neither does the information seem to be tagged with a date. Some reports include cadastral statistics, such as no. of parcels, rural-urban distribution, registered properties, etc. Some country information refer to IACS-monitoring data, others do not. Although the national reports are incomplete in format and contents, they are informative sources, when searching for information on a specific country, despite limitations in the hard data included.

For natural reasons coverage is limited to EU-Countries, and due to its lack of an overall structure, it does not provide guidance in development of a screening methodology for the present study. However, the

website provides inspiration to what issues will need to be addressed in detailed country screening. The fact that information on mature cadastral systems in the European countries is not yet easily accessible or fully transparent, demonstrates how challenging the endeavor of country screening is likely to be in less developed countries.

Recent developments in the Eurocadaster committee point toward a future multi-disciplinary approach with focus on SDI, and on development of the internal market also in respect to real property, through cooperation between Eurogeographics, EULIS and the European Mortgage Federation, see below.

An effort of benchmarking the European Cadastre and Land registries has been made by a working group under Eurogeographics, which has published the report, "Cadastres and Land Registries, Source of information, March 2008, Final",
http://www.eurogeographics.org/eng/documents/CadastreandLRBenchmarkinformationpdf.pdf

The first version of the report includes a first version of benchmarking systems in respect to
- Transaction processes, transaction time and transaction costs,
- Registration of mortgage,
- Conveyancing costs and time – re. subdivision of parcel

However, at the time of writing the benchmarking data was rather limited.

It shall be noted that the Eurogeographics benchmarking of cadastres and land registration builds on the same principles as applied by the World Bank surveys of 'Ease of Doing Business'. The indicators of the World Bank 'Ease of Doing Business' represent a global benchmarking system as concerns selected dimensions of property transactions, as discussed below in chapter B. 6.1. The Eurogeographics information on transactions is more limited and has not been converted into a scoring system, so therefore the data does not permit ranking, ref. to
http://www.eurogeographics.org/documents/CadastreandLRBenchmarkinformationpdf.pdf.

The development of national reports by the Eurogeographics is showing an emerging awareness in technical organizations of the importance of real property transactions and provision of services to the financial markets. Irrespectively, introduction of a more complete benchmarking system by Eurogeographics does not seem to be forthcoming, which might be seen as illustrative of the difficulties of creating benchmarking systems of this kind – or of changed priorities in the wake of the financial crisis.

Concluding Observations on Comparative Cadastre and Land registration Studies

The topics of the present study are closely related to the efficiency of the land market and on effectiveness of property transactions including pledging of property and foreclosure. What matters for the financial markets is how the cadastre and land registration systems enable mortgage lending, and how well the services are provided in property transactions. Transparency in mortgage finance is dependent on access to information on property rights and the property market in general, as well as access to specific information in the pre-sales /pre-contract phase. Disaggregated and fresh market information is also critical to the quality of property valuation.

The available studies of cadastres and land registration mentioned above constitute inadequate information sources for this purpose, calling for more detailed information in the form of a monitoring system with metadata and information of a more structured, detailed and synthetic kind.

A major hurdle in screening of the adequacy and performance of cadastral systems is the diversity of organizations and the conceptual challenges of generating comparative data on cadastres, land registration and property rights protection, because each national land registration system is unique.

However, differences among legal principles and degrees of protection provided need further elaboration. It is suggested that the qualitatively different legal protection levels provided through deeds registration systems vs. title registration systems need to be elaborated and reflected in comparative studies. Additional questions needs to be addressed to service mortgage industry e.g., on adequacy of protection of mortgage

pledges, and on what types of guarantees are backing the registration systems. Accessibility and costs of services and information, as well as overall transparency, are other critical factors for the functioning of the property market as well as the mortgage market.

Global comparative studies are still under development and much remains to be done on implementing more than superficial representations of the cadastral and property rights registration status in a standardized way. It is proposed that conceptual modeling of indicators needs to be expanded to embrace dimensions of importance for housing finance and the property market.

3. A Review of Comparative Studies of Transaction Costs and Foreclosure

3.1 Overview of Selected Performance Studies

A measure for the performance of the property market is the efficiency and cost of property transactions, which is highly dependent on an enabling environment of property registration. Transaction costs are also central to theoretical discussions on economic development as discussed in Part C. So far in-depth benchmarking studies have mostly been prepared in advanced property markets, but certain indicators on transaction time and costs are included in many global studies on property registration.

The following studies have been reviewed in the area of transaction costs and foreclosure:

Study	Topic	Countries
Stubkjær (eds), Frank and Zevenbergen, 2007; European Science Foundation, COST	"Real property transactions, Procedures, transaction costs and models"	Slovenia, Sweden, Latvia, Finland, Denmark, England and Wales, and the Netherlands
Schmid, Christoph U., 2007; Centre of European Law and Politics (ZERP), University of Bremen	"Study COMP/2006/D3/003, Conveyancing Services Market"	England and Wales, Bavaria – Germany, The Netherlands, and Sweden. Statistics represent 20 EU-member countries
Djankov, La Porta et al. 2002; Harvard Institute Research	"Courts: The Lex Mundi Project"	109 countries
Djankov, Hart, McLiesh, Schleifer; 2008	"Debt Enforcement around the World"	88 countries
Japelli, Pagano, Bianco, 2002	"Courts and Banks: Effects of Judicial Enforcement on Credit Markets"	Italy

***Table B.3**. Overview of selected performance studies*

The COST study is presenting the findings of an academic cooperation project with diverse contributions from the participants. The study evolved over a longer period to explore different methodological and ontological challenges of modeling transactions. By X-raying land registration systems from a cost efficiency perspective, dimensions of fundamental importance for service delivery are documented. The method is cumbersome and not directly applicable for screening of readiness.

The ZERP report was commissioned by the EU DG Competition in order to explore the economic impact of restrictive professional regulation in conveyancing (i.e. services associated with buying and selling property) with a particular focus on related legal conveyancing services, especially the Latin style continental notaries.

The study succeeded in consolidating statistics and indices from 21 EU-member countries, on through advanced econometric methods and statistical analysis the study analyzed legal formalism and its outcome. The findings showed significantly higher conveyancing costs with Latin-style notaries without justification in quality of services provided. On the contrary it was found that .. *"higher levels of regulation lead to higher fees whilst not leading to a better outcome in terms of choice for consumers, quality, certainty or speed."* (ZERP, 2006, p. 178).

Other studies reach similar results, e.g., the more general comparisons between protection of rights and the level of legal formalism, see (Djankov, La Porta et al. 2002). The Lex Mundi study of the level of legal formalism in 109 countries, showed that *"formalism is systematically greater in civil than in common law countries, and is associated with higher expected duration of judicial proceedings, less consistency, less honesty, less fairness in judicial decisions, and more corruption."*

Yet other performance studies have focused on legal enforcement, including debt enforcement. Legal enforcement of credit contracts and effective foreclosure are fundamental to mortgage finance, and lies at the

heart of the need for collateral security. In cases of default, lenders must be able to recover their outstanding debt, typically conducted through foreclosure, which can be regarded a special form of transaction resting on dedicated legislation and specialized procedures (Butler, 2003).

3.2 Comparative Studies on Legal Enforcement and Foreclosures

Overview of the Survey

The mounting difficulties for mortgage credit in poorly performing legal systems has been documented by Djankov et al. (2008), who have developed a measure for the efficiency of debt enforcement in each country through econometric methods, that makes it possible to represent and compare foreclosure procedures and outcome of the legal process across countries. Their quantitative representations of legal enforcement efficiency illustrate the disastrous outcomes of weak legal systems around the world.

The survey data represented 88 countries included 30 high-income, 20 upper-middle-income and 38 lower-middle-income countries from different continents. Survey responses were provided by in-country insolvency practitioners, and data was made comparable through definition of a standard case of default of a hotel with the largest creditor being a bank.

> The case of a hotel defaulting on its debt was normalized across countries by relating its value to per capita income, and otherwise applying comparable variables, such as the dominant creditor having an outstanding debt equivalent to 100% of the hotel property value. The respondents were presenting the likely processes in case of 1. Foreclosure, 2. Liquidation, and 3. Reorganization.

The case of foreclosure of the hotel requested by the largest creditor, the bank, is here assumed to be comparable to a case of recovering collateral value in real property through foreclosure, when defaulting on mortgage debt, although the absolute figures of a company default are not identical to foreclosure on mortgage debt.

Djankov et. al (2008) found that:

- Their measure of efficiency of debt enforcement was strongly correlated with per capita income and legal origin across countries (p. 1105);
- Legal origins and per capita income are the most important cross-country determinants of legal efficiency in debt enforcement (p. 1107).;
- The measures of the efficiency of debt enforcement are economically and statistically significant predictors of the development of debt markets across countries (p. 1108).

The economic consequences of having poor legal systems are illustrated by the survey results (p. 1120): On average, the insolvency of the hotel would take 2,64 years to resolve, cost 14% of the estate, and through the process the Hotel would have lost more than half its value. In the worst cases (poorest countries) it was estimated to take more than 5 years to resolve debt enforcement. The study found that the Hotel property would have lost between 5% of its value through debt enforcement in the best case (Singapore, The Netherlands, and Japan) and in the worst case (Turkey and Angola) only 7% of its value would be left.

Djankov et al. found that debt recovery is extremely time-consuming, costly, and inefficient when looking at worldwide averages, but with enormous differences correlated with level of country income (2008, p. 1125), suggesting that per capita income is a crucial determinant of overall efficiency. Not all high income countries perform well, though. Debt enforcement in some rich countries (United Arab Emirates, Kuwait and Italy) were also found to be hugely inefficient, while some lower-middle income countries performed relatively well in the study.

The impact of legal origin on foreclosure efficiency was found to be significant, with lowest average performance in foreclosure in French origin legal systems: In French legal origin countries it took in average 3,4 years compared to 1,56 years in common law countries. In a few countries (E.g., Venezuela and Angola) the efficiency indicators measured were extreme and negative (Djankov, 2008, 1131).

The Djankov study (2008) documents the centrality of legal enforcement for mortgage finance, and it shows how indicators on foreclosure time and costs provide a 'Lythmus test' of the legal systems. Legal origin and per capita income were shown to be determining factors for foreclosure efficiency, although with exceptions.

For these reasons the Djankov study is here seen as providing evidence of the significance of foreclosure time and costs as indicators of the feasibility of mortgage finance development, as well as they justify the importance of the indicators, GDP/capita and legal origin for profiling the nature of the debt market.

It has not been attempted to extract data from the survey for further use in the present study.

Another comprehensive study of relevance for screening of conditions for mortgage finance devilment is the the Lex mundi study (2008) http://www.lexmundi.com/lexmundi/Real_Estate_Law_Group.asp

The Lex Mundi Real Estate Practice Group has conducted a series of global surveys of legal issues in Real Estate Investment and Finance, which so far has covered the following general topics in jurisdictions around the world: I. Foreign Investment; II. Ownership of Real Property, and III. Finance.

The Survey on Finance (2008) covers 38 countries plus 17 states of the US and 4 Canada states. The survey holds valuable information on e.g., foreclosure procedures and costs in the form of descriptive responses, but it has not been attempted to extract data for comparison and screening in the present study.

Effects of Judicial Enforcement

Causal relations are the topics of various studies, which have documented the effects of judicial enforcement on credit markets (Japelli et al, 2002), on home-ownership (Chiuri, Japelli, 2000), and there are studies on the role of enforcement in economic development (Trebilcock and Leng, 2006).

Japelli et al. document that the cost of enforcing contracts is a determinant of market performance, and they conclude that improvements in judicial efficiency should increase lending. Their study covers differences among 27 judicial districts in 95 Italian provinces and data set for years 1985-1995, and shows that in provinces with longer trials or large backlogs of pending trials, credit is less widely available. Because the study covers in-country implementation differences, the case is normalized as concerns potential influencing factor of different legal systems, etc.

Japelli et al. also argue that international evidence shows that the depth of mortgage markets is inversely related to judicial efficiency, which can be represented by the indicator, 'costs of mortgage foreclosure'. Japelli (2002, pp. 1-2) discusses the effects of weak enforcement on behavior: Poor judicial enforcement will increase opportunistic behavior of borrowers towards strategic defaults (as against accidental defaults), while lenders will respond by reducing the availability of credit. They argue that enforcement problems may be at the roots of the international differences in mortgage lending and in down-payment ratios (p. 17). Therefore, judicial inefficiency has high economic costs in credit markets (p. 18), while greater judicial efficiency can open up credit market to lower-grade borrowers, they argue.

Conclusions on the Importance of Effective Foreclosure

Although the data of the various studies on foreclosure effectiveness has not been consolidated for further analysis here, it is abundantly clear from the above that:
- Availability of effective foreclosure is a precondition for mortgage credit development
- Duration of foreclosure procedures correlate negatively with the size of the mortgage market, and
- Legal formalism affects debt enforcement negatively, and legal origin is an explanatory factor of differences of efficiency of legal enforcement;

The studies are supportive of the assumption that GDP per capita is an indicator of the efficiency of the judicial system in general and of debt enforcement in particular. It is also suggested that the availability of credit can be made more widely available with improvements in judicial enforcement.

3.3 The EU financed COST Action G9 Study

The EU financed Cost study was conducted as a multidisciplinary research project over a four year period (2001-2005) by researchers in a university network coordinated by prof. Stubkjær, Ålborg University (Stubkjær eds., Frank, Zavenbergen, 2007, http://costg9.plan.aau.dk/).

The COST Action G9 study is relevant here, due to its objectives of modelling transactions to help improve transparency of the real property market and to provide a factual basis for introducing cost saving adaptations (ref. Stubkjær, 2007 pp. 4-5). The topics concerned the identification of requirements for optimizing real property transactions, both for servicing of the property market, and for enhancing economic development at large in line with the thoughts of New Institutional Economics (discussed in Part C).

So the question is how the findings of the COST project may possibly support the development of methods for country screening and feasibility studies for introduction of a mortgage system.

The COST-modeling work was focused on processes and activities required for the transactions of 1.) purchase of a residential property (real property transfer) and of 2.) subdivision of a parcel (real property formation). Although pledging of a property as security for mortgage credit was not one of the transactions modeled, the report does provide relevant information on this matter, first of all because taking mortgages are usually part of a purchase, and secondly because pledging mortgages are included in discussion of the model (e.g., pp. 35, 38, 46, 192-96).

The COST study includes both countries, representing with recently introduced land registration systems, and countries having registration systems deeply rooted in history.

A classical theme of the COST study was the question of the role of the Latin-style notary function, which is also the topic of analysis in other comparative studies, although no conclusions were drawn on its merits. The study does include comparative data, but the data is not consolidated into a combined form (table or similar) to allow a comparison of the different types of systems represented.

The analytical approach taken demonstrates a full analysis of a given land registration system and how complex processes can be modeled in the case of property transactions. The resulting model of activities required for concluding a transaction lend itself to an assessment of services, time and costs.

The research shows how difficult it is to compare different national system of property registration at process level. Despite its detailed analysis, the COST study does not reach a conclusion on what systems are more efficient than others, although it includes quantitative data on costs and duration of transaction in a number of countries. While the study as such is inconclusive in respect to its objective of assessing the economic efficiency of transactions, the modeling exercise of the study contributes to methodology development.

Modeling work is complementary to other analytical approaches to the case country studies, and can be inspired by the methodology of modeling processes of transactions at a level of detail suited for the situation as developed by the COST study, ref. to conclusions and further work, COST, 2007, pp. 18-20.
Inspiration can also be found on the study of using National Accounts for estimating the total costs of the systems servicing real property transactions as a whole (Stubkjær et al, 2007, pp 119-139), so far as national data sources permit so.

The study offers a broader insight into the issue of costs of transactions, not only seen as the costs carried by an individual party in a transaction, but by society as a whole, ref. to the distinction made by Allen (1999) on the definition of transaction costs. The costs of transactions are thus analysed as the accumulated costs for society, where cost factors of individual transactions only represent the view of the parties. This is important when seeing the implementation of mortgage systems in a broader context of economic development, and also opens up for future studies directed at “cost-benefit” analysis.

Whereas transaction costs for market participants are defined as the sum of the costs of each procedural step plus fees, the pecuniary interests of the authorities cannot be disregarded, despite the general notion that

higher transaction costs inhibits economic development (North, 1990). The fees paid by market participants are not only part of a cost recovery mechanism, (tables on e.g. p. 113), but in many countries transaction fees and taxes convert the property registration systems to money machines, which blur the discussion of transaction costs. Studies prepared in preparation for the reforms of the property registration systems in the Nordic countries (Norway, Sweden, Denmark) show staggering figures:

Operational costs of the Legal Registry in DK was 62,4 mill Euro in 2003-4, while associated registration taxes and fees amounted to 871,0 mill Euro, (Zevenberger, Frank, Stubkjaer, (2007, P. 135, table 5.5)).

In 2008 the revenues for legal registration of property transactions amounted to 7,2 billion DKK, while the total running costs of the whole Danish judicial system (court system) amounted to about 1,6 billion DKK, in 2008 (excluding VAT).
http://www.domstol.dk/om/publikationer/HtmlPublikationer/Aarsrapporter/Aarsrapport%202008/kap05.htm

Even when including more components of land administration in cost calculations, it can be seen that the revenues of the total public services of land registration dwarf revenues at the level of the national accounts.

The particular high revenues of the legal registry in the Danish case can be explained by the lively activities among Danish residential owners in converting mortgage loans, (Part A. Chapter 11.2).

When discussing transaction costs both from the point of view of the market and of the public services, these significant figures cannot be disregarded, since it is a general phenomena, that the legal part of the property registration systems are usually self-financing if not profitable governmental entities. Furthermore, it can be seen, that in a mature property registration system, mortgage pledging is the most frequent type of transaction, so that the associated fees constitute a major part of the revenues of the whole land registration system.

In other words, mortgage pledging is in Denmark the most frequent transaction and is hereby ensuring the fiscal sustainability of the land registration system, and revenues even exceeds the cost of the judicial system as a whole, despite the total transaction costs being in the lower end of the costs in European comparative studies (Wyman, 2003).

3.4 Comments to ZERP, Study COMP/2006/D3/003, "Conveyancing Services Market"

In 2006-7, the Centre of European Law and Politics (ZERP), at University of Bremen, conducted a comparative study on the conveyancing market in EU, seen from a consumer perspective together with a research team from other German and Austrian Universities, headed by Christoph U. Schmid, Legal and General Co-ordinator, the University of Regensburg, Germany.

The study was commissioned by the EU Commission in order to map out how the professional regulation of the conveyancing services market affected efficiency and performance in real property transactions. The initiative was taken because of notable inefficiencies of some EU countries' property transfer systems, as evidenced e.g., in the World Bank 'Ease of Doing Business' reports, which showed wide disparities in costs and time of registering property transfers (Schmid (ZERP), 2007, p. 4). The ZERP study also documented the substantial size of the real property market across all countries, both in respect to the total volume of assets and to the volume of trading of immovable property representing about 16% of total EU27 GDP in 2005, and associated services estimated at 16.7 billion Euro.

The idea of the ZERP study was a comparison of the services provided through different types of regulatory models in 21 EU Countries, which were classified in four distinct, regulatory models:

> *"● The **traditional, highly regulated Latin notary system**, which reflects the public office characterisation of notarial activities. The model is characterized by mandatory involvement of notaries (although the scope of involvement differs) numerus clausus of professionals, fixed fees and strict regulation on market conduct: (Spain, Portugal, France, Italy, Luxembourg, Belgium, Germany, Poland, Slovenia and Austria. + Greece where the additional presence of two lawyers is required in an average transaction)*

● *The **deregulated Dutch notary system**, which reflects a more modern vision of the notary as a private entrepreneur fulfilling public tasks. Under this model, no numerous clauses exists, fees are negotiable, etc. (The Netherlands, and in some respects Austria)*

● *The **lawyer system** existing in the UK and Ireland, the Czech Republic and Slovakia, in some respects Austria and Hungary (with hybrid systems). The lawyer system is characterised by quality control of professionals licensing and professional exams only, negotiable fees and lower levels of regulation on market structure and conduct.*

● *The **Scandinavian licensed real estate agent system** under which real estate agents provide legal services, too: Sweden, Finland and Denmark; each with its own characteristics.. This model is characterised by quality control of professionals through professional exams and licensing only, negotiable fees and lower levels of regulation on market structure and conduct." (Schmid, (ZERP), 2006)*

The ZERP comparative study focused on the performance of land registries (title or deeds) and related professional services, especially notaries, lawyers and real estate agencies. It included descriptions and analysis, as well as data on costs and fees, with a range of valuable land market data.

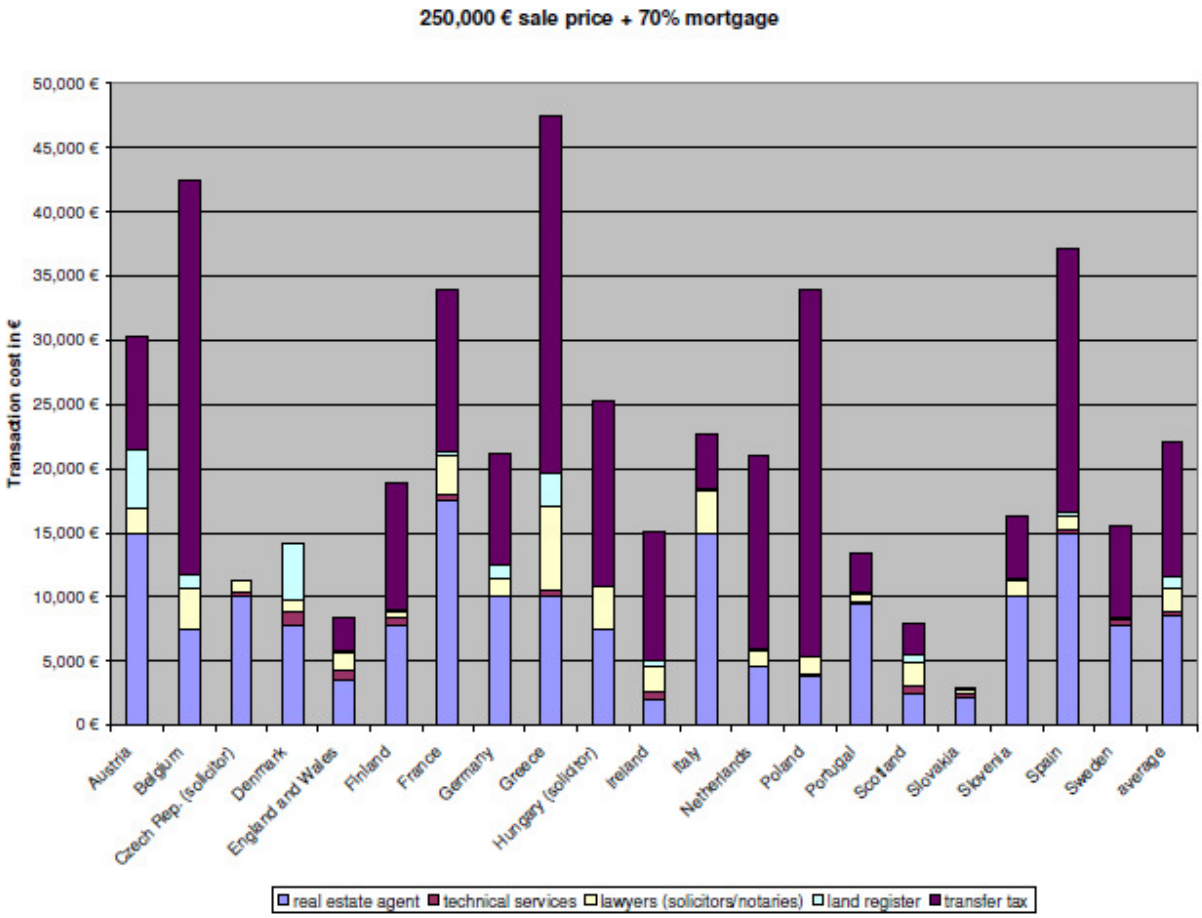

Figure B.1. *Transaction Costs to Property Value (250.000 Euros, 70% mortgages) by types of costs (real estate agents, technical services, lawyers, land register, transfer tax), Source: Schmid et al. 2006 (ZERP study), Table V-I, p. 129*

The study succeeded in consolidating statistics and indices from 21 EU-member countries, on through advanced econometric methods and statistical analysis the study analyzed legal formalism and its outcome. The findings showed significantly higher conveyancing costs with Latin-style notaries without justification in quality of services provided. On the contrary it was found that .. *"higher levels of regulation lead to higher fees whilst not leading to a better outcome in terms of choice for consumers, quality, certainty or speed."* (ZERP, 2006, p. 178).

Other studies reach similar results, e.g., the more general comparisons between protection of rights and the level of legal formalism, see (Djankov, La Porta et al. 2002). The Lex Mundi study of the level of legal formalism in 109 countries, showed that *"formalism is systematically greater in civil than in common law countries, and is associated with higher expected duration of judicial proceedings, less consistency, less honesty, less fairness in judicial decisions, and more corruption."*

The Lex Mundi study is remarkable both in its coverage, in its methodology strengthened by statistical analysis, and in its findings. The two standard cases modeled and compared how a plaintiff can use an official court to 1.) evict a non-paying tenant and 2.) to collect a bounced check. The statistical analysis showed that legal origins alone explain around 40% of the variation in measures of legal formalism among 109 countries. They found that adjudication is more formalized in the less developed than in the rich countries, and that the data did not show evidence that formalism secures justice (Djankov, La Porta et. al, 2002, p. 5).

These findings provide valuable clues to a macro-analysis of property market conditions based on a classification of countries according to their origin of legal systems and level of formalism. Based on these finding, it can be concluded that the type of regulatory system and legal origin constitutes an important parameter in an overall rating of the property market conditions, when screening the performance of registration of transactions, including mortgage pledges.

Another comparative study was commissioned by the EU Commission, Murray (2007), which included five Member States of the European Union (Estonia, France, Germany, Sweden and the United Kingdom).

The study did not find reason to question the institute of the Latin style notary system, but other studies have seriously questioned the added value provided by this service. It also found that there are too many variables and local circumstances that hinder comparison of systems and a reasonable representation of quality as well as efficiency of conveyancing services. For the present study it is relevant to note that real estate brokers' commissions and taxes dwarf conveyancing fees in the countries studies (Murrey, 2007, p. 3).

Specific Observations

The ZERP study provided evidence of the importance of legal formalism in screening of property regimes. It was found that legal origin and the level of formalism are correlated, that higher levels of legal formalism increase transaction costs, but seem to be inversely related to better quality services and property rights protection

Indirectly, the study on legal origin and formalism touches on the fundamental difference between deeds registration systems and title registration, because deeds registration prevail in legal systems with Latin origin characterized by high levels of formalism. However, this fundamental issue of legal substance is underexposed in the studies on land registration. For the present study, a clearer distinction between underlying legal principles of registration and protection is required to determine the level of protection of mortgage pledges in a given land registration system.

The studies on transactions and costs are rich sources on benchmarking of quality and costs of land registration services. At this time only selected European countries are included in the analysis of transaction costs, and each new country to be included require substantial efforts of analysis by groups of professionals with a high level of specialist knowledge for completion of similar analysis. The approach and methodology of benchmarking may offer a future way forward in comparative analysis at a detailed level.

What can be learned from transaction cost studies is the nature of costs in conveying, as suggested by Murrey (2007), that

- Real estate brokers' commissions are generally higher than professional conveyancing fees (in a European country context);
- Real estate transfer taxes are generally higher than professional conveyancing fees (in a European country context).

By including entries of the System of National Accounts in estimating the system cost, the road is open for a more comprehensive understanding of transaction costs. A possible shortcoming of transaction costs studies is that average transaction costs may not reflect informal costs and the risks in a given system.

Unfortunately, modeling of transactions is a cumbersome task when conducted at the detailed level, and therefore this does not offer a realistic approach to screening of the property market conditions. Transaction costs are still important, and alternative approaches can be applied of measuring generalized outcome indicators, such as e.g., elapsed time and accumulated costs.

3.5 Concluding Observations

The qualities of the reviewed sources constitute at the same time limitations for the present purpose: As shown, information on property rights and registration systems is rich and varied, but still inadequate, uneven, and lacking structure and depth on issues of importance for mortgage pledging. As concerns methodology, there is valuable inspiration to be found in studies applying composite indices and ranking systems, which could possibly be a way forward. The ZERP-study and Lex Mundi studies demonstrate achievements in use of statistical methods on complex qualitative and quantitative data of a similar kind as property rights and collateral security.

The characteristics of each source reviewed are summarized in Table B.4.

Review of Information Sources on Cadastre & Land Registration - Comparative and Cross-country studies		
PLUS	MINUS	COMMENTS
a. National Reports and monitoring on Cadastre and Land Registration		
Relevant information (in descriptive form on) - Land tenure systems principles and legislation; property rights registration and structure; - Technical dimensions of cadastral services, information systems, SDI, etc., - Organization and management of immovable property registration and land administration.	Bulky and unstructured information - No systematic or comprehensive coverage of questions of relevance for mortgage pledging, and typically a lack of statistics. - Time consuming to search for information with no guarantee of finding. - Most information is available from countries where the systems are best functioning.	Structured report formats and information deposits (portals) like the Cadastral Template need to be further developed in respect to both topics and methods, so as to open for rational and easy access to detailed information on national systems. Once established, much of the information is relatively stable (history, organization, legislation).
b. Comparative international studies and monitoring systems		
For the countries included valuable indicators on -Systematic inventories of general features of property registration systems - Monitoring of progress of registration, service delivery, transactions, etc.	Incomplete by countries, not updated, rather summary information and lack of sufficient detail for screening of readiness for mortgage credit.	Methodology improvements possible through use of statistical methods applied in generating composite indices, including include generation of scores and qualitative grading of systems.
c. Specific performance studies, e.g., on transaction costs and conveyancing services		
- Analysis of how selected systems functions seen from the perspective of users through benchmarking of i.e. processes of transactions and costs, - including process analysis and selected quantitative indicators on transaction time and costs;	- Only selected countries, a one-time exercise - Not conducted regularly, not operationalized; - Lack of special indicators of importance for mortgage credit, e.g., foreclosure effectiveness;	Performance studies and audits of land registration systems etc. would serve well to be introduced as a professional standard similar to standards in the financial world, where ranking of institutions and services are business standards.

Table B.4. *Characteristics of Typical Sources on Cadastre and Land Registration*

It is rewarding to explore each of the reviewed document deposits, country studies and comparative studies, when preparing feasibility studies of particular countries, because they are rich information sources. Some descriptive information is representing relatively stable information, and is thus less prone to being outdated than e.g., market and performance statistics.

However, the review of studies of cadastres and land registration above illustrates the shortcomings of information sources, calling for structured and targeted information in the form of a monitoring system with metadata and information of a more structured, detailed and synthetic kind.

Methodology advances are called for through use of similar approaches as applied in generating composite indices, including include generation of scores and qualitative grading of systems. Global outcome and performance monitoring systems are called for in cadastre and land registration systems, as well as in land administration and property rights at large, in support of e.g., development of housing finance.

On this basis it is concluded that the review of specific cadastral and land registration studies did not identify a monitoring system or indicators suited for screening of the conditions for development of mortgage finance in respect to cadastre and land registration, since available monitoring systems (/studies) have serious shortcomings in coverage, topics, updating and precision.

Therefore, follows a review of wider land administration studies and monitoring systems developed by international development institutions.

4. Development of Indicators and Monitoring Systems in Land Administration

4.1 Global Demand for and Efforts in Developing Comparative Studies on Land Issues

Overview of Monitoring Activities in Land Administration

The comparative land administration studies discussed below covers more general and abstract features of land administration and have less detail on cadastre and land registration systems, let alone mortgage pledging. They are typically developed for wider purposes, not necessarily including specific issues of importance for mortgage finance.

International institutions with continued access to resources are active in development of country studies in land tenure development and property rights protection, mostly as integral parts of development aid programmes' preparation and monitoring. Such activities are therefore focused on developing economies. These country profiles are typically rich data sources, although not standardized nor developed into regular monitoring systems.

At the global level, the World Bank has contributed to significant land policy research and dissemination of knowledge. World Bank expert teams (and teams of regional development banks in the WB group) have prepared a large number of detailed appraisal studies on land and housing as part of their development programme preparations around the world. These World Bank country studies on land administration systems take advantage of the WB operative experience, and form a valuable basis for further analysis of special topics, such as e.g., housing finance.

Since year 2000 the World Bank has produced comprehensive studies on Land Policy (Deininger, 2003) and on Land Administration Systems (Burns et al, 2003) addressing different research perspectives of property rights and land administration. The two types of studies are complementary with an emphasis on principles, issues and lessons learned in (Deininger, 2003), and on development of a comparative framework in (Burns, 2003, 2007) in support of the former, see chapter B.4.3. However, the land policy report is dominated by rural issues of land reform.

Global comparative studies are still under development and much remains to be done on implementing more than superficial representations of the property rights registration status in a standardized way. Conceptual modeling of indicators in these reports does not embrace the dimensions of housing finance and the property market.

Selected monitoring activities and comparative studies in Land Administration have been reviewed in search of possible information sources for screening of readiness for mortgage finance. Although an effort was made to include major relevant studies, but the list is incomplete, and other studies of relevance could possibly be found, especially in non-English language sources.

Monitoring systems on Land Administration are developed or under development by expert groups in e.g., UN organisations, International Land Coalition, US-AID, and the World Bank Group. The nature of the systems range from special land monitoring activities associated with a particular feature of land administration (slums, f.eks.), to general monitoring systems as being developed by the World Bank.

Below selected initiatives and activities are commented in search of information sources for screening. The tendency is that development of monitoring systems in land registration and land governance is gaining momentum, but comparative data is still scanty.

Comments to Special Land Monitoring Activities

<u>Monitoring of the Millennium Development Goals</u>

The UN agencies play a key international role in matters of pro-poor development approaches to land and housing, including aspects of land tenure and housing finance for the poorest population segments.

UN-Habitat is the UN agency responsible for monitoring of slums around at global level, as part of their responsible for monitoring achievements on Goal 7 of the Millennium Development Goals (MDG), 'Ensure environmental sustainability'. Targets 3 and 4 of Goal 7 address the issue of access to safe drinking water and sanitation (target 3) and improvements for slum dwellers (target 4). Therefore monitoring of property related issues are focused on measuring the achievements in the areas of upgrading slums, improving sanitation, stopping the deforestation, etc. towards the overall goal of poverty alleviation. Among the indicators defined, a few sub-indicators relate to land tenure, although not of direct relevance for the present study. The general UN-MDG-monitoring indicators provide macro-level information on development in the poorest nations in the world, possibly of relevance in regard to the discussion of how to measure economic development, but not directly of use at a more specific level for development of mortgage credit. However, cooperation between UN agencies and the World Bank address general issues of land tenure security and land governance, as discussed below.

International Land Coalition: Monitoring Land Governance

The topic of monitoring land tenure is on the top of the agenda of many organizations, such as the network, International Land Coalition (ILC), www.landcoalition.net. The ILC has a pro-poor land policy agenda with the purpose of facilitating global debate and advocacy with an emphasis on sustainable resource management, rural issues and participatory development. The secretariat is placed at FAO in Rome.

The ILC initiatives on monitoring land governance are a continuation of a previous Land Reporting Initiative launched in 2004 for gathering evidence for better land governance (Mauro, Bending, Taylor, 2009). The ILC is not a resourced organization with the capacity to perform monitoring globally, but proposals have been development on setting up a global 'land index', and on classification of indicators, which are found relevant here.

One of the targets of the ILC programme for 2009-2011 was preparation of a feasibility study for setting up a global 'land index' providing comparative data on the impact of access to land (2011).

The following indicator structure was proposed by the ILC (2009):

1. Normative (legal recognition of land rights)
2. Institutional (administration of land rights)
3. Cognitive (perception and understanding of land rights)
4. Threats and Conflicts (cases of challenges and conflicts related to land rights)
5. Cadastral Data (geographic proximity to protected areas and large-scale public or private investments, etc.)
6. Statistics (quantitative data related to land rights)

The Land Reporting Initiative (LRI) was seen as a process for gradual implementation. It was envisioned that the consequent steps would be a selection of pilot countries for each region, where data are available, followed by a systematization process for land-related data on selected countries.

Even if the monitoring system has not been set into production, it is worth noting that the network, ILC, stresses the importance of a monitoring system in land rights, and that the ILC has made contributions as to the design of a land governance monitoring system. Moreover, the LRI initiative is evidence of the demand to fill in the existing void of good synthesis information at the global level.

International Property Markets Scorecard Project

Numerous activities are ongoing in the area of developing suitable property market indicators. As for example, the Center for International Private Enterprise (CIPE) and the International Real Property Foundation (IRPF) are developing a so-called Property Markets Scorecard (2009). One of the principal objectives of the Scorecard is to function as a risk assessment and decision making tool for "Corporate Investors, Major Banks and Other International Market Participants" – at market entry and diversification.

The project is mentioned here, because it is also developing indicators from other sources, such as the World Bank 'Ease of Doing Business' rating. *It is therefore clear, that possible shortcomings in these other sources such as their focus on commercial property rather than residential property are transmitted to other composite indices*.

The scorecard project shows that available source data is not covering core elements, such as 'Rational Dispute Resolution' and 'Financial Transparency' and 'Appropriate Regulation', particularly as they pertain to residential property markets (CIPE, IRPF, 2009).

4.2 Comments to the US-AID Rapid Assessment of Land Tenure and Property Rights

US-AID has developed an assessment tool with the special purpose of providing a systematic framework and methodology for country analysis as an integral part of designing a country support program for improving Land Tenure and Property Rights (LTPR). The framework can therefore be seen as a format for a rapid assessment of the LTPR situation to be prepared at the preparatory stages of the programming-cycle.
It was designed to provide USAID at country and global levels with a conceptual framework and tools to assist in its programming of LTPR interventions, (Roth, 2005). (LTPR, 2007, USAID, Available at: http://prrgp.com/tools/LTPR%20Assessment%20Tool%20FINAL.pdf)

The idea behind the LTPR framework is to assess constraints in Land Tenure and Property Rights, i.e. a kind of trouble shooting approach, on which a plan for intervention can be based. Thus the LTPR framework start with identification of the symptoms of *deficient* land tenure and property rights arrangements as a basis for action, and the diagnosis of constraints pays attention to time and sequencing. In other words this is an analytical structure to capture the key constraints encountered in developing countries rather than a clinical land administration modeling exercise.

The US-AID monitoring framework is structured as a matrix with columns representing the issues of Land Tenure, Property Rights, and rows the proposed/possible intervention. Five categories of problem areas in land tenure and property rights are potentially damaging to the whole economy, not only to housing finance.

The matrix is comprised of five categories of land tenure and property rights themes and potential constraints represented by the columns:

1) Violent conflict and post-conflict instability;
2) Unsustainable natural resources management and biodiversity loss;
3) Insecure tenure and property rights;
4) Inequitable access to land and natural resources; and
5) Poorly performing land markets.

The rows in the LTPR Matrix represent six categories of policy and program interventions, among which especially points 1 to 3 are of importance for housing finance:

1) Key institutional arrangements;
2) Conflict or dispute resolution;
3) Legal and regulatory framework;
4) Redistribution of land or natural resources within society;
5) Land administration and the specific mechanisms and agencies used to implement land policy; and
6) Enabling and strengthening sustainable land use management and conservation.

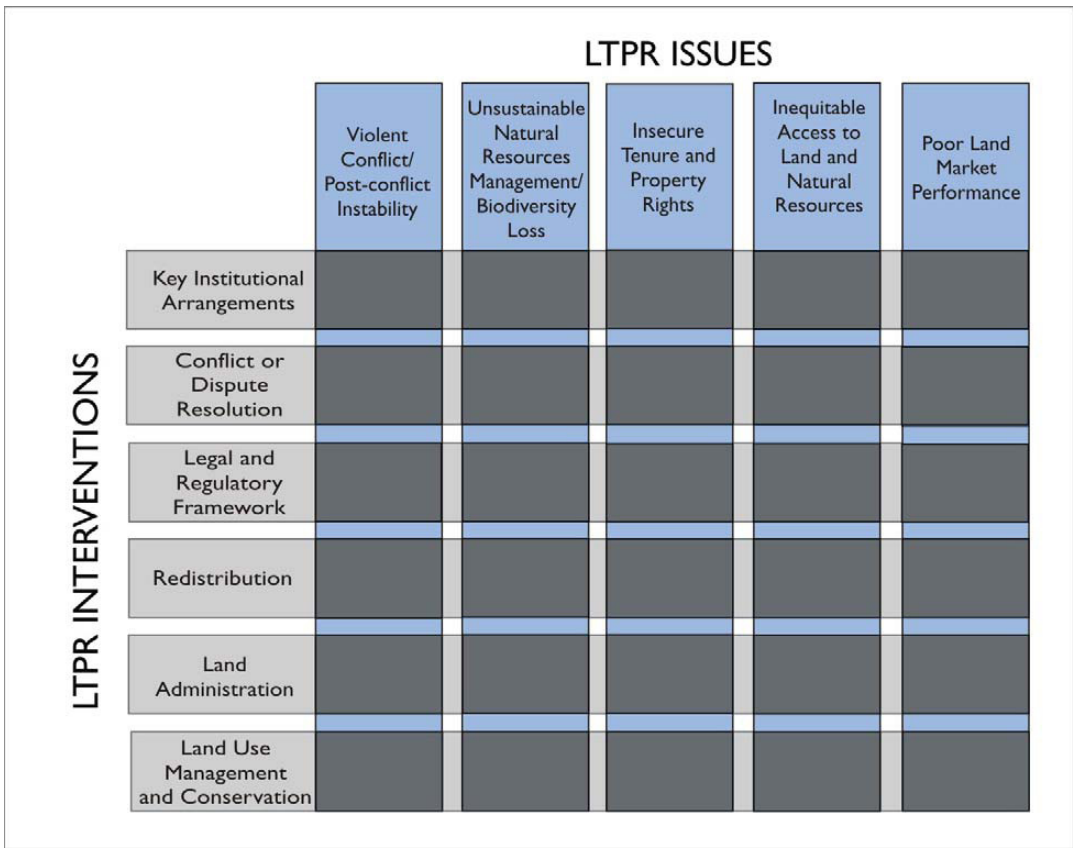

Fig. B.2 *The Assessment Framework on Land Tenure and Property Rights, USAID, 2005*
Source: USAID /ARD, 2005, Land Tenure and Property Rights Assessment Tools, Volume 4, p. 49
http://rmportal.net/tools/land-tenure-and-property-rights-tools/ltpr-matrix/

In comparison with the Worldwide Governance Indicators of the World Bank, the property rights issues are studied from the perspective of constraints (including also the issue of redistribution), rather than the positive approach of the WGI defined as six dimensions of good governance (- Voice and Accountability, - Political Stability and Lack of Violence, - Government Effectiveness, - Regulatory Quality, - Rule of Law, - Control of Corruption).

A quality of the USAID LTPR assessment tool is its attention to sequencing (USAID, 2007, pp 19-20), which is less clear in other contributions to land administration, e.g., (FIG, 2010).

Identification of constraints may logically precede the rating of good governance, if the purpose is to identify the most extreme cases, where mortgage financing is infeasible.

The strength of the US-AID framework is its design of a tool for a particular situation of application in the project cycle, from project identification to monitoring. It is focused at problem identification, (conflicts, instability, unsustainable land use, insecure property rights, etc.) in order to identify areas most in need of development assistance. The use of the LTPR assessment tool in a dynamic process is illustrated by Roth (2009, Presentation slide 13). Screening of readiness for mortgage finance may represent a similar challenge.

The US-AID framework includes checklists and estimates of time needed for fact-finding and analysis at different levels. It structures its monitoring activities into four levels, an inspiration for feasibility studies in general:

Level 1: Country-specific LTPR themes and donor interventions report
Level 2: Country-specific LTPR rankings and maps
Level 3: LTPR pre-assessment tool
Level 4: LTPR assessment tool;

Indications of the resources needed for an audit are given and much useful information is available in the form of e.g., country reports. Even indications of insufficient data sources are informative, as concerns land tenure and property rights.

One of the goals of the LTPR framework is also to managing LTPR information and knowledge at national and international levels. Of wider interest for monitoring of Property Rights protection is the goal of organizing LTPR data and management, and of developing databases and institutionalize data capture, so as to populate databases on a regular basis.

As for example, the LTPR framework includes a ranking system based on expert assessments of the status within each of the five areas of constraints, and these country assessments have been conducted, and results are represented by thematic ranking maps covering the large number of countries, where USAID operates. The higher ranking, the more severe are the constraints, see ranking maps, coverage of countries where USAID work.

The framework is also helpful by setting up threshold questions to help assessment teams determine whether a particular issue is a key LTPR problem, e.g., "Is the country a fragile state? Does it have the governance capacity to address the land/resource-related conflict issues? Are dysfunctional or absent LTPR systems threatening to push the country into violent conflict?"

In other words, the LTPR framework has been created in the world's wild biotopes of painful and harsh problems with property rights, rather than in the hygienic world of classifications and modeling.

The framework has a range of shortcomings by falling short of representing some of the concepts that it sets out to capture. The report (p. 5) mentions that in practice, a continuum of tenure rights can be observed in plural legal regimes with informal types of possessions.

One may therefore ask how is the continuum of tenure rights captured by the monitoring system and its indicators? Or why is uncertainty of jurisdiction not captured by the proposed indicators? But such questions are easier to ask than finding solutions to.

The result is a framework of relevant problematic dimensions and themes applicable in developing economies, with a systematic approach to diagnosis of problems and setting priorities, but the framework does not necessarily represent a logic structure of concepts, nor suits screening of well functioning systems of land administration. It is an assessment tool for use in a dynamic programme approach for trouble shooting as illustrated by Roth (2009).

The USAID study is also of relevance, due to its information on the case countries (Nicaragua and Ghana). It was found that Ghana has the highest level of land market constraints in West Africa among the country scores. The LTPR assessment has not been developed into a continuous monitoring programme.

Concluding Observations on the Land Tenure and Property Rights Framework (USAID)

What can be learned from the LTPR framework for the present study is e.g.,

- A rapid appraisal approach to identification of problems and possible interventions is seen as relevant in the case of planning of the introduction of mortgage credit;
- Identification of most problematic countries for introduction of mortgage finance based on their ratings of constraints by the LTPR assessment;
- The methodology of expert ranking is applied for assessing country constraints on a scale 0-7;
- The approach to collation of country information, and making it accessible as outlined.

A fundamental weakness in respect to screening of conditions for housing finance is the LTPR framework higher weighting of natural resource management than urban issues.

The approach of making a focused rapid assessment of each country is relevant to country screening. The LTPR assessment is seen as a process oriented tool with feedback processes, conducted as an audit, to be used where information on property registration and the land market is incomplete, in-actual or unreliable.

The expert rankings of LTPR country constraints on a scale of 0-7, may also be indicative of *dis*-qualifying factors rather than feasibility of developing the mortgage credit market at the time. Hereby, the bottom ranking markets can potentially be identified in such an analysis.

The authors caution that the ranking process is imprecise, despite having been based on informed judgements by expert, and the resulting rankings represent a first attempt to capture the severity of the LTPR constraints within a country. Clearly, rankings will change as countries reform, or conditions change to the better or worse, or more information is collected.

What is noted here is the approach of developing a rapid assessment into a standardized audit –approach, a potential approach to screening for readiness for mortgage financing, as discussed in chapter B.9.3. A rapid appraisal approach was part of the feasibility studies conducted by VP Securities A/S (Part D, case studies (Nicaragua, Ghana)).

4.3 World Bank Land Administration Studies and Comparative Framework

Overview of Resources

For long the World Bank has prepared weighty studies and contributed to developing the understanding of land policy, land reforms and land administration, in addition to its engagement in land registration programmes and projects of implementation of reforms.

During the latest decade the World Bank has increasingly focused on comparative land administration studies and on development of monitoring systems, as can be seen from the list of studies in table B.5 below. In the 1990's the focus was predominantly on rural land matters, but since 2003 the treatment of urban and rural issues has grown more balanced, and the efforts are converging towards building a comparative monitoring framework in land administration /governance.

Each of these studies has been reviewed in a search for both specific information sources as methodology contributions in respect to screening of readiness for mortgage finance development.

One study prepared in a joint effort of the Lincoln Institute of Land Policy and The World Bank Group around 1999 (date uncertain) was dedicated to developing a diagnostic tool for assessing the framework conditions for land *and real estate*, The **L**and **A**nd **R**eal estate **A**ssessment, "LARA". The study is commented below, as it seems more market oriented than the other studies, and thus remain of potential relevance for development of mortgage markets.

Another World Bank study with a market focus is the regional study by Childress (Childress, 2004) on land markets and collateralized lending in the South-East Asian region.

The land administration studies are excellent information sources on the status of land reform and land administration in those countries included as cases, although they are not meeting the need for structured and targeted information on the preconditions for housing finance in the mentioned countries.

The need for standard indicators on the status of land administration was addressed with the series of studies, initiated with the 2006 report on "Land Administration: Indicators of Success, Future Challenges" (Burns et al.). Successive improvements of the assessment framework (2007, 2008, 2009) by the team supported by the World Bank has so far resulted in proposals on a methodology of assessing the land governance based on a pilot studies in countries from each continent in 2010.

The latest result of the global efforts of improving the understanding of land administration and governance as well as supporting better policies is a proposed structure of a Land Governance Assessment Framework with a large set of criteria and proposed indicators (Deininger, Selod, Burns, 2010).

The emphasis in the 2010 comparative framework is laid on governance, and the market perspective is less apparent, but appropriate land registration, regulations and information are of course prerequisites for the functioning of the market. It is not clear from the framework, if land is conceptually understood as immovable property, but the proposed indicators on 'building permits' and 'property valuation', suggests so.

Year	Document	Link
1999?	Razzaz, et al., "The Land and Real Estate Assessment (LARA)"	The Lincoln Institute of Land Policy And The World Bank Group (Date is uncertain)
2002	Concept paper prepared by Lavadenz, Sanjak and Barnes	World Bank, Unpublished
2003	Land Policy Research Report: "Land Policies for Growth and Poverty Reduction", by Klaus Deininger and World Bank Research team	http://web.worldbank.org/external/default/main?pagePK=478097&theSitePK=477633&contentMDK=22309879&noSURL=Y&piPK=477636
2003	"Comparative Study of Land Administration Systems; Global Synthesis of Critical Issues and Future Challenges"	World Bank, Unpublished
2004	Childress, Zakout, "Regional Study on Land Administration, Land Markets, and Collateralized Lending"	http://siteresources.worldbank.org/INTEAPREGTOPRURDEV/Resources/573691-1141228934263/2280904-1153493824735/RegionalStudyonLand+Administration.pdf
2006	Burns, Tony (ed.); October 2006, "Land Administration: Indicators of Success, Future Challenges", Land Equity	http://siteresources.worldbank.org/RPDLPROGRAM/Resources/459596-1161903702549/S8_Burns.pdf 202 pages, Green Frontpage!
2007	Final version edited by Tony Burns, Land Equity, 2007, "Land Administration Reform: Indicators of Success and Future Challenges", World Bank Discussion paper 37.	http://siteresources.worldbank.org/EXTARD/Resources/ARDDiscussionPaper37.pdf Agriculture and Rural Development Discussion Paper; 244 pages, Blue Frontpage!
2008	"Draft Conceptual Framework, Study on Governance in Land Administration" by Land Equity International, 26 May 2008, version for circulation	http://www.landequity.com.au/publications/Land%20Governance%20-%20text%20for%20conceptual%20framework%20260508.pdf 185 pages, White frontpage!
2009	Burns, 2009, "Towards a General Framework for Assessing Land Governance", ppt presentation	http://www.fig.net/pub/fig_wb_2009/papers/gov/gov_1_burns_ppt.pdf
2009	Durand-Lasserve, Alain; "Land Governance for Rapid Urbanisation"	
2010	Deininger, Selod, Burns; 2010; "The Land Governance Framework: Methodology and Early Lessons from Country Pilots"	In Joint Discussion Paper, The World Bank, GLTN, FIG, FAO, April 2010, Link:

Table B.5. *Overview of World Bank monitoring initiatives in land administration*
General link to World Bank Land Policy Network; Land Policy and Administration Publications:
http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTARD/0,,contentMDK:20451173~pagePK:210058~piPK:210062~theSitePK:336682,00.html

The Land and Real Estate Assessment (LARA)

Inspiration can be found in a diagnostic tool developed by a task team of the Lincoln Institute of Land Policy and the World Bank Group. Razzaz et al. (not dated (1999?)). This is a land and legal estate assessment system designed to build consensus on policy questions, methodologies and indicators to be used for diagnosis by real estate market participants (LARA). Its virtue is clarity and simplicity with ranking according to a diagnostic questions, an approach also adopted by (Deininger et al., 2010).

The conceptual framework is structured into a basic diagnostic module and two sub-models concerning the real property market applications: Housing finance and the Industrial module. Common for the modules are a structure of three themes:

- Rights, Information, Contracting, and Enforcement (RICE),
- Finance and Risk Management,
- Market Structure (regulation, fiscal policy, and industry structure)

More than 30 diagnostic sub-questions were part of the structured analysis of RICE defined by the following overall questions:

1. Are Property rights robust and comprehensive?
2. Is the Property rights regime dynamic?
3. Are 'public goods' and public assets well defined and protected?
4. Are information systems concerning all property regimes adequate?
5. Are property disputes processed quickly and fairly?
6. Are rules and contracts enforced and transaction costs low?

Answers to sub-questions were designed to be a rating on a scale with 5 steps, supplemented with quantitative data and qualitative features. Remarkably, the framework is attentive to the importance of the management of public assets.

The diagnostic questions raised under RICE are here seen as indicative of what is perceived as essential for well-functioning housing finance by important stakeholders. In any case, the efforts invested in the LARA assessment tool is evidence of a demand among property market actors for property rights indicators.

Renaud (2004) described the LARA framework as the first of its kind. A pilot application of Eckert (2004) covered five countries (Armenia, Croatia, Moldova, Russia and South Africa), but the framework does not seem to have been implemented on a wider scale.

Dedicated Study on Land Administration, Land Markets and Collateralized Lending

World Bank research teams have also prepared a dedicated study on land markets and collateralized lending (Childress, 2004). The report includes an evaluation of the effectiveness of land administration in the South-East Asian Region in respect to land markets, (WB, 2004, pp. 9-22), as well as proposals for the way forward. The longest operating WB land titling projects are found in the South-East Asia region, so this region is of particular interest when studying the outcome and impact of the reforms. The Thailand Land titling programmes started in the 1980ies and are well documented. The land registration system in Thailand has reached maturity with security of transactions, functioning valuation systems, legal enforcement of contracts, etc. The case of land titling in Thailand may – as the earliest and longest programme - serve as indicative of the possible effects of land titling in respect to development of long term credit secured by collateral in real property. Even in this case the study found no evidence that titling alone had increased market activities - as expected -, because "*.. other factors, such as the state of the economy, policy distortions, and access to credit, also affect land markets." (Childress, WB; 2004, p. iii)*

On the other hand, the study pointed to the potential use of real property for collateralized lending as a market potential to be developed.

> *"The weak linkage between land administration and financial systems represents a significant unused potential for financial deepening across the region." (Childress, 2004, p. iii)*

Childress identifies the better use of land and real property as collateral as a component of the third stage of development in land administration reform. In order to see improvements in the access to credit, the report underlines the need for improving valuation capacity, simplifying foreclosure procedures, etc., and suggests that such measures be accompanied by the establishment of secondary mortgage markets. Another recommendation of Childress is to address the need for supply of serviced land for urbanization, and for generating revenues for government through value-based (property) taxation.

It can be concluded that formal property rights is one of a number of preconditions for the success of housing finance, and that other conditions have to be fulfilled in order to exploit the full potential in mortgage credit, in accordance with the findings in Part A. Since the study is not clearly urban, the slow development of credit markets in this case may not be predicting the outcome in an urban environment.

Comparative Studies and Monitoring of Land Administration Systems

The report, "Comparative Study of Land Administration Systems; Critical Issues and Future Challenges", 2003, was commissioned by the World Bank with support from other donors (USAID, Norway, Australia). The study was executed by Land Equity International Pty Ltd (Australia) with contributions from expert teams covering national land administration systems around the world. The study was the first in a series of reports working on building a comparative framework in Land administration.

The purpose defined was to build a framework for comparison of developing and transitional land administration systems across regions so as to provide a basis for an informed assessment. The studies have done so by systematically reviewing the characteristics, accessibility, costs, and sustainability of different land-titling and registration options. Importantly, the report sets out with the intention of describing what to do—not why to do land administration reform (Burns, 2007, p. 2).

Draft versions were elaborated by collating many different contributions, and the report was revised, expanded and discussed in various forums during 2006-2007. The final version was edited by Tony Burns, Land Equity, 2007. Further discussions have been taking place in cooperation with the Global Land Tools Network, and indicators were discussed in web-forum held early 2008, (Burns, 2008). The framework was also presented and debated at a Seminar at the World Bank, 2009, (Burns, 2009).

The production process is illustrative of the effort required for preparing a global study and for development of monitoring systems of this kind.

As can be seen, the topic of the study has gradually evolved from a comparative study in land administration towards setting up a General Framework for Assessing Land Governance. The reports analyse critical issues in specific regions/countries and identifies future challenges. The WB research teams have proposed standards for a monitoring framework with indicators and methodology.

The World Bank comparative studies constitute weighty contribution to structuring issues of land administration, both due to its solid origin in an operational environment, and to a collaborative effort from a large group of professionals from both academia and practice. At the same time, it reveals what type of work is still required to create a basic monitoring system in land administration.

Some of the recommendations will be commented below, because the studies (Burns, 2007), (Deininger, Selod, Burns, 2010) propose a monitoring system and includes a suggested system of indicators on the efficiency in Land Administration Systems (Land Governance).

Case Country Studies in the WB-Comparative Framework

The WB comparative study is based on a number of case country studies with rich documentation and data, typically prepared by dedicated country research teams. It includes reporting on current status of land administration in selected case countries, with data of selected indicators.

Information on case country studies is valuable for the present analysis. The case countries included in the comparative study (World Bank, 2003) were selected to represent different regions:

Africa	Asia	Europe and Central Asia (EAC)	Latin America and the Caribbean (LAC)	OECD and other economically advanced countries
Ghana Mozambique Namibia South Africa Uganda	Indonesia Karnataka (in India) Philippines Thailand	Armenia Kyrgyzstan Latvia Moldova	Bolivia El Salvador Perú Trinidad & Tobago	Australia (8 states) Hong Kong New Zealand England and Wales Singapore and Scotland

Table. B.6. *Case Countries included in the World Bank comparative study of 2003 (Deininger, 2003)*

The World Bank Report (2007) additionally included countries from OECD and other economically developed countries for comparison (Australia (8 states), Hong Kong; New Zealand, England and Wales, Singapore and Scotland). Data from other developed economies were included in sections of the report, as for example, for the comparison of property transfer costs (Burns, 2007, table 9, pp. 59-61).

The case country data is not directly applicable – without further investigation, because it is rather old. Much of the data for the comparative study was compiled in 2001 and in many regions and countries significant changes were already seen by 2002 (Burns, 2006, p. 47). Rapid improvements have e.g., occurred in El Salvador since then.

Monitoring System in Land Administration /Governance

A format for monitoring of progress in land administration was developed to capture the status of good governance in land, which is central to, but not quite equivalent to the criteria for developing housing finance. The term "land administration" is broad covering both rural and urban land, and also refers to both customary land and property under formal law, while the focus of the present study is on urban housing.

Although it is possible that land administration reforms have addressed rural areas more than urban areas, it is assumed here that the key indicators defined by Burns (2007-8) provides the best possible picture of the status of development of formal land administration. The 2010 framework provides equal treatment of urban and rural issues (Deininger, 2010, pp. 200-201).

The suggested indicator system is elaborated to represent a broad range of quantitative and qualitative indicators. Moreover, the analytical framework goes one step further from simple indicators to composite indicators at a higher level of synthesis representing e.g., effectiveness and efficiency, although the framework does not yet have a full structure of composite indicators.

The framework has evolved and each of the reports (2006, 2007, 2008, 2010) includes a different structure, but it is assumed that the versions were all steps in a development process with the latest being the most advanced version.

Evolution of the Monitoring Framework

The 2006 draft framework reached a conclusion of setting up a subset of indicators can be used to assess the efficiency of land administration systems from five different perspectives (Burns, 2006, p.123-132):

Efficiency of Land Administration Assessment	
Perspective	**Key Indicators**
Policy and context perspective	1. Percentage of country covered by formal rights recognition, 2. Level of disputes over land, and 3. Time taken to resolve land disputes
Customer perspective	4. Time required (of registration?) 5. Cost as a percentage of property value
Community acceptance / market activity perspective	6. Number of registered transactions as a percentage of registered parcels
Internal efficiency perspective	7. Number of staff days per registered transaction, 8. Annual running costs per registered parcel
Sustainability perspective	9. Ratio of revenue to expenditure

Table B.7. *Draft Monitoring Framework, Perspectives (WB Comparative Study, version 2006, p. 123)*

In the final report (2007) was presented a framework for assessing the following dimensions of land Administration Efficiency and Effectiveness with associated data on the case countries structured into the following groups of indictors:

- Policy and Legal framework indicators
- Indicators for Customary Tenure
- Land Administration Parameters
- Formal Land Administration Effectiveness Indicators

(WB, 2007, Appendices, pp. 146-199)

In this way the perspectives were changed considerably, e.g., from customer perspective to customary tenure! The modification also seems to be leaning towards monitoring governance rather than market activities, a shift reinforced in the later versions of the monitoring framework.

<u>Monitoring system structure and indicators (version 2008)</u>
A more elaborate set of indicators was defined in the conceptual framework matrix of the 2008 framework which defines in total 35 indicators representing seven principles of good governance in land (Burns, 2008, Annex 1, pp. 115-119):

1. Land Policy contributes to tenure security
2. Property rights have legal recognition
3. Cost-effective, accessible and reliable service delivery by land institutions that is widely utilized
4. Broad access to land administration information (both spatial and textual information)
5. Transparent public land management, expropriation, disposal or privatization processes
6. Transparent systems for property valuation and property taxation
7. Accessible and responsive institutions for enforcement of rights and land dispute management.

The analytical framework thus defined is normative, and the seven goals are concordant with the general prerequisites for a functioning mortgage finance system with collateral security (Chapters A.10-11), when due adjustments are made to an urban setting with emphasis on housing and property rights. It is therefore taken that the framework seems applicable for the analysis of the fulfillment of preconditions for development of mortgage finance.

However, the benchmarks 1-7 are crude. There is no distinction of criteria for e.g., point 2, ‘property rights have legal recognition’, and there is no differentiation between different types of rights. Therefore, the mentioned framework seems to be designed for capturing the status of property registration during its embryonic stages.

The World Bank 2008 framework is further elaborated with criteria, indicators with sub-indicators to allow operationalization. A suggested structure and design of land administration indicators is set up, and data on the indicators are provided from the case countries as far as available.

Conceptual Framework Matrix (Burns, 2008)	
Key principles	**Possible Indicators (Burns, 2008)**
Principle 1 – Land Policy Contributes to Tenure Security	1. % of property registered/recorded in the name of a female 2. # court cases initiated by government in past year for encroachment on public land 3. GINI coefficient (as proxy for equitable access to land)
Principle 2 – Property Rights have Legal Recognition	4. % of country over which land rights have been registered/ recorded 5. # properties registered/recorded for the first time in the past year 6. Registered/recorded transactions as a % of registered/recorded properties. 7. Clear statement of evidence required to prove rights is available 8. % of population whose rights are registered/ Recorded 9. # days required to register a transfer 10. # steps required to register a transfer 11. % of country covered by cadastral maps
Principle 3 - Cost-effective, accessible and reliable service delivery by land institutions that is widely utilized	12. Service standards are available and publicly displayed in land offices 13. Clear schedule of fees available and publicly displayed in land offices. 14. SOPs/manuals are available and in use in land Offices 15. # days an average customer has to work to pay for the cost to register an average transfer 16. Ratio of revenue collected to expenditure for the provision of land administration services 17. Lawyers employed in land sector as a % of total employees 18. Number of outstanding survey requests as a % of surveys registered in past 12 months
Principle 4 - Broad access to land administration information (both spatial and textual information)	19. Policy in place to enable access to records without needing to prove an interest in the property 20. Average time taken to produce extract from records in response to a request. 21. Average time taken to provide a copy of a cadastral map in response to a request 22. % of registered/recorded property that can be searched on the internet. 23. Average cost to obtain a certified extract from the registry.
Principle 5 - Transparent public land management, expropriation, disposal or privatization processes	24. % of public land that is recorded in an inventory 25. % of public land that is charted on maps or recorded in the cadastre. 26. # of public properties that have been disposed of in last 12 months 27. #/% of court cases relating to expropriation
Principle 6 - Transparent systems for property valuation and property taxation	28. Registration fee for a transfer as a % of property Value 29. Policy that valuation/rating list is publicly available 30. % of appeals that result in a reduction in the assessed value 31. ratio of % change in annual property tax revenue to % change in GDP
Principle 7 - Accessible and responsive institutions for enforcement of rights and land dispute management	32. # of land sector civil servants disciplined in past Year 33. % of allocated public funds reaching intended destination (PETS) 34. % of court cases that are land related. 35. Average time required to resolve land disputes in the court system.

Table B.8. *From Burns (2008, Annex 1 – Conceptual Framework Matrix (simplified))*
Note: The Annex 1 was market not for citation. "Draft document – Circulated for comment – not for citation". It has not been explored, if another version had been released, or if permission to reproduce the above version could be obtained.

In a newer presentation (Burns, 2009) was proposed a structure according to 5 broad thematic areas covered by in total 24 indicators and approximately 80 dimensions, although not finalized yet. The methodology is under development, and involves expert investigation of legislation, statistics and data, as well as testing of panel scorings on questions according to a graded statement list.

The ongoing testing involves pilot testing in 4 countries to account for diversity of situations (Indonesia, Kyrgyz Republic, Peru and Tanzania), as well as some more work on quantitative data gathering and sampling (Burns, 2009, Presentation). Once a standardized format has been developed, it is envisioned to scale up the effort based on agreed ownership of the processes and outcome to be defined.

The comparative land administration studies (WB, 2003-2009) provides a state of the art overview of the development of land administration systems around the world. They feature developments on land administration reforms, programme interventions and challenges encountered, with lots of valuable information. Nevertheless, the monitoring framework is yet under development and availability of data for a larger set of countries is expected to be a few years ahead.

At this time, the available monitoring data of the WB-Land Administration Assessment Framework does not allow extraction of specific information and statistics for analysis of the readiness for mortgage credit development in general, but includes some relevant data e.g., from Ghana.

The World Bank Land Governance Assessment Framework (LGAF) - 2010
The latest version of the World Bank Assessment Framework has drawn on lessons learned from applying the assessment system in five pilot countries (Ethiopia, Indonesia, Kyrgyz Republic, Perú and Tanzania). The framework is described as a diagnostic tool. It is designed to adopt a combined use of hard data and expert assessments of rating, but the emphasis has changed to expert ratings.

The framework is described by 5 Key areas of good land governance (Thematic areas), with 21 Land Governance Indicators (LGI's) with in total 80 dimensions (sub-indicators). Each dimension is represented by a question to be answered by selected (in-country) experts according to a list of pre-coded statements.

The framework covers in depth the issues of importance for housing finance, such as clarity and enforcement of property rights, access to land information, land delivery and building permits.

Table 7.1: LGAF Dimensions Ordered by Themantic Areas (Deininger et al. 2010, pp. 200-203)

Thematic Areas (5)	**Land Governance Indicators (21)**	**Dimensions (80)**
1. Legal and Institutional Framework	LGI 1: Recognition of a continuum of rights LGI 2: Enforcement of Rights LGI 3: Mechanisms for Recognition of Rights LGI 4: Restrictions on Rights LGI 6: Equity and Non-discrimination in the Decision-Process	27 dimensions (Questions)
2. Land Use Planning, Management, and Taxation	LGI 7: Transparency of Land Use Restrictions LGI 8: Efficiency in the Land Use Planning Process LGI 9: Speed and Predictability of Enforcement of Restricted Land Uses LGI 10: Transparency of Valuations LGI 11: Collection Efficiency	17 dimensions (Questions)
3. Management of Public Land	LGI 12: Identification of Public Land and Clear Management LGI 13: Justification and Time-Efficiency of Expropriation Processes LGI 14: Transparency and Fairness of Expropriation Procedures LGI 15: Transparent Process and Economic Benefit	16 dimensions
4. Public provision of land information	LGI 16: Completeness LGI 17: Reliability LGI 18: Cost-effectiveness and Sustainability LGI 19: Transparency	13 dimensions
5. Dispute Resolution and Conflict Management	LGI 20: Assignment of Responsibility LGI 21: Low level of pending Conflict	7 dimensions

Table B.9. *The Dimensions of the Land Governance Assessment Framework in Deininger et al. 2010 (pp. 200-203)*

The framework is normative and includes dimensions (questions) with qualitative and relative concepts such as e.g., 'clear', 'short', 'affordable', 'effectively', 'consistently', 'practical', 'adequate', and 'fair'. Nevertheless, the research team found that diagnostic process in the pilot cases were possible without imposing value judgements. Supposedly, the practical setup of organisation and training of experts is important in this regard, but it is unclear how bias and undue influence on ratings can be avoided.

The suggested way forward is systematic and recurrent implementation of the diagnostic process by country, although it is not expected that the ranking will permit cross-country comparisons (ibid., p. 198).

The approach of setting up diagnostic questions appears to be useful for the land and real property sector, and similar methods were in e.g., the LARA framework and implemented in e.g., the Lex Mundi studies. Eventually, a diagnostic analysis can evolve into establishing comparative data and ranking systems comparable with macro-economic indices.

What is missing in the framework is hard data possibly associated with more mature land governance environments, allowing production of more precise indicators. Therefore the previous proposal (Burns, 2008) and the 2010 LGA framework seem to be complimentary. There is also needed market related indicators such as e.g., volume of the market, mortgage pledging and foreclosure, etc.

If monitoring of quantitative data (hard indicators) and production of such indicators is abandoned it is at the disadvantage to market transparency and requirements of the financial sector development.

Concluding Observations on World Bank Monitoring Activities

The WB comparative study and monitoring framework stresses the importance of land as assets and real assets as a major part of a countries wealth (Burns, 2007, p. 2). In particular the role of real property as collateral for obtaining credit is underlined, and a connection is made between security of tenure and economic development, but the relation is made as a statement, not proved by the underlying data.

"Land is also a primary source of collateral for obtaining credit from institutional and informal providers, and security of tenure provides a foundation for economic development." (Burns, 2007, p. 2)

Regardless of the acknowledgement of the collateral, a conceptual weakness of the first version of the monitoring framework is its lack of distinction between rural and urban issues, and little attention was given to the issue of real credit. Additions were made to the later conceptual models, to represent the perspectives of urgent urban issues.

A point of particular interest here is that a synthesis has been generated from the basic data on Land Administration System Efficiency, see WB-2007, pp. 134-5, table 23. The table shows the performance of countries relative to 'mean' values, hereby highlighting poor performances, e.g., Ghana with less than 2% coverage of formal land administrative systems and high levels of land disputes. Thus, the indicators have in this case been converted into performance ratings. Other sub-indicators of the study are yet to be compiled into composite indicators, which may serve other applications, e.g., in the financial sector.

The LGAF has moved a large step further towards creating a rating system similar to macro-economic indices such as the Worldwide Governance Indicators and the World Economic Forum Global Competiveness Index, see Chapter B.7.3.

The associated backside is the level of detail of the study, which seems insufficient for reflecting qualitative differences among registration systems, not to mention issues of mortgage pledging and foreclosure. It is commented here, that the five thematic areas (2010) do not cover the perspectives of the real property market and housing finance. It is suggested that a sixth perspective is required, 'Property rights and housing finance'. The need for indicators to service the financial market includes capturing how well property law regulates pledging of property, security of collateral and supports effective foreclosure.

It is easy to suggest desirable indicators, but all studies show that the constraint in production is the lack of data to populate such indicators especially in Africa. Despite considerable efforts having been invested in development of the indicator system, the actual data included in the report is deficient from a number of – especially African countries, although richer than in other similar reports.

> *"There are also many gaps and anomalies in the numerical data gathered in the country studies to determine the quantitative indicators for the efficiency and effectiveness of formal land administration systems. This particularly applies to Africa, for which little numerical data are available."*

Irrespective of the achievements of the World Bank in advancing the development of standard frameworks and indicators for land administration, it remains a challenge to interpret these findings in terms of risks and opportunities for mortgage finance development. But a lot of warning flags are raised, where data is unavailable.

The World Bank studies constitute a state of the art, solid and comprehensive framework for monitoring in land administration, which is promising for the future, and merits continuing support. Despite massive efforts

exerted at a high organisational level, the land administration/governance monitoring system is still in a stage of conceptual development, and production of indicators has not arrived to a an operational stage.

4.5 Summary of findings on Monitoring Systems of Cadastre, Land Registration and Land Administration

Global analysis of Indicators on Cadastre, Property Registration and Land Administration/Governance
The review of monitoring systems on cadastre and land registration has given little results in terms of indicators on property rights registration and protection for mortgage pledging. It has even been found difficult to classify to what degree countries are covered by formal property registration systems and by functioning land laws, because current monitoring systems are incomplete in country coverage and data contents. European countries and some other high income countries with similar traditions are dominant in the cross-country information available on cadastres and land registration. Language barriers may play its role on the distribution pattern along with different traditions in land administration.

Emerging international monitoring systems are increasingly including data from non-European countries, but are still short of providing a comprehensive, global overview. Where information is available, data formats may not lend themselves to comparative studies nor to ranking. So far qualitative analysis is the only option left in most countries for screening of the specific criteria for development of mortgage finance related to land registration and mortgage pledging.

Available data is fractional and does not lend itself to systematic analysis. This is seen as indicative of the remaining challenges in creating transparency at a macro level in the area of property rights and land registration, a matter of crucial importance for development of housing finance.

What can be extracted from the reviewed sources include summary information on for example cadastral principles and coverage of formal registration systems in selected countries. Europe is relatively well represented – although information is not standardized, but the information on level of registration of real property in other countries is fractional, deficient and scattered. Basic and updated information is difficult to locate on e.g., amount of registration properties in formal systems or level of formal land regimes, information which could potentially serve as indicators on potential mortgage market volume. Lack of distinction between rural and urban issues is also widespread in those cases, where information is available.

Therefore, it is of no surprise that information on mortgage pledges is even more sparse in the monitoring systems reviewed. The lack of statistics or data in this area is problematic, considering its importance.

Even where country studies are available or abundant on cadastral and land tenure issues, many studies have a special focus, lack an overview in the country of the general status of property law and property rights protection or basic data, not to mention specific indicators on mortgage pledging and foreclosure. As concerns the latter, interesting findings can be extracted e.g., from the Djankov (2002) studies on indicators of the effectiveness of debt enforcement: Foreclosure effectiveness was found to correlate with measures of legal formalism, legal origin and level of GDP/per capita. Legal systems with high levels of legal formalism perform poorly as measured both by quality of the legal services and by transaction costs.

All in all the scarcity of (updated) indicator data and functioning monitoring systems in land registration, property rights matters and land development, gives food for thought. Compared to the monitoring and information on financial assets, the national monitoring of real assets is largely lacking or in any case lagging. This is so much more disturbing that real assets make up a large share of any nation's assets and of individual households' livelihoods and savings, and when real assets to a large extent form a foundation of financial assets and affect credit availability.

Since there is currently no functioning and adequate monitoring system on land registration and other factors of importance for mortgage pledging, screening will need to rely on alternative strategies in respect to both information sources and methodologies.

Comparative Legal Studies

Different studies (ZERP, 2007; Djankov et al., 2002) demonstrate the centrality of legal origin and level of formality on performance of registration systems, conveyancing costs and foreclosure effectiveness.

It has been shown that legal origin and type of legal system matters to property rights protection, and affects transaction costs and effectiveness of foreclosure, not by marginal differences but by a multiplication factor. The countries included in e.g., in the ZERP study (European countries) and in the worldwide data from the Lex Mundi studies and Djankov (2002), were classified according to legal systems and legal origin.

Through comparative statistical analysis it was demonstrated how patterns are seen in performance of legal systems according to their legal origin of respectively, French, Common Law, German and Scandinavian roots. Systems of French legal origin perform in average significantly poorer than countries of Common Law origin.

Due to the critical importance of effective foreclosure for mortgage credit - in addition to market transparency –indicators on foreclosure and transparency of land registration systems are needed for analysis of the conditions for mortgage finance. Although, some indicator data on foreclosure time and cost are available for countries around the world in legal studies, especially Djankov (2002), and Lex Mundi III (2008), such data is scarce, and it is proposed that the emerging monitoring systems (World Bank, Cadastral Template, EU-geographics, etc.) need to incorporate indicators in that area in order to serve housing finance development, but also as an indicator of the quality of the registration systems at large.

Although the causal relations are open ended, and there are notable exceptions, it is suggested that legal origin and measures of legal formalism are important measures to be included as indicators, when screening the criteria for mortgage finance development. The indicator of GDP per capita has been shown by Djankov to also be a predictor of legal systems quality, although some high income countries perform poorly for different reasons, and some middle income countries perform relatively well.

The studies of e.g., Japelli (2002) based on in-country variations across regions in Italy, suggests that credit markets expand with better performance of debt enforcement. Improving performance of legal systems in land registration, mortgage pledging and foreclosure, may therefore serve as a lever for mortgage finance, as already suggested by Kruse (1923).

Discussion of Methodology and Sustainability of Monitoring

The options available for screening of the prerequisites for mortgage credit will be imperfect in all cases, when there is a severe shortage of basic and standardized information on land registration and land issues, which unfortunately is the case in most countries around the world, as the review of monitoring systems has shown. An analysis of those countries included in comparative studies might take advantage of such available data, but since most studies were not updated and data is typically some years old, newer information will be required.

The efforts exerted on setting up the reporting system of the Cadastral Template demonstrate the challenges of developing monitoring systems in cadastre and land registration. National systems have each their special character and are not oriented towards macro-level reporting or applications.

For analysis of any given country, a desk study is a natural first step, and a more viable and rewarding one can be made with increasingly rich Internet resources, giving easier access to information from scattered sources. However, when considering various options of screening, the idea of developing a more systematic approach seems more rational and attractive, if anchored in a standardized and operating reporting system. The desirability of setting up information gateways to information on cadastres, land registration monitoring

data, etc. is obvious, when it improves accessibility to whatever scarce and important information available in a rational search process. Attempts to do exactly that have been launched, but are not globally or continuously supported.

Possible intermediate forms can be imagined, for example in the form of rapid assessments, or structured diagnostic approaches. Inspiration can be found in the reviewed studies as concerns methodology. Of relevance is for instance the approach of a rapid assessment defined in the USAID - Land Tenure and Property Rights (LTPR) framework.

The LTPR assessment is seen as a process oriented tool with feedback processes, conducted as an audit, to be used where information on property registration and the land market is incomplete, in-actual or unreliable. Hereby, the bottom ranking markets can potentially be identified through a rapid assessment.

Some of the findings of an LTPR type assessment could be applicable with respect to identification of most problematic countries for introduction of mortgage finance based on their ratings of constraints. Beyond the specific information, the methodology developed also shows how a rapid appraisal can effectively identify problems, barriers and where possible needing interventions seen as relevant in the case of planning of the introduction of mortgage credit. However, the approach is based on an ad-hoc and external audit approach.

What is noted here is the approach of developing a rapid assessment into a standardized audit –approach, a potential approach to screening for readiness for mortgage financing, as discussed below in Chapter B.9.3.

A rapid appraisal approach was also part of the feasibility studies conducted by VP Securities A/S: see the case studies Nicaragua, Ghana, Part D.

The World Bank project on development of a comprehensive monitoring system provides an analytical framework with a subset of indicators for assessing the efficiency of land administration systems from different perspectives (Burns, 2007, p. 132-5), but not from a perspective of housing finance in an urban context.

The analytical framework of the World Bank monitoring system is normative, and the defined themes are concordant with the general prerequisites for a functioning mortgage finance system (Chapter A.12). It is therefore taken that the framework seems applicable for the analysis of the fulfillment of preconditions for development of mortgage finance if complemented, but the benchmarks are crude. The level of detail of the study is insufficient for reflecting qualitative differences among registration systems, not to mention issues of mortgage pledging and foreclosure.

From the WB project can be learned important lessons on the approach to indicator development in land administration, as presented by Burns (2007, presentation), for example that a clear conceptual basis help creating better indicators, and that fewer and more robust indicators are better, if there is sufficient contextual data. The difficulties and constraints encountered by the project in data collection are telling of the nature of the whole subject area.

Concluding Observations

The proposed monitoring systems (Cadastral Template, World Bank monitoring system, etc.) are yet to be developed into fully functioning monitoring system. At this stage, plans for data collection and regular updates have not been revealed, but considering the weighty institutions behind the initiatives, it can be expected that work will continue and eventually be crowned with success. But it might take years.

The World Bank studies constitute a state of the art, solid and comprehensive framework for monitoring in land governance, which is promising for the future. Despite massive efforts at a top level, the land administration monitoring system is still in a conceptual development stage and production of indicators has not arrived to an operational stage.

While acknowledging the achievements of the World Bank in advancing the development of standard frameworks and indicators for land administration, it remains a challenge to interpret these findings in terms of risks and opportunities for mortgage finance development. But a lot of warning flags are raised, where data is unavailable.

The big issue appears to be the organisation of monitoring systems to be embedded in permanent structures, so that data collection and continuity is ensured. Much focus has lately been put on improving regulations, transparency and monitoring of the financial sector, but no similar discussion has been seen in the real sector. Especially in the poorer countries with relatively small financial sectors, most national and private assets are real, but there is little transparency and no audit of the management of these assets, ref. to discussion on accountability in Part C.

5. Macro-economic indicators and rating systems

5.1 Overview of macro-economic Indices with Sub- Indices on Property Rights

Protection of property rights and the investment climate for development of mortgage credit are multi-dimensional phenomena. The issues of good governance in general and property rights protection in specific are intertwined. On one side good governance and the rule of law includes dimensions of the property rights regime and the degree to which the regulatory environment enables a sound property market and long term credit. On the other side general issues such as e.g., the quality of institutions, the rule of law or governance, impact on the specific property rights issues. Indicators on broader governance issues are therefore of potential interest for screening of readiness for mortgage credit in a given country or across countries.

Considering the factors relevant to mortgage finance identified in Chapter A, it is possible to link up with the defined criteria for development of mortgage finance through macro-economic indicators on:

- Macroeconomic stability,
- Good governance in general,
- Rule of law and transparency,
- Market conditions and the business environment.

The quantity and variety of international indices has grown dramatically during 1991-2005 according to (Bandura, 2005), and an increasing number of organisations have become involved in launching indices. The question is what existing rating systems – if any – are suited for the purposes of screening the conditions of property rights protection and housing finance. That question cannot be fully covered here, but selected international rating systems will be reviewed to explore their potential contributions to country screening.

It has been found that land and property indicators appear in different components of macro-economic indicators:
- As a component of Governance Indicators
- As part of the Rule of Law indicators, or
- As part of Global Competitiveness indicators.

Some such indices have been reviewed for their potential contributions in respect to screening the environment for mortgage credit considered in this study.

A large number of international indices and ranking systems cover issues of governance, rule of law, corruption, business environment, etc. Care must be asserted when applying the indicators, since there are inherent limitations in this category of development indicators, mostly measured on relative scales. Source data is typically based on questionnaires and responses by either expert groups or by surveys ("opinion polls"). Having standardized questionnaires applied across countries repeatedly (every year, e.g.,) provides a rich material for comparative studies within the limitations of the methods and measuring scales.

The general indices and ranking systems discussed below are selected as examples because of their authoritative nature as having been prepared by significant market actors, subject coverage, country coverage and their track record of annual updating. Over the latest decade International agencies like the World Bank have intensified their work on generating composite indicators by integrating all relevant indicator data produced by original indicator sources with substantial country coverage.

There are also relevant specialized indicator systems of high authority, e.g., the Transparency International Corruption index, and other less known rankings, e.g., political risk indicators targeted at the business community. Many sources of this kind are applied as sub-indicators in other composite indices, so attention to what indicators are interdependent is therefore important.

Dedicated property rights' protection indices are few. Even if development of standard indicators within property rights protection and land tenure security has been ongoing for some years, no operating system has been established so far, which has been able to set up the necessary supportive system for producing indices at regular intervals at an international level from original data. The International Property Rights Index

(IPRI) is formed as a composite indicator, not based on its own data sources, but by constructing new composite indicators based on other (composite) indices, see comments below.

Few of the over 130 composite indices surveyed by Bandura (2005) explicitly concern issues of property rights protection, among them:

- The Ease of Doing Business Indices, World Bank
- Worldwide Governance Indicators, World Bank
- Index of Economic Freedom, Heritage Foundation

The World Development Index (WDI) data includes data for monitoring of the Millennium Development Goals, such as access to water and sanitation. Unfortunately the World Development Indicators collated by the World Bank from national sources and international institutions, do not include data on housing or property, at least in its open data (available without subscription), despite its crucial role in development.

The UNHABITAT is 'only' monitoring slums as part of its monitoring of the Millennium Development Goals, not general urban development.

Other eminent producers /distributors of statistics, such as the OECD and EUROSTAT, have limited country coverage. Proposed indicators put forward by NGOs and professional networks have not been operationalized and put into production.

For the present review the following indices have been selected for further analysis, so as both to illustrate their general nature, and to review their relevance for screening of readiness for mortgage finance in respect to monitoring of the status of "protection of property rights", table B.10.

Indices, Rankings and Organisation	Latest no. of countries	Year of reference	Links
Ease of Doing Business (World Bank)	178 183	2008 2010	http://www.doingbusiness.org/economyrankings/ Own surveys, original indices
International Property Rights Index (Property Rights Alliance)	115		http://www.internationalpropertyrightsindex.org Composite indicators based on other sources ('remix')
Index of Economic Freedom (Heritage Foundation)	162		http://www.heritage.org/research/features/index/ Own surveys??
Worldwide Governance Indicators (World Bank)	212	2008	http://info.worldbank.org/governance/wgi/index.asp Composite indicators based on 35 separate data sources
The Global Competitiveness Index** (World Economic Forum)	131	2008	http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm Sources: Based on other indices – perception based, but also on hard data
Transparency International, Corruption Perception Index (CPI)	180	2009	http://www.transparency.org/policy_research/surveys_indices/cpi/2009; Sources: Own surveys

***Table B.10**. Overview of Macro-economic Indices with relation to Property Rights Protection*
***Reference to chapter C, where it is discussed*

The character and focus of each of the above indices differ greatly. The IPRI has been developed with the special purpose of rating the conditions of property rights, but is generated from other composite indicators and sources.

The Ease of Doing Business indices are directed at rating how easy it is to start up a business and perform other necessary business operations, like constructing premises and hiring/firing employees. Ten different dimensions of business operations are rated, including the ease of registering property.

The Worldwide Governance Indicators (WGI) is a perception based rating system of governance quality. Thus, the WGIs are based on a model of governance defined by six dimensions of governance including rule of law, regulatory quality and level of corruption, all of which are relevant for protection of property rights.

The Global competitiveness Index is the most advanced among the indicators above, because its design of composite indicators is based on a dynamic model of economic development represented by three overall

stages (factor-driven, efficiency-driven and an innovative-drive stage). Composite indicators are designed to represent 12 pillars of an economic development process from indicators of basic requirements to indicators of innovation and sophistication. The indicators of each pillar are assigned different weights according to the overall stage of development. In addition the World Economic Forum Global Competitiveness Index is generated from both hard data (as far as possible) and perception based ratings. Within the composite indicators are found sub-indices of relevance for protection of property rights.

In order to better understand their potential application it has been found necessary to look into what is the nature of the indices and rankings, both in respect to methods and to the underlying models of the subject matter being featured. Clearly, perception based indicators supplement other types of indicators based on more detailed data of a quantitative or qualitative type. A more detailed discussion of the WGI is found in chapter B.7.2.

Before doing so, it is suggested that macro-economic indicators could also be of relevance.

5.2 Macroeconomic Classification Systems

Global Classification Systems of Economies and Key Statistics

Macro-economic classifications of countries made by international agencies provide a point of departure in analyzing the conditions for introduction of a market based housing finance, like the Danish mortgage credit system. General monitoring systems, country profiles and reports typically include standard country information on geography and population with some socio-economic data such as the size of the economy (GDP) and GDP/capita, which functions as a proxy for the level of development; and also serves as an indicator of the effectiveness of the legal system.

The classification systems of the World Bank, IDA, IMF, OECD, etc. provide country classifications based on both research and operational experience with financial commitments between each country and its international partners. Countries are typically grouped according to their general stage of development in groups from low income to high income countries. Additionally, their credit standing in financial institutions may form part of the classification system.

A country classification as Highly Indebted Poor Country (HIPC) by the World Bank is critical, although applied to the national level, also affects the wider access to credit. A higher country risk in international financial systems results in an added risk premium on capital, which transmits into higher credit costs for the individual borrower. Obviously, a rating as HIPC can be expected to be indicative of difficult framework conditions.

More specifically, some macro-economic indicators are of relevance for property rights protection and the property market: Of particular importance are indicators of urban change, the % rural and urban population, and their rate of change. Another important indicator is the development in household size, because it impacts on the demand for housing. Together with statistics on current housing stock, the dynamics of urbanization and change of household size allow an estimation of the demand for new housing stock over time, not accounting for upgrading of current stock. Such data is crucial for estimating the demand for housing finance and thus the size of the housing market.

Therefore, statistics on housing stock, urbanization rates and household size need to be added to other basic key data for screening of the market for housing finance. Key data on income and employment is required for assessing affordability for different market segments in a given country, although such information might be more difficult to access.

There has been found no comprehensive system incorporating population, income profiles and housing statistics in a monitoring system, but national census data could potentially be applied as input data.

In the following analysis the UN Human Development Index (HDI) has been added to the general indices, although not part of the detailed analysis. Clearly, human factors are important in addition to the factors of

governance and economic development for mortgage credit. If life expectancy is low, how would it be possible to enter into long term credit commitments? Similar questions can be asked in case of low levels of education and other factors as represented by the Human Development Index.

The role of social factors in economic development is briefly discussed in Part C.

5.3 Methodology Issues of International Ranking Systems

Nature of Rankings

Perception based indices draw their strength from capturing the perceived outcome of a system, in this case property rights protection, within its complex setting. Clearly, the quality of the findings will depend on the design of the indicators and the quality /quantity of the surveys, etc.

For certain types of indicators, there is no other way to assessment of the status, especially for the corruption index, which in nature cannot be derived from official sources. Other indicators may better be covered by expert assessments and hard data depending on the phenomenon being studies.

A question is how accurate and useful perception based ratings are in characterizing the status of real property protection in a country. Other authors have found that the real property sector is so complex, that it cannot be overviewed by individual experts (Ref. to the COST study, Stubkjær et. al, 2007). Thus, if perception based ratings are not combined with other type of indicators, important differences may be lost.

As an example, the lack of quantitative data in the IPRI-rating means that there is no measure of e.g., the degree of informality in the country or the level of conflicts (risks). Another serious weakness in macro-economic indices of this kind is the use of one indicator for a whole country. In that way different areas and sectors of the real property are not reflected in the surveys: What are the conditions in the urban and rural sectors? What are the characteristics of the protection of rights on the high end of the property market vs. the lower end? And how is the capital covered compared to provincial towns, etc. In huge nations like India this is evidently a problem, and it may be questioned if it makes sense to represent India by a single set of indicators in this respect.

Comparisons of complex and different systems are error prone. Expert surveys offer a way of getting an overview of a complex situation by asking a panel of experts from each country, how they rate the property rights protection. However, in order for answers to be useful and comparable, questions need to be suited for the purpose and the detailed conditions for the question have been defined. Even so, this may still provide answers with a certain bias, since it is unknown what the answers were based on, and how experts may be influenced by, e.g.,: A particular favorable or in-favorable case or experience with the system? A limited geographic perspective from where the expert is operating? A biased view from the side of a privilliged class with the means for manuovering in the system? Answers biased through a political view, or a limited technical view through working within parts of the system?

The possibilities are many, and more background information would be required to interpret the ratings.

Getting access to sufficient data and uniform sources of information for indices at an international level is an obvious difficulty of all rankings. The resources needed for building a network of informers and for collating information regularly at this level means that few organizations are capable of delivering the basic information.

More technical accuracy questions are also of concern as concerns rescaling and “accuracy”.

When rating systems integrate ratings derived from other sources, the original ratings are often rescaled, e.g. from a simple conversion from “1 to 7” to a scale from “1 to 10”. Other elements of uncertainty may be introduced by differences in country coverage, and to what degree a country will be included, if not all sub-indices are available.

Measurement of errors, 'accuracy', is another matter of concern. The World Bank World Governance Indicators are illustrative of the challenges of dealing with accuracy in such abstract matters as perception based indicators. Their documentation of working with margins of error for weighting of indicators is illustrating a best practice approach, where results are well documented (Kaufman, Kray, Mastruzzi, 2008, 2009, 2010).

Definitions of Property and Property Rights

The topic of property rights protection includes both dimensions best described by hard data and some dimensions, which may well be captured through perception based ratings. However, without hard data, indicators would be deficient.

Critical to the use of indices is also what terminology they are using. Definitions seem to form one of the key challenges in developing international indices. Of relevance for the present study is what definitions form the basis of measuring "Property rights", "Governance" and "Institutions". Moreover, composite indices are dependent on using consistent definitions across its different parameters. This is e.g., a problem in matters of property rights and institutions.

Widespread confusion arises because the term "property rights" is being applied in different meanings, whereas professionals working with issues of real property are used to interpret the term as a shorthand term for real property. As an example (Clasessens, Laeven, 2002) discuss the topic of Financial development, property rights and growth, but their main discussions are concerned with property rights *"… as referring to the protection of entrepreneurial and other investments in firm assets"*. Claessens and Laeven discuss property rights in a wide sense embracing intangible (intellectual property rights) as well as tangible assets. In fact they observe that in countries with poor protection of property rights (in a broad sense), firms appear to have a lower share of intangible assets, because fixed assets (buildings, etc.) seem to be easier to protect.

> *"Stealing physical property, such as buildings and machinery, in contrast is more difficult, particular for competing firms, even when general property rights are not secure. In a broader sense therefore, property rights matter more to secure returns from intangible assets than from tangible assets." (Claessens, Laeven, 2002, p. 4)*

In this way, the findings of Claessens and Laeven do not contribute directly to the discussion of the relation between security of tenure of real property and economic development, however interesting their observations are in other respects.

The international ratings of security of property rights tend to be referring to broad definitions possibly including financial assets or intellectual rights, as can be derived from their methodologies and the nature of their components, if not stated directly. Thus, the issue of protection of rights to real property is depicted rather vaguely through the rating systems, irrespective of the prominent position of (real) property rights in their descriptive parts.

The definition applied for the International Property Rights Index, IPRI, is broad:

> "**Property:** *an object of legal rights, which embraces possessions or wealth collectively, frequently with strong connotations of individual ownership. In law the term refers to the complex of jural relationships between and among persons with respect to things. The things may be tangible, such as land or goods, or intangible, such as stocks and bonds, a patent, or a copyright.*
> **Property Right:** *a legal right or interest in or against specific property.*"

The broader definitions of property rights are applied, the more difficult it becomes to benchmark the state of development (ratings) or evaluate the "accuracy" of the ratings against a common norm. What is the standard deviation of an experts' perception of the situation when rating a highly complex matter of property rights e.g. in Brasil and India on a scale from 1 to 5 or 1 to 7, or perhaps 1 to 10? Could such a rating be as good as anyone's guess? Are the ratings stating the obvious? Or could this type of ratings of protection of property rights even produce results, which may contradict what an informed reader will know?

On the other hand, when using broad definitions of property and institutions, expert ratings may be the only applicable methodology for gauging the actual state of affairs. Therefore, the vagueness of broad definitions of property rights will also be related to the characteristics of using a rating methodology based on perceptions.

Conversely, other terms may effectively refer to protection of property rights: In the World Bank Worldwide Governance Indicators, property rights indices are part of the rule of Law indicator, or even the main /only dimension considered in the rating of Rule of Law.

> *"**5. Rule of Law (RL)** – measuring perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence." (Kaufmann, Kraay, Mastruzzi, 2008, p. 7)*

At a specific level, ratings of the protection of property rights in each country can be questioned, as shall be discussed below on the comments to the different rating systems (IPRI, the WB-Ease of doing business, and others). Obvious errors generated in ratings may help identify, what are the specific shortcomings of the rating systems' definitions and methodology. Likewise a closer analysis of methods and ratings may help define information required by economists from the real property sector. Or it could be explored, if the rating methods could also be applied at a more specific level in the context of rating of the protection of real property rights.

Definitions of "Institutions"

A similar problem of definitions arises with the definitions of "institutions" as used in the rating systems and their background analysis. A survey conducted by IMF (2003, p. 96) describes how institutions can be defined as a broad notion of "the rule of the game" or as more particular definitions of organizational entities, legal framework, etc.

Application of the broad definitions can be argued from the point of view that the factors of concern are highly complex and shall be seen in a holistic perspective. Against this position stands that the more vague the definition the more difficult it is to control measurements of the phenomena. How is it possible to rate the "rule of the game" or "formal and informal constraints on political, economic, and social inter actions" (North, 1990) except from some personal perception, however well researched. Perceptions have limitations, not the least when applied on a global scale, where it is impossible to ensure standardization and to have sufficient cross-country insight into the variety of situations and conditions.

Even when applying a more precise definition of institutions, measurement of institutional quality and performance is a real challenge, as discussed below.

In the case of comparative studies at cross national levels (IMF, 2003), the more general ratings serve a macro-economic level analysis of such general issues as the grouping of national economies and general administrative systems.

What can be deducted from available research is the central position of governance, institutions and protection of property rights for economic development, as discussed from a theoretical perspective in Part C. But the studies and rating systems also reveal a wealth of issues, which needs to be better described for the rating of real property regimes, both in the area of institutional performance and in protection of real property rights.

A Note on the Role of Rating Systems in Finance

The term "rating", is often encountered in the special context of rating bureaus in the financial sector, so a distinction will be strived at here to avoid confusion between general indicator systems and credit ratings in the financial sector. Therefore, it has been strived at using other terms here, e.g., indicator and ranking systems.

Nevertheless, rating systems matter – whether in the financial world or macro-economic ratings - because of the role they play in international finance, when assessing risks and opportunities among alternative international investments.

> *"The perceptions of the political, economic, and policy climate embodied in the institutional measures are likely to be of key importance in shaping overall conditions for investment and growth. Given the mobility of international capital, for example, such assessments may play a major role in determining a country's ability to attract and retain investment inflows." (IMF, 2003, p. 97).*

The capital market is determined by three factors; *demand, supply and risk*. It follows that risk oriented indicators, including political risk indicators, are important in housing finance.

In Part C the central role of mortgage finance in financial systems as well as in the overall economy is discussed. Because the real property sector is at the same time playing a prominent role in the economy and being complex, indicators and rating systems on property rights are of particular importance.

It can be concluded that a widespread call has emerged for information on the real property sector in a form, which can serve as a basis for decision makers at policy level as well as for specific business decisions, especially in development of housing finance.

6. Comments to Selected International Ratings rel. to Property Rights Protection

6. 1 World Bank Ranking of Ease of Doing Business and Property Rights Issues

Nature of Ranking System

The World Bank index of Ease of Doing Business (EDB) was first surveyed and produced in 2001 in order to develop an empirical basis for assessing the effects of policy interventions to improve the business environment around the world.

As described by Davis and Kruse (2007) the methodology of the EDB was inspired by the inventories of costs by being informal performed by De Soto, who showed that the barriers to entering the formal economy amount to numerous procedures, high costs, and long times and other difficulties even when wanting to register a small firm.

> "The DB methodology is an updated version of an approach pioneered by Hernando de Soto, a prominent Peruvian economist who became famous for carefully and precisely measuring the red tape that was strangling Peruvian entrepreneurs and then energetically promoting reforms designed to cut that red tape (de Soto 1989)." Davis and Kruse, (2007, p. 7)

The EDB index is generated partly from academic studies, research of legal regulations etc., and partly from surveys and reviews done by a large number of national expert contributors from governments, business and academics. A large production team stands behind the annual release of new surveys of the Ease of Doing Business.

The Ease of Doing Business ranking has achieved wide country coverage, including a total of 183 countries by 2010, thus a potential information source for the increasing demand for monitoring data.

By its wide coverage and worldwide network of contributors to the survey the Ease of Doing Business indicators have become widely applied as source data for a number of monitoring purposes, and is also used as data input for generating a number of composite indices, as discussed below in chapter B.7.

Methodology

The Ease of Doing Business (EDB) indices depict selected dimensions of the business environment with a focus on transaction costs. The EDB ranking is generated from 10 sub-indices, which in turn are composed of scores on 3-6 sub-indicators. The scores are mostly measured as process parameters of transactions (duration, costs, days), but some sub-indices (employing workers, for example) are defined as scores on a predefined scale from e.g., 0-10, 0-100, or 0-6 by expert assessment.

At a superficial level of observation the index seems to reach plausible rankings, http://www.doingbusiness.org/Rankings.

As could be expected, the countries competing in the bottom ranks of the EDB (2007-9) are dominated by poor (-ly managed) African nations, such as the Democratic Republic of Congo and Zimbabwe. Among the 20 lowest ranking countries in 2009 were only three non-African countries: Venezuela, Laos and East Timor. In the other end of the EDB-ranking the top-ten countries are all OECD countries, but there are surprises in the top-20 group of countries, e.g., a rather high ranking (17) of Mauritius in the 2010 results over Sweden ranked as no. 18 among 183 countries included. If that is a fair rank is an open question, but the type of inaccuracies embedded in the methodology is discussed only in relation to selected parameters and cases. Generally it can be said that irrespective of possible shortcomings in the survey methodology (as discussed below), it appears that the extreme cases of both positive and negative cases have at least "landed" in the right end of the final ranking scale.

Four out of ten sub-indices of the Ease of Doing Business ranking concerns topics of relevance for the real property market and mortgage credit:

2. Dealing with licenses – construction permits
4. Registering Property
5. Getting Credit
9. Enforcing Contracts

Sub-indices 2, 4 and 9 are rated through transaction process parameters: number of procedures, duration and costs, in the case of a well-defined case study, see comments below.

The above EDB sub-indices are based on expert surveys conducted with standardized questionnaires common to all countries surveyed, and the format of replies are pre-structured, e.g., as ratings on a given scale, or as quantifiable parameters e.g., the number of days required for completing a given procedure. The answers to each questionnaire have a simple and standardized format of e.g. number of days, number of steps and costs of performing a transaction of a real property of the given standardized type. The results of each country survey are transparent and available in separate country reports. This means that it is possible to compare days, steps and costs across countries at the level of detailed parameters of sub-indices. Each item is successively converted into a ranking relative to other countries following in order of increasing numeric values of each item. Since in total 178 countries were ranked in 2008, the results within each sub-indicator will be a rank in the interval from 1-178, which again is converted into a percentile rank, so as to eliminate scale differences arising from different number of countries surveyed (from year to year, from item to item).

The aggregated result of each of the ten sub-indices is a rank on a scale from 1-178 (2008). Thus, the sub-index of Registering Property is generated as the average ranking of its three sub-indices. It follows that the final score of each of the sub-index, such as e.g., "Registering Property", is strongly influenced by the scoring of other countries, even if the original data, the results of the questionnaires are given in quantifiable terms (no. of days, etc.). If the ranking of a country goes up or down over time, it is not possible to tell – without delving into the detailed data - if it was caused by internal or external changes. As an example, the ranking of Ghana fell from Doing Business 2008 – rank 27 – to 2009 to rank 31, despite survey results showing slightly lower costs of registration (from 1.3% to 1.2%) and other parameters being equal. Taking the Ease of Doing Business ranking out of context may therefore result in erroneous results, alone because of its relative nature.

In parallel with the continuity offered by the standard definitions of the Ease of Doing Business indices, efforts are made to overcome its shortcomings. The World Bank Ease of Doing Business ranking is striving at remedying certain deficiencies by surveying gender and reform issues and by starting collection of quantitative data, such as e.g., % system coverage.

Sub-Indices	**Components**	Weight in total rank %	**Description**
Starting a business	Procedures (number)	2,5	
	Duration (days)	2,5	
	Cost (% GNI per capita)	2,5	
	Paid in Min. Capital (% of GNI per capita)	2,5	
	Total	*10%*	
Dealing with licenses (construction permits)	Procedures (number)	3,33	Records all procedures required for a business in the construction industry to build a standardized warehouse. Includes site-plans, utility connections, inspections, cadastre and legal registration www.doingbusines.org/MethodologySurveys/DealingLicenses.aspx
	Duration (days)	3,33	
	Cost (% of income per capita)	3,33	
	Total	*10%*	
Employing workers	Difficulty of Hiring Index	2	
	Rigidity of Hours Index	2	
	Difficulty of Firing Index	2	
	Rigidity of Employment Index	2	
	Firing costs (weeks of salary)	2	
	Total	*10%*	
Registering Property	Procedures (number)	3,33	The full sequence of procedures necessary to transfer /register a business purchase (B2B) of land and a building for commercial use. Every procedure required by law or in practice is included. Local property lawyers and property registries, etc. provide information on procedures, time and cost to complete each of them.
	Duration (days)	3,33	
	Cost (% of property value)	3,33	
	Total	*10 %*	

			www.doingbusiness.org/MethodologySurveys/RegisteringProperty.aspx
Getting Credit	Legal Rights Index	2,5	Measures legal rights of borrowers and lenders and the sharing of credit information. However, the case concerns private credit in general NOT secured by collateral of immovable property. Aspects of public credit registry and private credit bureau coverage are included in the ranking. www.doingbusiness.org/MethodologySurveys/GettingCredit.aspx
	Credit Information Index	2,5	
	Public registry coverage (% adults)	2,5	
	Private bureau coverage (% adults)	2,5	
	Total	*10%*	
Protecting investors	Disclosure Index	2,5	
	Director Liability Index	2,5	
	Shareholder Suits Index	2,5	
	Investor Protection Index	2,5	
	Total	*10%*	
Paying taxes	Payments (number)	1,66	
	Time (hours)	1,66	
	Profit tax (%)	1,66	
	Labor tax and contributions (%)	1,66	
	Other taxes (%)	1,66	
	Total tax rate (% profit)	1,66	
	Total	*10%*	
Trading across borders	Documents for export (number)	1,66	
	Time for export (days)	1,66	
	Cost to export (US$ per container)	1,66	
	Documents for import (number)	1,66	
	Time for import (days)	1,66	
	Cost to import (US$ per container)	1,66	
	Total	*10%*	
Enforcing Contracts	Procedures (number)	3,33	This indicator measures the efficiency of the judicial system in resolving a commercial dispute. www.doingbusiness.org/MethodologySurveys/EnforcingContracts.aspx
	Duration (days)	3,33	
	Cost (% of claim)	3,33	
	Total	*10%*	
Closing a business	Time (years)	3,33	
	Cost (% of estate)	3,33	
	Recovery rate (cents on the dollar)	3,33	
	Total	*10%*	

Table B.11. *World Bank 'Ease of Doing Business', Index and Sub-indices. Source World Bank,* http://www.doingbusiness.org

The most relevant sub-indices are the Ease of Dealing with Construction Permits, and of Registering Property. Since the sub-index of Getting Credit address the access to credit without security in immovable property, it is not discussed here.

Observations on the Sub Index of "Registering Property"

The World Bank Ease of Doing Business-sub-indices on registering property are featuring the conditions for registering property in a special business case, namely registering a commercial property of a certain size and location in a commercial zone, a case not representative for a dwelling property. Detailed assumptions are made about the case, - to make the data comparable across countries - , about the parties to the transaction, the property and the procedures used. However, if all types of properties are processed in the same manner in the national real property registration system, the survey may still represent some relevant features of the property transaction process. Therefore, it is not the property type per se, which give reason to caution for wider application of the index.

Limitations of the "Ease of Doing Business" indicators arise from a number of factors, for example the particular assumptions defining the survey and its focus on transactions. The business case of a property transaction has been specified in detail in order to provide comparative results across countries, e.g., by relating the case to a property of a cost defined relative to income per capita. However, comparisons are hampered anyway e.g., by not reflecting the quality of the property rights protection achieved through the registration process, which vary greatly among countries. The limitations of the Ease of Doing Business indices include aspects such as:

1. The quality of institutions of property registration is not represented in the indices

The index is portraying selected aspects of transaction costs, but not the quality of the protection of property rights secured through registration, nor the quality of the institutions underpinning the registration as discussed by Arruñada (2007) and Stubkjær (2008). Critical features such as reliable information, transparency or completeness (coverage) of the registration system are not reflected in the Ease of Doing Business indices. The scoring system does not measure the legal security and protection provided to registered property rights. This means that a high score in the Doing Business indices could be achieved despite of a fragmented deeds registration system (if it is quick to shelve the file), but it is evident that such a system delivers little service and protection to the property market.

2. The business case of registering property is not representative (for housing finance)
The survey on registration concerns a commercial property under assumption that
- The parties of the transaction are (domestic) limited liability companies of a certain size (50 employees)
- The property is a large property for commercial use located in a peri-urban area, and is already registered in the land registry or cadastre, and free of title disputes or other complicating conditions.

Clearly, in case of widespread informality or high conflict levels in land tenure, the case assumptions are exceptionally favourable, and cannot be assumed to be representing the general conditions, when registering a normal dwelling property in that country.

3. The case does not include associated tasks or costs of the transaction
The calculation of transaction time and costs for the scoring does not include all necessary costs. E.g., time spent on gathering information is not considered, and only official direct costs are included, not informal fees paid or other indirect costs. As a consequence, other barriers of property transactions stemming from deficiencies in the property market, illegality, in- transparency, etc. are not reflected in the scoring of the Ease of Doing Business sub-index on registering property.

4. Survey method leads to over simplification
Standardization and recording of only one set of data for each country leads to over simplification, if conditions are not fully uniform within the country. In addition simplified assumption may also eliminate critical functions, which can potentially be exacerbated by measurement errors in the survey itself.

5. Enforcement is not directly addressed
The sub-index on enforcing contracts is a broad index, potentially also including the enforcement of property rights. However, property rights may be more complicated to deal with than commercial exchange contracts.

All in all, the ambition of featuring the business environment through the mentioned sub-index of registering property is facing an up-hill struggle of overcoming a large range of limitations. The results can be illustrated by comparing the data details and rankings of selected countries, see table B.12 below.

Analysis of the Ease of Doing Business Rankings of Ghana and Denmark
In the 2008 rankings of Ease of Doing Business, Denmark was positioned as rank 39 on "Registering Property", while Ghana achieved the higher rank of 26 among the 178 countries included in the survey. In other words, the ranking suggests that transactions of real property should constitute a higher barrier to business development in Denmark than in Ghana, contrary to general expectations. However, the difference in ranking is not only surprising, but it is suggested here that this example might be helpful in illustrating shortcomings of the EDB ranking system in respect to measuring the *qualitative* dimensions of property registration.

In the 2010 rankings Denmark has dropped to a rank 47 (of 183 countries) on ease of registering property, which is pulling down Denmark's position in the total ranking (6 of 183). In contrast Ghana is ranked 33 on registering property in 2010, while all the other scores are low resulting in global rank 92. This is perplexing. Denmark has for over a century enjoyed complete and guaranteed registration of all property in its whole territory, both in the cadastre and the land registry. In contrast land tenure in Ghana is highly complex.
A major part of land in Ghana is under a form of customary land tenure, "Stool land" or "Skin land", officially about 80% of the land. As concerns land administration in Ghana, there are three parallel registration regimes: 1. Title registration – covering a minute part of all property in the country registered as free-hold properties, 2. Deeds registration – , and 3. Registration of property at the chiefly authorities. The

title registry of Ghana covered less than 12.000 properties in year 2003, and no new data on title registration in Ghana has been identified. The ranking may be correct so far as it is not registration that poses so much of a problem in Ghana, but adjudication of rights and resolution of conflicts.

The WB-monitoring reports on the ongoing multi-donor funded Ghana Land Administration Project suggest that no systematic titling programmes are under implementation or planned, and no indications have been found to indicate other major property titling activities in Ghana.

The World Bank recorded Ghana as a reformer of its land registry in 2007, because registration procedures were cut down by eliminating the need to go through the Lands Commission, which resulted in a reduction of property registration time from six months in 2006 to 34 days, according to the survey, see http://www.doingbusiness.org/Reformers/Africa2007.aspx#G

The country survey results of the Ease of Doing Business indicator on registering property in Ghana were tested on a group of Ghanian professionals of land administration participating in a study programme in Denmark, in January 2008, as described in Appendix 4. The reference year applied for the test was the WB Ease of Doing Business 2008 report including 178 countries.

The two groups of Ghanian professionals made rapid assessments of the number of steps and days of registration under the more common assumption of transactions taking place with landed properties of stool land or family land, respectively, rather than a case of property already in the title registry. The process of transactions in such cases were estimated by the groups to require

- about 21 procedural steps and about 200 days of processing in case of a property within stool land;
- 9 steps and between 75 and 95 days for registration of a transaction of a plot of family land.

In comparison the results of the WB-EDB survey recorded a total of 5 steps and between 14 – 55 calendar days of processing, suggesting that the general level of transaction costs in Ghana are more than double the values recorded in the WB survey. Although no verification of the results has been made, the rapid assessment made by the groups of specialists suggests that the scoring of Ghana in the WB-survey might be misleading, either because the case study assumptions are none representative of property transactions in Ghana, or for other reasons.

Notwithstanding the possible errors in the rapid assessment, a comparison of the ratings of Ghana and Denmark, illustrates how the WB Doing Business indicators suffer from a lack of representing differences in the quality of registration systems, property rights protection and the transparency of the property market. In Denmark all property is fully registered, secured and a range of property data is available to the general public, in contrast to the conditions of in-transparency and informality found in Ghana. Therefore ranking Ghana as 26 against Denmark on a rank 39 illustrates the shortcomings of the ranking system, rather than reflects the real conditions of "registering property" in the two countries.

On the other hand, a focus on transaction costs seems to be more meaningful in the case of countries with fully implemented registration systems, e.g., Denmark, than when applied to Ghana, because in a mature system it can be expected that the underlying institutions are providing legal protection and information services.

In brief the Ease of Doing Business scores on Ghana failed to represent the real world, firstly because of the standard assumptions on which the survey was based: Transactions of a commercial property already registered and free of conflict is not representative for the property market in Ghana, where few properties fulfill the criteria. Secondly, the limited perspective of land registration represented by aspects of transactions does not cover differences in institutional quality and benefits of property rights protection provided to market participants, as illustration by this specific case. In general Arruñada (2007) argues that reform policy priorities need to be shifted from selected transaction parameters towards the value of legal institutions, a shift also to be reflected in the indicators designed for policy support.

Arruñada (2007) provides an analysis of the structural weakness of the EDB-rankings and describes how measurement errors are encountered not only in case of developing countries, but also in the underlying measurements in developed economies.

Arruñada argues that rather than cutting transaction costs, the policy focus needs to be shifted towards increasing the value of formalization, *"…. because reliable registration services are an essential catalyst for all economic activity, in particular for impersonal transactions, with strangers and other firms"* (Arruñada, 2007, p. 20). The need for developing a value strategy of property registration is evident in many developing countries, where the value of property registration services (and associated services) is nil. Arruñada even warns that it is especially harmful for development to disregard the value of institutions and put the emphasis on explicit costs (Aruñada, 2007, p. 3).

Furthermore, tracking of transaction costs become less important, where there are bigger invisible opportunity costs stemming from exchanges that have become impossible (Arruñada, 2007, p. 22).

What remains a barrier for improving indicator design is the challenge of populating more representative "property registration" indicators with good data, because it is easier to measure the direct costs of formalization than the value of the services provided by a good formalization system ("quality of institution"), not to mention the opportunity costs of not having one.

Comments to the Sub-index of "Dealing with Licences", Construction Permits

The survey on ease of dealing with construction permits records all procedures required for a business in the construction industry to build a standardized warehouse and to have it approved. The survey definition includes all associated activities such as e.g., getting approval of site-plans, utility connections, field inspections, up to the final approval and registration in the cadastre and/or legal registry.
www.doingbusines.org/MethodologySurveys/DealingLicenses.aspx

Many of the comments to the Registering Property indicator also applies to the case of getting a construction permit. However, the case of construction is more complex because it includes aspects of planning, connecting to utilities, various inspections and also legal registration of the property. Therefore, there is a certain overlap between the two sub-indices, and one would expect that the amount of procedures, time and cost would exceed the costs of property registration alone. Being a more complex case involving several public authorities, the EDB sub-index on dealing with construction permits may also to some degree indicate the quality of the institutions involved. In fact, advanced public administration systems ensure coordination between authorities, sharing of data, and enjoy the benefits of a minimal gab between law and practice. In many advanced systems one-shop services or on-line user services abbreviate applicants' waste of time for waiting in line and for applicants' carrying the files around between authorities. The time spent by applicants, before even getting to the counter with the application, is not included in the survey. Even then, it seems that the overall processing time of construction permits etc. is an indicator of the higher barriers in less developed systems than under conditions of higher quality institutions.
It is therefore argued here, that the sub-index of 'Getting a Construction Permit' may provide a representation of institutional barriers encountered among authorities involved in formalization of real property, including the title registry.

On this ground it is argued that the sub-index on dealing with construction permits is getting closer to representing institutional quality than the sub-index on registering property. Therefore, the sub-index may complement the sub-index on Ease of registering property. In table B.12 are included both indices.

A dynamic View of the Ease of Doing Business Rankings

The beauty of international composite indices produced annually is the possibility of following the development trends in time and across countries as represented by the rankings. An ultra-brief view of selected rankings from 2006-2010 illustrates the potential benefits of indices in showing development trends.

WB Ease of Doing Business Rankings 2006-2010	Denmark	Ghana	Nicaragua	El Salvador	total no. countries
Year 2006					**155**
Gross National Income per capita USD	40.650	380	790	2.350	
Total rank	**8**	**82**	**59**	**76**	
- Dealing with Permits					

- Registering property					
Year 2007					**175**
Gross National Income per capita USD	*47.390*	*450*	*910*	*2.450*	
Total rank	**7**	**94**	**67**	**71**	
- Dealing with Permits	6	83	82	90	
- Registering property	36	113	127	49	
Year 2008					**178**
Gross National Income per capita USD	*51.700*	*520*	*1.000*	*2.540*	
Total rank	**5**	**87**	**93**	**69**	
- Dealing with Permits	6	140	127	121	
- Registering property	39	26	130	37	
Year 2009					181
Gross National Income per capita USD	*54.910*	*590*	*980*	*2.850*	
Total rank	**5**	**87**	**107**	**72**	
- Dealing with Permits	7	142	134	121	
- Registering property	43	31	136	42	
Year 2010					183
Total rank	**6**	**92**	**117**	**84**	
- Dealing with Permits – rank	10	153	138	128	
- Registering property – rank	47	33	143	46	

Table B.12. *Extracts of Ease of Doing Business ranking of selected countries, 2006-2010, Source: World Bank*

The data shows that the country rank of Nicaragua has fallen steadily from 59 (of 155) in 2006 to 117 (of 183) in the 2010 EDB survey. The negative trend is also discussed in the country case study, see Part D.

It can also be observed that "Dealing with construction permits" is an area where the selected none-European countries are generally scoring low, an indication that urban planning and coordination among authorities is troublesome in developing or emerging economies. However, when checking the global rankings according to the ease of getting construction permits, the 2010 survey results show other abnormalities, such as e.g., Australia ranking no. 62, while Kenya is ranked 34, despite the fact that there are high levels of informality in Kenya. Therefore, the sub-index of "Dealing with construction permits" appear to be no better at achieving full representation of the underlying subject matter, than the sub-index of "Registering property".

A comment on the Rankings on Registering Property El Salvador - Denmark

Since 2008 El Salvador has scored a higher rank on the sub-index of registering property than Denmark. When looking at the three underlying components of the sub-index on which the ranking is calculated for the two countries, it can be seen that there are significantly different values on the score of costs of registration. Registration fee cost in El Salvador in the 2010 ranking was reported as 3.8% of property value, compared to 0,6% in Denmark, a factor of over 6 times as high registration (fees) costs in El Salvador as in Denmark. The other two parameters are contributing with relatively smaller differences between the two countries. Irrespectively, the ranking of El Salvador on the sub-index of registering property is one rank better than DK on the weighted average of the three scores constituting this sub-index.

Ease of Doing Business 2010 Data extracts – on components of the Sub-index of Registering property	
Denmark:	Procedures (number): 6; Time (days): 42; Cost: 0.6% of property value
El Salvador:	Procedures (number): 5; Time (days): 31; Cost: 3,8 % of property value

The example is illustrating the way relative rankings within each parameter may impact on the computed scores of sub-indices and thus impact the total country rank. The El Salvadorian property registration system may indeed be better than the Danish in many respects. The new land registration system of El Salvador of Centro Nacional de Registros (CNR) deserves praise for its state of the art design and reform implementation, but the example is demonstrating how the EDB -survey design and methodology may lead to peculiarities in ranking, in this case by mal-representing a quantitative indicator in the composite (relative) ranking.

Concluding Remarks to the WB EDB

The Ease of Doing Business (EDB) indices have been critized from many sides for its lack of representating the qualitative system of property rights protection (Arruñada, 2007; Stubkjær, 2008).

Burns (2007, pp. 58-60) comments on the EDB indicators with acknowledgement of its potential, while pointing to its shortcomings concerning e.g., its serious bias, and the lack of representation of whether a country is covered by a formal system or not. Burns concludes that *"..although the Doing Business report assumptions are somewhat simplistic, and the reliance on the data capture could be subjective, they do provide a framework for assessing the relative performance of countries."*

The Ease of Doing Business ranking is one of the only global indices based on (original) survey data including representations of the functioning of the real property registry. It is one ranking system in a void of land tenure data in a world increasingly aware of the centrality of the real property market on the overall economy and starving for monitoring data in this area. As has been shown above, it is easy to critize the EDB-indices, but there is currently a shortage of better alternatives.

While there are suggestions on indicators at a detailed level, e.g. prepared by Burns (2006-8) , the national land administration institutions around the world have so far not given priority to producing statistics suitable as input data for monitoring systems on the evolvement of property rights protection and the property market.

> *"Our sense is that the limitations of the project reflect challenges inherent in achieving its ambitious objectives."…*
> *"We are more critical of the practical as opposed to intellectual components of the DB project—that is to say, the efforts to use the data and theoretical findings to guide legal reforms and establish benchmarks. The inherent limitations of both the data and analytical tools used in the DB project mean that their recommendations for reform have too weak an empirical foundation to be trusted by either lawmakers or those in a position to influence them.", (Davis and Kruse, 2007, p.23).*

6.2 International Property Rights Index

Background and Overview

The International Property Rights Index has been developed by the US-based Property Rights Alliance (PRA, http://www.propertyrightsalliance.org/) established in 2005 as an affiliate of the Americans for Tax Reform. PRA works closely with the Peruvian economist, Hernando de Soto, in offering an annual scholarship (for 4 months?) for one fellow to develop the annual version of the International Property Rights Index (IPRI) together with supportive teams of experts.

The first IPRI version 2006 was developed by Alexandra C. Horst, the second version 2007 by Satya Thallam, with contributions from other experts. Anne Chandima Dedigama, was the Hernando de Soto fellow in 2008, http://www.internationalpropertyrightsindex.com/atr_Final1.pdf.

The objectives of IPRI are ambitious by setting out to prepare an international comparative study that measures the significance of both "physical" and intellectual property rights and their protection for economic well-being. It is stated that …*"This Index quantitatively ranks countries on their level of property rights protection using several variables."* Unfortunately, the results fall short of this objective, as shall be demonstrated.

> "The 2008 International Property Rights Index (IPRI) is an international comparative study that measures the significance of both physical and intellectual property rights and their protection for economic well-being. In order to incorporate and grasp the important aspects related to property rights protection, the Index focuses on three areas: **Legal and Political Environment (LP), Physical Property Rights (PPR), and Intellectual Property Rights (IPR).** The current study analyzes data for 115 countries around the globe, representing ninety-six percent of world GDP. Of great importance, the 2008 gauge incorporates data of PR protection from various sources, often directly obtained from expert surveys within the evaluated countries."

Both the 2006 and 2007 versions of IPRI define a composite rating generated from 11 variables grouped into three components: Legal and Political Environment (LP), Physical Property Rights (PPR), and Intellectual Property Rights (IPR). The IPRI-report states that "Of the eleven factors incorporated into the index, the "Registering Property" variable is made up of two sub-variables. Thus, in sum the IPRI comprises twelve components of data for each country".

The IPRI ratings have (so far) been derived from indicators and ratings developed by other institutions e.g., the World Bank indicators on Ease of Doing Business and the World Economic Forum's Global Competitiveness Index as a 'remix'.

The variables of the International Property Rights Index are listed below to illustrate its fragile construction in respect to representing specific dimensions of property rights' protection:

1) Legal and Political Environment (LP)
- Judicial Independence, Source: World Economic Forum's 2006 Global Competitiveness Index
- Confidence in Courts, Source: World Bank's World Development Indicators
- Political Stability, Source: World Bank Institute's 2005 Worldwide Governance Indicators
- Control of Corruption (I 2006 version: "Corruption", I 2007 version "Control of Corruption"), source: Transparency International's 2005 Corruption Perceptions Index

2) Physical Property Rights (PPR)
- Protection of Physical Property Rights, source: World Economic Forum's 2006 Global Competitiveness Index, http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm
- Registering Property. Source: 2007 World Bank Doing Business Report, http://www.doingbusiness.org/
- Access to Loans, Source: World Economic Forum's 2006 Global Competitiveness Index, http://www.weforum.org/en/initiatives/gcp/

3) Intellectual Property Rights (IPR)
- Protection of Intellectual Property Rights, Source: World Economic Forum's 2006 Clobal Competitiveness Index
- Patent Protection, Source: Ginatre-Park Index of Patent Rights (2000)
- Copyright Piracy, Source: 2006- US Trade Representative's 301 Watch List Report
- Trademark Protection, source: 1998 International Trademark Association's Report

To account for the aspect of gender equality, the IPRI reports have integrated an extension to the standard IPRI measure with ratings of gender equality (GE) concerning property rights. The gender equality component of IPRI is defined through 5 sub-variables.

4) Structure of the Gender Equality Measure (GE)
- Women's Access to Land, (Source: OECD Gender, Institutions and Development Data Base (GID)).
- Women's Access to Property Other Than Land, (Source: OECD, GID)
- Women's Access to Bank Loans, (Source: OECD, GID)
- Property Inheritance Rules, (Source: OECD, GID)
- Women's Social Rights (Source: Cingranelli-Richards (CIRI) Human Rights Data Set).

As it can be seen, only two (3) of the eleven (12) variables are directly concerned with real property rights protection (not counting the gender variables). Furthermore the source data of the Ease of Doing Business has already been shown to be flawed.

The ratings are assigned on a scale from 0 to 10 (highest). In cases where source data is rated at different scales these ratings were at first converted to the 0-10 scale. Within each component a rating is generated as a simple average. The overall IPRI rating is generated from ratings of the above three components with equal weights given to the three components. See explanatory notes on methodology (Horst, 2007, p. 19), and (Thallam, 2008, p. 23):

> "The overall grading scale of the International Property Rights Index (IPRI) ranges from 0 to 10, with 10 representing the strongest level of property rights protection and 0 reflecting the non-existence of secure property rights in a country. Similarly, each category and factor of the IPRI is placed on the same 0 to 10 scale."

A discussion of the choice of variables is initiated by Horst, who writes "Many questions arise when conceptualizing a measure which calibrates a nation's strength and effectiveness in defending private property rights. Critical questions such as: "*Which factors should be included in such an index?*" And of

great importance, "*What factors are feasible to include given certain data constraints, especially for developing countries?"* (Horst, 2006, p.14). However, the questions remain unanswered in the report. Horst refers to definitions of property as framing the index, but leaves the definitions open.

The country coverage is determined by the coverage of the variables obtained through the ratings from which the IPRI variables are derived. A country is included in the IPRI rating if at least 50% of the variables are covered (Horst, 2006, p 21-22). This means on the other hand that a country could be included with as little data as 6 variables, and since only 3 variables are directly concerned with real property they might not even be included, which makes the resulting rating fragile.

The first IPRI version 2006 ranks a total of seventy (70) countries (Horst, p. 20), while the second version IPRI 2007 ranks a total of 115 countries (Thallam, p. 24).

A general source of uncertainty is the year of the reports: The IPRI ratings of the 2009 report are based on older data, but the dating of source data is not in all cases clear, and may originate from different years. Below follows a discussion of the main variables of the IPRI rating.

THE IPRI rating of Protection of Physical Property Rights

Protection of Physical Property Rights

The IPRI definition of physical property rights does not distinguish between movable and immovable property, but it is unclear, if the indicators applied for generating the index is having another definition. The WEF index includes all types of property including financial assets, see Chapter B.7.3 below.

The rating of this variable is extracted from the Global Competitiveness Index of the World Economic Forum. The WEF rating is based on a survey conducted through a network of survey participants covering 125 countries in the reports of 2006-7. The rating was rescaled from the original WEF scale of 1-7 to the scale of 1-10 applied by the IPRI, which means that the original rating was coarser than the rating of the IPRI indicates. The WEF report on the Internet does not specify the details permitting to track the source data on-line. The IPRI report states that,

The WEF questions posed are not fully reported in the IPRI report are not "limited" to real property, and survey results are insufficient for capturing the state of affairs of the legal framework of holding real property. As an example, the parameter does not capture the degree of informality in the country, an issue otherwise emphasized in the IPRI-report.

The IPRI-report does not discuss the fragility of the source data in this respect. It is suggested here, that the value of the IPRI can be questioned, if one of the key variables is not covering the topic announced.

Registering Property

The IPRI rating of registering property is adopted directly from the World Bank Group's Doing Business Report. The premise of the WB rating of registering property is that of registration of a large commercial property in the largest city. The presumption is, that the property is already included in the cadastre /land registry, and is free of disputes (http://www.doingbusiness.org/Documents/Survey_Instruments/RP_2008_Eng.pdf).

Thus, the IPRI is taking over the shortcomings of the WB doing-business rating, however useful, but it does not seem to cover the typical cases of registering property, such as registering transactions for family dwellings. In countries with a prevalence of informal property the case of first time registration is also more relevant for evaluating the registration system.

In conclusion, it is suggested that the use of the WB Doing Business rating is not representative for the general cases of registering real property that the IPRI is striving at rating.

Access to Loans

The third variable of the Physical Property Rights index is the rating of Ease of Access to Loans. The IPRI rating is adopting the rating of the World Economic Forums rating based on expert opinion on the question: "How easy is it to obtain a bank loan in your country with only a good business plan and no collateral: Impossible (0) or easy (7)?"

> "The authors decided to include this variable in the IPRI dataset because accessibility to a bank loan represents the opportunity for an individual to subsequently obtain property. Consequently, the easier it is to become a property owner, the stronger society's support for a strong formalized property rights system and the investment in property. Source: *World Economic Forum's 2006-07 Global Competitiveness Index" (Thallam, p.22, www.IPRI.org)*

Here it is noted that the rating concerns access to loans *without* use of collateral! The justification presented by the authors is, that ease to such loans will facilitate acquisition of real property. The argument does not seem fully rational, since loans taken for acquisition of real property will normally be cheaper (due to reduced risk) when using the property as collateral in a formal setting. Access to loans without use of collateral could be relevant, e.g., if property rights are not formalized or in case of shortcomings in the property registration (systems). Thus taking loans for acquisition of property without using the property as collateral could indicate shortcomings in the formal property registration systems. Therefore the link between the WEF-rating of access to loans (without use of collateral) and the IPRI rating of PPR can be questioned.

Discussion of the IPRI Reports

An in-depth discussion of findings and rating methods is missing in both reports. The 2006 report states: "The final ranking is very similar to the alternative rankings calculated with other factors included, and was preferred by the authors as it suffers less from the problems of dilution." (Horst, 2007, p. 14)

The top and bottom ratings are described in both reports, but there is little reflection on the ratings, e.g., that the top ratings reach only respectively 8.3 and 8.6, while the scale goes to 10. If countries where property rights are well protected do not get the top ranking close to 10, what would it take to reach that level?

There is some confusion on the changes in the top ratings (Norway) between the first and second report (a misunderstanding by Thallam? (Thallam, 2008, p.28). Norway came out with top ratings in the first rating, and Finland in the second, but there is no discussion why these changed rankings have occurred. Do these changes in the top rankings reflect real changes or is this an evidence of uncertainty in the rating methods? If the uncertainty of the ranking is so high in countries, with well protected property rights and efficient information systems, what would be the expected uncertainly of the ratings in countries with less developed systems and information?

Moreover, it is noted that Norway in this rating rank over other Scandinavian countries, although there are certain difficulties with the quality of the cadastral records in some areas, and the number of land conflicts in Norway is relatively high (Sevatdal, 2006), but that is a micro-perspective that escapes macro-indicators like this one.

Another weakness appears to be a circular argument: It is stated that "the basic assumption behind the study is that a more effective protection of private property correlates to stronger economic growth". The study includes graphics displaying the relation between the IPRI ratings and GDP per capita (a different figure than economic growth), and claims that the positive correlation is a proof of the importance of property rights for economic development. Firstly, it is not possible both to include this statement as an assumption and as a finding, secondly the relation between IPRI ratings and GDP could also be a result of a reverse causality effect: richer societies can afford better public infrastructure. Finally, it is an open question to what degree that IPRI rating is really capturing the status of the property rights protection in the countries included in the survey.

The 2008 IPRI report, (Thallam, 2008, p. 15) goes as far as explaining the causes of economic development.

The report goes a step further by stating that "The long-term purpose of the IPRI is to amplify the role that private property plays in increasing a nation's economic well-being." As has been shown by the analysis of the PPR-ratings, the resulting IPRI falls short of the intentions stated by Hernando de Soto in the preface of

the first edition:" The IPRI and its ranking that compares countries according to the strength and effectiveness of their property rights protection will be a useful tool for policymakers, academics, business leaders, think tanks, and other researchers." The IPRI reports tend to present the ratings in a rather propagandistic format without deeper analysis, with the result that the rating can be questioned both in methods and findings.

One of the main problems with the IPRI remains that the questions of the surveys at the base of the IPRI variables have not been found to be adequately targeting the objectives of the studies. The IPRI ratings claim to rate issues, which do not seem to be covered by the underlying data

7. Macro-economic Indicators of Governance and Economic Development

7.1 Overview

Below is discussed how the topic of protection of property rights is treated in selected global macro-economic indices generated primarily from perception based sources such as expert surveys and opinion polls. The selected indices have a wide country coverage and are produced regularly.

The main indices reviewed are multispectral and puts property rights into the context of general governance and economic development, respectively:

- The Worldwide Governance Indicators (WGI), developed and produced by research teams of the World Bank (WB), and
- The Global Competitiveness Indices (GCI), developed and produced by research teams of the World Economic Forum (WEF).

The 'Worldwide Governance Indicators', WGI, are introduced here as a potential data source for screening of the macro environment in a given country, and because property rights protection is a component of overall governance.

The Global Competitiveness Indicators include property rights protection as a component of its first pillar, 'Institutions'.

The two concepts measured, Governance and Global Competitiveness, are different in nature, but related. Global competitiveness is wider in scope, because it assesses both the private and public sector conditions, and the underlying human resources of a country. Since the indices of WGI and GCI are the most complex and comprehensive among the mentioned indices, they will be discussed at first.

For illustration of the indices, an extract of ratings has been collated for a subset of 20 countries from different continents and development stages, including the case countries, Denmark, Nicaragua and Ghana. Basic data on the 20 countries are shown in Table B.13 below. The data set is available in Appendix 8.

COUNTRY	Area, sqkm	Population 2005	% Urban 2005	Pop est. 2008	%Urban 2008	Pop.Growth. 2005-10	UrbanPop. growth*	GDP/Capita USD*	%Growth /GDP/cap.
Brazil	8.514.880	186.830.759	84,2	194.228.000	86	1,3	1,8	8.205	5,1
Chile	756.630	16.295.102	87,7	16.803.000	88	1,0	1,3	10.084	3,2
Costa Rica	51.100	4.327.228	61,7	4.534.300	63	1,5	2,3	6.564	2,6
Denmark	43.090	5.416.945	85,5	5.453.200	87	0,2	0,5	62.118	-1,1
Ecuador	283.560	13.060.993	62,8	13.481.200	66	1,1	2,1	4.056	6,5
El Salvador	21.040	6.668.356	60,1	6.952.800	61	1,4	1,9	3.605	2,5
Ghana	238.540	22.535.010	46,3	23.946.800	50	2,0	3,5	713	7,3
Honduras	112.090	6.834.110	46,4	7.246.000	48	1,9	2,9	1.823	4,0
India	3.287.260	1.134.403.141	28,7	1.186.185.600	29	1,5	2,4	1.017	6,1
Italy	301.340	58.646.360	67,5	58.945.700	68	0,1	0,4	38.492	-1,0
Mexico	1.964.380	104.266.392	76,0	107.801.100	77	1,1	1,5	10.232	1,8
Netherlands	41.530	16.327.690	66,8	1.645.000	82	0,2	0,9	52.963	2,1
Nicaragua	130.000	5.462.539	58,1	5.676.100	57	1,3	1,8	1.163	3,5
Peru	1.285.220	27.274.266	74,6	28.221.500	71	1,3	1,3	4.477	9,8
South Africa	1.219.090	47.938.663	57,9	48.832.100	61	0,6	1,4	5.678	3,1
Spain	505.370	43.397.491	76,7	44.592.800	77	0,8	0,9	35.215	1,2
Sweden	450.290	9.038.049	83,4	9.160.000	85	0,4	0,5	51.950	-0,2

Turkey	783.560	72.969.723	67,3	75.829.900	69	1,3	1,9	9.942	0,9
Uganda	241.038	28.699.255	12,5	31.656.865	13	3,3	4,4	453	9,5
United States	9.629.091	296.410.404	80,8	304.060.000	82	0,96	1,3	46.350	0,4
Total 20 countries		*2.106.802.476*		*2.175.251.965*					

Table B.13. *Basic country data for 20 countries 2005-2008, Source: UN Data*

More targeted perception based indices focused on political risks and corruption are also discussed, because of the special relevance for property rights protection. These include:

- The Heritage Foundation Index of Economic Freedom, with special attention to components #8. Property Rights; and #9. Freedom from Corruption, and the
- Transparency International's Corruption Perception Index (CPI).

Common to the above indices is that these ratings are often applied for generation of composite indices, and some of the indices are themselves composite in nature. Therefore great care must be asserted both in interpretation of ratings in their use for design of other (composite) indicators.

Finally a few comments will be attached to Political Risk Indices, because housing finance is susceptible to general (financial) market conditions.

7.2 World Bank: Worldwide Governance Indicators (WGI)

Conceptual Governance Model

The WGI system of indicators has been developed over more than a decade by research teams of the World Bank, who have produced a worldwide coverage of composite indicators biannually from year 1996, and annually from 2002. The WGI indicators represent the state of art in indicator development of this kind with transparent source data references, quality assessments, weights, etc. (Kaufmann, 2008). By 2008 the country coverage included 212 countries and territories.

The underlying conceptual model refers to the following definition of governance:

> *"We define governance broadly as the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them."* (Kaufmann, 2008, p. 7)
> http://info.worldbank.org/governance/wgi/index.asp

The basic definition has been transformed into a model of governance capturing the multidimensional character of governance through six overall governance dimensions:

- Voice and Accountability
- Political Stability and Lack of Violence
- Government Effectiveness
- Regulatory Quality
- Rule of Law
- Control of Corruption

Each dimension is represented by a composite indicator generated from a large number of sub-indicators. In fact the six dimensions are serving as a structure of organizing a large amount of information aggregated from underlying data sources, not produced by the World Bank but by a number of other organisations.

Within the six dimensions of governance are defined sets of sub-indicators, and property rights are explicitly represented by the dimension of 'Rule of Law' as follows:

> 5. *Rule of Law (RL)*
> – capturing perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

As can be seen, contract enforcement and property rights are explicit elements of the WGI indicator of Rule of Law. In addition property rights protection is directly associated with regulatory quality, government effectiveness and control of corruption. The applied methodology and information sources are explored and discussed as concerns selected dimensions, only. WGI ratings are available at: http://info.worldbank.org/governance/wgi/index.asp

Sources of Data and Methodology in WGI indicators on Rule of Law and Governance Effectiveness

The WGI indicators are composite indices generated from 440 variables, 35 separate data sources constructed by 33 different organizations from around the world.

The composite indicators are compiled exclusively from subjective or perception based indicators on governance reflecting the views of a diverse range of informed stakeholders (Kaufmann, 2008), but the WGI does not conduct its own surveys. Instead the WGI ratings are built on a complicated network of different sources representing banks, public sector data, NGO's and commercial business information providers, as documented in Appendices of the Governance Matters VIII paper (Kaufmann et al., 2009).

The underlying data sources include polls and surveys of tens of thousands of household and firm survey respondents, as well as thousands of experts working for the private sector, NGOs, and public sector agencies. All data sources are well documented and the aggregation procedures are open to scrutiny with available margins of error.

What is interesting to note here, is that some data sources on property rights protection are sub-indicators of the composite indicator of the WGI, e.g. indicators extracted from the World Economic Forum, Global Competitiveness Report Surveys, and the Heritage Foundation Index of Economic Freedom. Care must therefore be taken to discern what are dependent - or independent - sources of property rights' protection indices. Due to the large number of parameters the impact of single data sources is reduced, but some level of dependency must be considered, ref. to correlation analysis of macro-economic indices, chapter B.8.

Discussion of Data Sources and Application of WGI

The WGI is as mentioned generated from a multitude of data sources, not produced by the World Bank research team, but collated through advanced statistical processes in adherence to best practice principles of transparency both as concerns data sources and statistical methods. It is possible to analyze scores and margins of error, and the weights assigned to each parameter and their contribution to the overall scores. In a similar way information is provided on the coverage of each of the underlying information, because some sources may be regional only.

The list of data sources of the rule of law component shows that the WGI index applies source data of e.g., the Heritage Foundation Freedom discussed below (Kaufmann, 2008, pp. 79-80). In any case it is illustrative of the gigantic task behind production of the WGI (and all the underlying sources).

One of the difficulties of using perception based ratings is their relative nature and the ordered measurement scale. A score of six is not double as good as a score of three, and any particular score shall be seen in context with the conditions in the country. The scores can be used for comparison of countries on each of the individual indicators a given year, with due regard to margins of error, etc. But given the different character of the underlying sources, caution must be taken to compare scores of ratings performed of different phenomena or cross regional scores based on different performance surveys in limited geographic regions.

Put in a different way, both the strength and the limitation of the WGI scores is their relativity, because comparison of scores of different countries over time is bound to their context. It is possible to compare the ranks within each year, and of one country through a time span, but comparisons of countries across time may not make sense.

The WGI rely on what data sources are available, but these sources may not be optimal for representing the subject matters. In fact Kaufmann calls for better use of and for improvements of available indicators, as well as for more disaggregated measures of governance, in the form of disaggregated indicators linked to disaggregated outcomes. But Kaufmann cautions, that*"… given the many challenges of measuring governance, it is also important to recognize that progress in this area over the next several years is likely to be incremental rather than fundamental."* Therefore, it will be necessary meanwhile to exploit what indicators are currently available.

7.3 World Economic Forum: Global Competitiveness Indicators

World Economic Forum Global Competitiveness Report

The World Economic Forum has developed the perhaps most comprehensive global rating system of economic development built on the foundations of macroeconomics and developed in partnership with leading economists and global development partners. http://www.weforum.org/documents/historytimeline/

The World Economic Forum is a non- government independent and international organization committed to "improving the state of the world by engaging leaders in partnerships to shape global, regional and industry agendas". It was established 38-years ago, and has reached a high standing among world leaders both in governments and the top-business community. The annual meeting of the WEF held in Davos, Switzerland, is an exclusive forum with wide media coverage.

The WEF is producing a number of global reports, an activity which has accelerated over the latest years with publications covering selected themes in addition to general competitiveness reports. http://www.weforum.org/en/media/publications/index.htm

Since 2000 the World Economic Forum has produced survey based indicators for the rating of the Growth Competitiveness Index. The annual reports have since 2005 rated national economies based on a complex set of indicators, processed through well documented statistical methods resulting in an improved robustness of the index over time (WEF, 2008). The GCI country coverage has expanded from 75 economies in 2000 to 133 in the 2009-2010 report. Findings are in the Global Competitiveness Reports presented as tables with global rankings by topic areas, and as detailed profiles of each of the ranked economies.

The underlying model of economic development on which the index is based, is derived from acknowledged theories on economic growth. The current system of indicators was developed by a research team of acknowledged economists under the leadership of Prof. Xaver Sala-i-Martin, a scholar on Economic Growth theories (Sala-i-Martin, 2003) (professor of Economics, Columbia University, USA, and by Jennifer Blanke, Senior Economist, Head of Global Competitiveness Network, World Economic Forum.

Documentation of conceptual models, as well as underlying data is available from the website of the World Economic Forum, http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm
http://www.weforum.org/pdf/GCR09/GCR20092010fullreport.pdf

Conceptual Model and Definition of indices

The concepts of competitiveness and economic growth are closely connected, as evidenced by the definition of competitiveness applied by the World Economic Forum,

> "We define *competitiveness* as *the set of institutions, policies, and factors that determine the level of productivity of a country.* The level of productivity, in turn, sets the sustainable level of prosperity that can be earned by an economy. In other words, more-competitive economies tend to be able to produce higher levels of income for their citizens. The productivity level also determines the rates of return obtained by investments in an economy. Because the rates of return are the fundamental drivers of the growth rates of the economy, a more-competitive economy is one that is likely to grow faster in the medium to long run." (WEF GCI, 2009, Chapter 1.1, p.2), http://www.weforum.org/documents/GCR09/index.html,

How competitiveness is founded on microeconomic factors and an enabling business environment is elaborated in the WEF-GCI report. Although beyond the scope and capacity of the present study, it is important to note that the seemingly simple structure of the WEF GCI has been founded on a deep insight into macro-economic theories and extensive econometric analysis.

The understanding behind the model is that the determinants of competitiveness are many and complex, and that many economic theories are open-ended and non-exclusive. Econometric studies have shown that more economic theories can be simultaneous true, according to Sala-i-Martin (Martin et. al, 2008, WEF GCI, Chapter 1.1, p. 15-16). Therefore, the GCI is designed to capture the multiple dimensions of growth by providing a weighted average of many different components, each of which reflects one aspect of the complex reality called 'competitiveness' in the report.

These different components are grouped into a structure of 12 pillars of economic competitiveness, see Fig. B.3. The 12 pillars in turn are ordered and grouped according to their relative importance at different stages of economic development. Basic requirements of competitiveness include the pillars 1-4 (Institutions, Infrastructure, Macroeconomic stability, Health and primary education), which are considered of key importance, when the economy is primarily factor based. Pillars 5-10 correspond to key elements enhancing efficiency in economies at a middle stage of development, while pillars 11-12 are seen as central for reaching a competitive stage of sophistication in an innovation driven economy.

Basic requirements
Pillar 1. Institutions
Pillar 2. Infrastructure
Pillar 3. Macroeconomic stability
Pillar 4. Health and primary education

Efficiency enhancers
Pillar 5. Higher education and training
Pillar 6. Goods market efficiency
Pillar 7. Labor market efficiency
Pillar 8. Financial market sophistication
Pillar 9. Technological readiness
Pillar 10. Market size

Innovation and sophistication factors
Pillar 11. Business sophistication
Pillar 12. Innovation

Figure B.3. *Twelve Pillars of Competitiveness, World Economic Forum*
Source: World Economic Forum Global Competitiveness Report,2007, Sala-i-Martin et al. 2007, p. 7

As can be seen, the dimensions of development are defined by economic as well as human factors of health, education, and advanced features of innovation. Each pillar is rated through a set of sub-indicators, totaling over 100 sub-indicators. The global GCI- rankings are calculated as weighted average of the many different components of the competitiveness model.

It must be noted that although the 12 pillars of competitiveness are defined independently, they are related and they tend to reinforce each other, as described in (WEF GCI 2008, Chapter 1.1, p. 4). The report mentions the example that innovation (12th pillar) is not possible without institutions that guarantee intellectual property rights (1st pillar). Innovation requires an educated and trained labor force (5th pillar), and will never take place in economies with inefficient markets (6th, 7th, and 8th pillars) or without infrastructure (2nd pillar).

The Role of Property Rights in the WEF GCI

Putting Institutions first, as the 1st pillar in the conceptual model, shows how macroeconomists recognize that the institutional framework has a strong bearing on competitiveness and growth.

Moreover, the World Economic Forum GCR places property rights at the very base of its indicator structure: Within the first pillar of basic requirements "Institutions", "Property Rights" is the first indicator, having two dimensions, property rights and intellectual property rights (with equal weights). In other words, the GCI conceptual model leaves no doubt about the key role of property rights' protection as an enabling development factor.

The priority given to property rights' institutions is justified by their important influence on incentives to engage in economic activity, especially transactions with others. It is recognized that assets cannot be brought to their best economic use and productivity suffers, if property rights are weak. This is because owners of land, corporate shares, and even intellectual property are unwilling to invest in improvements, if their rights as owners are insecure. But even when property rights do exist, can corruption reduce their economic value under conditions of lack of court protection or through harmful economic policies, as argued in the WEF GC Report. (WEF GCI, 2008, Chapter, 1.2, p.5).

A structure of sub-indicators or components of the rating system support its 12 pillars of competitiveness. The selection of sub indicators is in turn justified by economic development theories (Sala-i-Martin et al., 2007). As an example, are shown the components (and weights) of the first pillar, Institutions, in Table B.14. It can be seen that the quality of institutions pillar weighs public institutions with 75% and the private with 25%.

1st pillar: Institutions	**25%** (of basic requirements)
A. Public institutions	**75%**
1. Property rights	20%
1.01 Property rights	
1.02 Intellectual property protection 1/2	
2. Ethics and corruption	20%
1.03 Diversion of public funds	
1.04 Public trust of politicians	
3. Undue influence	20%
1.05 Judicial independence	
1.06 Favoritism in decisions of government officials	
4. Government inefficiency	20%
1.07 Wastefulness of government spending	
1.08 Burden of government regulation	
1.09 Efficiency of legal framework in settling disputes	
1.10 Efficiency of legal framework in challenging regulations	
1.11 Transparency of government policymaking	
5. Security	20%
1.12 Business costs of terrorism	
1.13 Business costs of crime and violence	
1.14 Organized crime	
1.15 Reliability of police services	
B. Private institutions	**25%**
1. Corporate ethics	50%
1.16 Ethical behavior of firms	
2. Accountability	50%
1.17 Strength of auditing and reporting standards	
1.18 Efficacy of corporate boards	
1.19 Protection of minority shareholders' interests	

Table B.14 *Sub-indicators of the WEF GCI 1st Pillar, Institutions. Source: World Economic Forum*

Financial market sophistication is a component grouped among the efficiency enhancing pillars. The 8th pillar is mentioned here, because screening for readiness for mortgage finance will naturally include a review of the financial market conditions, although not the topic of the present study. Ratings of Pillar 8 may therefore serve as input to the screening process.

The composition of sub-indicators of the 8th pillar illustrates the role of trustworthiness and confidence in finance, which is weighted as equally important as efficiency in the financial sector.

8th pillar: Financial market sophistication.....17% (Of Efficiency enhancers)
A. Efficiency 50%
8.01 Financial market sophistication
8.02 Financing through local equity market
8.03 Ease of access to loans
8.04 Venture capital availability
8.05 Restriction on capital flows
8.06 Strength of investor protection (hard data)
B. Trustworthiness and confidence.....50%
8.07 Soundness of banks
8.08 Regulation of securities exchanges
8.09 Legal rights index (hard data)

Table B.15 *Sub-indicators of the WEF GCI 8th pillar, Financial market sophistication.*
Source: World Economic Forum

GCI-Indicator Data Sources and Methodology

The source data of GCI is constituted by both publicly available data and the Executive Opinion Survey, conducted annually by the World Economic Forum in cooperation with its network of Partner Institutes (leading research institutes and business organizations) in the countries covered by the Report.

"The GCI is composed of 113 variables, of which 79 come from the Executive Opinion Survey (Survey) carried out annually by the World Economic Forum."

In the case of the indicator of property rights scores stem from original surveys conducted as executive opinion surveys of a large group of business executives in each of the rated country, who have responded to the question: *"Property rights in your country, including over financial assets, are (1 = poorly defined and not protected by law, 7 = clearly defined and well protected by law)"*
http://www.weforum.org/documents/GCR09/index.html, p. 2

1st pillar: Institutions

1.01 Property rights
Property rights in your country, including over financial assets, are (1 = poorly defined and not protected by law, 7 = clearly defined and well protected by law) *Source: World Economic Forum, Executive Opinion Survey, 2007, 2008.*

1.02 Intellectual property protection
Intellectual property protection and anti-counterfeiting measures in your country are (1 = weak and not enforced, 7 = strong and enforced)
Source: World Economic Forum, Executive Opinion Survey 2007, 2008.

For each Survey question, individual responses are aggregated at country level in order to produce country scores (WEF GCI 2008, p. 355-6). All country scores of the indicator of *1.01 Property rights* are presented in a joint data table, (WEF, GCI, 2008, page 364). The top score in 2008 was held by Switzerland followed by Denmark and Austria.

As can be seen, the survey question is perception based without any further detail. The lack of hard data and differentiation among issues of property rights protection is evident. In this way the GCI-indicator on property rights suffers from similar weaknesses as other broad and vague perception based indicators, as discussed in previous chapters.

Whether the resulting information is more or less useful for the present study than the World Bank Ease of Doing business indicators on registering property is discussed in chapter B.8, where different indicators related to property rights are integrated for 20 selected countries, see Table B.21.

Other reports of the World Economic Forum are also of potential interest, but not included in the present review, e.g., new comparative reports on ICT readiness, financial systems or regional studies such as the Africa Competitiveness Report 2009, http://www.weforum.org/pdf/AFCR09/AFCR09_full_report.pdf.

Country Classification and Country Scores

In calculation of the country scores, the development model weighs the sub-indicators of the different groups of pillars according to the stage of economic development of each country as defined by GDP/capita. Basic requirements are assigned a higher weight (60%) in the case of factor based economies than in the calculations of scores of economies at the other stages of development (40% and 20% respectively).

The country classification of the World Economic Forum has been developed through advanced macro-economic analysis methods, whereby criteria and indicators of development have been identified. (It is beyond the scope and capacity of this study to comment on the economic development model.)

The WEF research team found that economies could largely be classified according to two macro-criteria,

- GDP per capita as an available proxy for income and wealth, and
- The extent to which countries are factor driven, as measured by the share of exports of primary goods to total exports.

(http://www.weforum.org/documents/gcr0809/index.html, pp. 5-7)

If countries export more than 70 percent of mineral products (measured using a five-year average) they are assumed to be largely factor driven. Classification limits of GDP per capita were calculated by advanced statistical factor analysis. As a result, economies could be classified into three overall development stages and two transitional stages, defined by GDP/capita thresholds between the stages as follows:

Income thresholds for establishing stages of development

Stage of Development	GDP per capita (in US$)
Stage 1: Factor driven	< 2,000
Transition from stage 1 to stage 2	2,000–3,000
Stage 2: Efficiency driven	3,000–9,000
Transition from stage 2 to stage 3	9,000–17,000
Stage 3: Innovation driven	> 17,000

(Source, WEFORUM, 2008, http://www.weforum.org/documents/gcr0809/index.html, Table 2, pp. 5-6)

The income thresholds thus defined permit a grouping of the rated economies accordingly, as illustrated in Table B.16 listing the classification of economies in 2008 (WEF GCR, 2008, p. 7).

Stage of economic development	**Countries ranked in World Economic Forum Report on Global Competitiveness, 2008-9**
Stage 1. Factor driven	**43 countries**: Bangladesh, Benin, Bolivia, Burkina Faso, Burundi, Cambodia, Cameroon, Chad, Côte d'Ivoire, Egypt, Ethiopia, Gambia, Ghana, Guyana, Honduras, India, Indonesia, Kenya, Kyrgyz Republic, Lesotho, Madagascar, Malawi, Mali, Mauritania, Moldova*, Mongolia, Mozambique, Nepal, Nicaragua, Nigeria, Pakistan, Paraguay, Philippines, Senegal, Sri Lanka, Syria, Tajikistan, Tanzania, Timor-Leste, Uganda, Vietnam, Zambia, Zimbabwe
Transition stage 1 to 2	**17 countries:** Armenia, Azerbaijan, Botswana, Brunei Darussalam, China, El Salvador, Georgia, Guatemala, Iran, Jordan, Kazakhstan, Kuwait, Libya, Morocco, Oman, Saudi Arabia, Venezuela
Stage 2. Efficiency driven	**27 countries:** Albania, Algeria, Argentina, Bosnia and Herzegovina, Brazil, Bulgaria, Colombia, Costa Rica, Dominican Republic, Ecuador, Jamaica, Macadonia, FYR, Malaysia, Mauritius, Mexico, Montenegro, Namibia, Panama, Peru, Romania, Serbia, South Africa, Suriname, Thailand, Tunisia, Ukraine, Uruguay
Transition stage 2 to 3	**15 countries:** Bahrain, Barbados, Chile, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Qatar, Russian Federation, Slovak Republic, Taiwan /China, Trinidad and Tobago, Turkey
Stage 3. Innovation driven	**33 countries:** Australia, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, Korea, Rep., Luzembourg, Malta, Netherlands, New Zealand, Norway, Portugal, Puerto Rico, Singapore, Slovenia, Spain, Sweden, Switzerland, United Arab Emirates, United Kingdom, United States
	In total 133-134 countries ranked in 2008-9, *not in 2009-10 report

Table B.16. *Countries/economies at each stage of development, World Economic Forum, 2008*

The country classification is applied in the rating of countries by weighting the indicator components according to their stage of development. Clearly, there are factors of importance at advanced stages, which

play a minor role in basic economies, and visa versa. The weights applied in the processing of survey results are shown in table B.16 with reference to WEF (2009, p. 6).

WEIGHTS \ Dev. Stage Pillar group	Factor driven stage %	Efficiency-driven stage %	Innovation-driven stage %
Basic requirements	60	40	20
Efficiency enhancers	35	50	50
Innovation and sophistication factors	5	10	30
Total weight	100	100	100

***Table B.17.**: Weights applied of the three main sub-indexes at each stage of development*
Source: World Economic Forum, GCR 2009-10,Table 1, p. 6, http://www.weforum.org/documents/GCR09/index.html

It follows that the weighting in the total rating of the indicator 'Property rights' is higher at the basic stage, although it remains one of many factors. This is not to say, that property rights protection is necessarily independent from other sub-indicators. Because protection of property rights is tied to judicial independence, governance efficiency, etc., so that it can be assumed that more components of the GCI are indirectly contributing to the representation of property rights protection in the GCI scores.

Moreover, the World Economic Forum research team found in its analysis of growth factors a strong correlation between GDP per capita and the status of property rights protection and infrastructure quality.

> "***Business environment indicators***
> Measures of regulatory stringency and of communication technology infrastructure are most strongly associated with changes in GDP per capita. Causality might run both ways for these indicators: regulatory stringency, for example, provides an environment in which companies are pressured to upgrade, but the desire of citizens for such regulations may be greater in more prosperous economies. The other indicators with the highest bilateral correlation with GDP per capita include measures of supplier quality, the size of gray economy (negative), property rights, and infrastructure quality." (WEF GCI report 2007-8, chapter 1.2, p. 14)
>
> "Those aspects of the business environment most associated with prosperity for high-income countries include the extent of intellectual property protection and the efficiency of the legal framework." Chapter 1.2, P. 14

Country Data and Country Profiles

The individual Country profiles of the WEF GCI have exemplary clarity and readability as illustrated by the country profiles of the case countries (WEF Global Competitiveness Report, Part 2). A two page presentation per country gives an overview at a glance with key data and graphs, together with data details of good readability.

A spider graph is used for illustrating the 12 pillars of competitiveness, like the hours of a clock starting and finishing at 12 o'clock with the dimension of 'Institutions'. Radially the graph illustrates 7 steps corresponding to the rating scale applied in the corresponding surveys. For comparison, each country graph includes a graph of the average scores of other rated economies at the same stage of development. Similar presentation are also seen e.g., in the World Bank country profiles on national statistical systems.

Country scores can be followed over time and extracted in different ways. Below a selection of scores of 20 countries in the Global Competitiveness Index has been collated for the five years from 2005 to 2010. The sample illustrates that the case countries are not performing well, and that Ghana and Nicaragua happen to be ranked next to each other as no. 114 and 115 out of 133 countries in the 2009-2010 survey.

Data applied for analysis:

COUNTRY	Rank 05-06	Score	Rank 06-07	Score	Rank 07-08	%Rank	Score	Dev. Stage*	Rank 08-09	Score	Dev. Stage*	Rank 09-10	Score	Dev. Stage*
Brazil	65	3,69	66	4,03	72	45,0	3,99	2	64	4,13	2	56	4,23	2,0
Chile	23	4,91	27	4,85	26	80,2	4,77	2	28	4,72	2,5	30	4,7	2,5
Costa Rica	64	3,72	53	4,25	63	51,9	4,11	2	59	4,23	2	55	4,23	2,0
Denmark	4	5,65	4	5,7	3	97,7	5,55	3	3	5,58	3	5	5,46	3,0
Ecuador	103	3,01	90	3,67	103	21,4	3,57	1,5	104	3,58	2	105	3,56	2,0
El Salvador	56	3,86	61	4,09	67	48,9	4,05	1,5	79	3,99	1,5	77	4,02	2,0
Ghana **	59	3,82			102	22,1	3,62	1	102	3,62	1	114	3,45	1,0
Honduras	93	3,18	93	3,58	83	36,6	3,89	1	82	3,98	1	89	3,86	1,0
India	50	4,04	43	4,44	48	63,4	4,33	1	50	4,33	1	49	4,3	1,0
Italy	47	4,21	42	4,46	46	64,9	4,36	3	49	4,35	3	48	4,31	3,0
Mexico	55	3,92	58	4,18	52	60,3	4,26	2	60	4,23	2	60	4,19	2,5
Netherlands	11	5,21	9	5,56	10	92,4	5,4	3	8	5,41	3	10	5,32	3,0
Nicaragua	99	3,08	95	3,52	111	15,3	3,45	1	120	3,41	1	115	3,44	1,0
Peru	68	3,66	74	3,94	86	34,4	3,87	2	83	3,95	2	78	4,01	2,0
South Africa	42	4,31	45	4,36	44	66,4	4,42	2	45	4,41	2	45	4,34	2,0
Spain	29	4,8	28	4,77	29	77,9	4,66	3	29	4,72	3	33	4,59	3,0
Sweden	3	5,65	3	5,74	4	96,9	5,54	3	4	5,53	3	4	5,51	3,0
Turkey	66	3,68	59	4,14	53	59,5	4,25	2	63	4,15	2,5	61	4,16	2,5
Uganda	87	3,24	113	3,19	120	8,4	3,33	1	128	3,35	1	108	3,53	1,0
United States	2	5,81	6	5,61	1	99,2	5,67	3	1	5,74	3	2	5,59	3,0
Countries ranked	117		125		131				134			133		

Table B.18. *World Economic Forum Table 4: Global Competitiveness Index rankings and 2005–2009 of 20 countries.*
*Note: **Ghana rankings from 2008-9 due to lack of data from 2007-8*

The WEF Global Competitiveness Reports offer other types of rich information in the form of textual analysis of countries and regions, in some cases on special themes. The topic of property rights is covered in the descriptive reports in many different contexts and in different type of reports prepared by World Economic Forum.

As an example, "The Africa Competitiveness Report 2009", World Economic Forum, attributes good governance and strong formal institutions to the relatively good macroeconomic performance of four countries in Africa (Botswana, Mauritius, Namibia, and Tunisia). In specific, the report associates the good performance of Botswana with effective institutions governing private property in Botswana, and that these have been in place over a long time.

> Botswana, Mauritius, Namibia, and Tunisia,
> In Africa, this principle is well illustrated by a few countries that have adopted development strategies with pragmatic policies promoting efficient market mechanisms.
> For instance, the economic performances of Botswana, Mauritius, Namibia, and Tunisia show that smallness may compel the business community to compete globally and governments to build efficient institutions that promote private-sector development. …… Unlike most of the larger economies on the continent, these countries are among the few in Africa that are relatively well ranked among the top 100 in the World Economic Forum's Global Competitiveness Index and in the World Bank's *Doing Business 2009* report."
> (WEF, The Africa Competitiveness Report 2009, p. 154)

Conversely, research on finance in Africa (Beck, et. al, 2009, pp. 4-5) explain the small size of the African banking systems by deficient contractual frameworks, and *they accredit the high costs of credit (excess*

interest spreads and margins) in Africa to the limited protection of property rights. This is a central observation for the present study.

They argue that other countries in South Asia experience challenges in governance and volatility, but are better positioned to exploit scale of economics with better protection of property rights.

This is an interesting conclusion, since very high interest rates in Ghana were found to be an obstacle for mortgage market development, ref. to Part D, case study on Ghana. With high interest rates the market remains small, and lacks scale of economics in associated services.

It can be concluded that property rights protection is thus both seen as a contributing factor to macro-economic growth, and when not in place, as an explanatory factor of a small banking sector and high costs of credit. When following this line of thought, the remedy to lowering the cost of credit is to be improving property rights protection, which is in line with observations by housing economists, ref. to Part A.

Concluding observations on World Economic Forum Global Competitive Index

As it can be seen, the WEF GCI offers a multi-facetted rating system of competitiveness by representing the main stages of development from basic to advanced levels through a combination of hard data and survey data. The indicator structure also underlines that different factors of development play different roles depending on development stage. The conceptual model is therefore accounting for fundamental differences between economies according to their stage of development.

One of the short comings of the World Bank Worldwide Governance Indicators was exactly the lack of distinction between countries at different levels of development.

The synoptic view of development created by using a well-founded economic model puts single contributing components into perspective. Rankings and country profiles are illustrated in a compact form through well designed graphics.

The macro-indices provide evidence of forward and backward linkages between property rights, institutions and economic growth factors that gives precious insight into the role of property rights for development. At a specific level, the ratings and country profiles may be readily applied when conducting case country analysis. In this way, the GCI reports may serve as contextual information, when profiling the readiness for mortgage credit.

However, the sub-indicator on property rights is vague, so the strength of the GCI is gained from its comprehensive modeling of growth (economic competitiveness), with inherently correlating information. It is expected that, the quality of the GCI ratings could potentially gain from a stronger or better representation of property rights among its sub-indicators.

It is concluded here that the WEF GCI forms a valuable source of information for screening purposes:

a. Considering that the correlation of property rights with other components of WEF-GCI and GDP per capita is high, the GCI classifications and ranks may serve as indicators for a preliminary ranking of countries in respect to their readiness for mortgage credit development;
b. The WEF GCI is suited for representing the macro-economic environment in a given country, when analyzing the conditions of the property rights situation;
c. The WEF GC Report's illustration of findings is made in a compact and readable form with good graphics, and may serve as a good example, e.g. the spider diagramme;
d. The GCI is not to be applied as a single information source, since precautions must be taken not to overestimate the representativeness of the exact conditions within specific sectors in a macro-economic index.
e. Caution must also be exerted due to the inherent weakness of the underlying perception based surveys.
f. The construction and design of the WEF GCI could potentially serve as a point of departure for designing a more comprehensive rating model of the conditions of property rights;

On this basis it is suggested that countries can be grouped for further analysis based on their performance in the WEF GCI as a first step in the screening process. In the following steps of screening, methodologies can be differentiated depending on the type of economies in question. Hereby, the WEF GCI opens for the design of a stepwise and differentiated approach to country screening based on a global standard founded on economic theory and best available data.

7.4 Heritage Foundation: Index of Economic Freedom

The Heritage Foundation Index of economic freedom (HER) represents an example of a special index widely applied for generating other composite indicators of governance and development, also in respect to property rights protection, http://www.heritage.org/Index/.

The Index of Economic Freedom is an annual guide published since 1995 by the Wall Street Journal and the Heritage Foundation, a Washington-based think tank. By 2009 the Index coverage reached 183 countries. It is based on the idea that liberty for individuals results in greater prosperity for all with reference to Adam Smith (1776), whereby it differs from other indicators claiming to be more inclusive of different economic theories. The founding idea captured by the Heritage Foundation is to link economic opportunity and prosperity.

Property rights have a prominent position in the rating system, since the definition of economic freedom rights comprises both personal labor and private property, according to Heritage Foundation:

> *"Economic freedom is the fundamental right of every human to control his or her own labor and property. In an economically free society, individuals are free to work, produce, consume, and invest in any way they please, with that freedom both protected by the state and unconstrained by the state."* http://www.heritage.org/Index/

The HER index measures 10 components (equally weighted) of economic freedom in generating the index. The overall score is calculated as an average of the 10 scores on a scale from 0 to 100 (maximum freedom):

1. Business Freedom
2. Trade Freedom
3. Fiscal Freedom
4. Government Size
5. Monetary Freedom
6. Investment Freedom
7. Financial Freedom
8. Property Rights
9. Freedom from Corruption
10. Labor Freedom

In this way property rights are both imbedded in the core concept and in the measurement of particular components of economic freedom. It is also noted, that other components of the HER indices are relevant for mortgage financing, although also defined at a rather abstract level.

From their composite score countries are ranked into five performance categories of economic freedom:

a) *Free*: countries with an average overall score between 80 and 100;
b) *Mostly Free*: countries with an average overall score between 70 and 79.9;
c) *Moderately Free*: countries with an average overall score between 60 and 69.9;
d) *Mostly Unfree*: countries with an average overall score between 50 and 59.9;
e) *Repressed*: countries with an average overall score between 49.9 and 0."

In addition to tables with the overall ratings, the 2010 report on Economic Freedom includes a 2-page country profiles for each of the countries rated with descriptions associated to each of the 10 dimensions of freedom.

One of the primary goals of the *Index of Economic Freedom* is to shed some light on the pathway to prosperity. In that endeavour 'access to information' is regarded as vital for evolution of market efficiency and economic reform, according to Roberts (2009), http://www.heritage.org/Index/PDF/2010/Index2010_Chapter4.pdf.

Roberts argues that the greater the availability of information—commercial, macro-economic, and political—the greater will be the overall illumination of the path to prosperity, thereby enabling entrepreneurs and policymakers to make the best choices for the future. *In this way information infrastructure is seen as a central hub in reaching out for economic prosperity, not the least in the area of property information and registration. Roberts stresses, that without clarity of information, it is impossible to protect property (Roberts, 2009).* In this area, the perspective of the Heritage Foundation Indices is perhaps much akin to the design of other indices on property rights protection.

The Heritage Foundation source information does not facilitate an evaluation of the data quality of the index, because the assessments have been generated from a range of other sources without much detail on methods, ref. to http://www.heritage.org/Index/PDF/2010/Index2010_Appendix.pdf.

The methodology is described as an expert (authors) assessment of government guarantees, contract enforcement, justice system processing, expropriation and corruption risks, according to Beach & Kane (2008, pp. 52-53), but the description is rather vague, although it includes a reference to underlying sources. (Ref. to Heritage Foundation, 2010 Index of Economic Freedom Report, http://www.heritage.org/Index/Download.aspx)

Discussion of Indicator on Freedom #8: Property Rights

Component 8 of the HER indicator on economic freedom, "Property rights", is defined as "an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the State." The rating is inspired by Hernando de Soto and by his introduction to the 'International Property Rights Index' (Roberts, 2009; IPRI, 2009).

The HER property rights indicator follows the concept of other indicators by assessing the extent to which government protects private property by enforcing laws and is protected against unlawful confiscation, according to the following grading criteria:

> **100%**—Private property is guaranteed by the government. The court system enforces contracts efficiently and quickly. The justice system punishes those who unlawfully confiscate private property. There is no corruption or expropriation.
> **90%**—Private property is guaranteed by the government. The court system enforces contracts efficiently. The justice system punishes those who unlawfully confiscate private property. Corruption is nearly nonexistent, and expropriation is highly unlikely.
> **80%**—Private property is guaranteed by the government. The court system enforces contracts efficiently but with some delays. Corruption is minimal, and expropriation is highly unlikely.
> **70%**—Private property is guaranteed by the government. The court system is subject to delays and is lax in enforcing contracts. Corruption is possible but rare, and expropriation is unlikely.
> **60%**—Enforcement of property rights is lax and subject to delays. Corruption is possible but rare, and the judiciary may be influenced by other branches of government. Expropriation is unlikely.
> **50%**—The court system is inefficient and subject to delays. Corruption may be present, and the judiciary may be influenced by other branches of government. Expropriation is possible but rare.
> **40%**—The court system is highly inefficient, and delays are so long that they deter the use of the court system. Corruption is present, and the judiciary is influenced by other branches of government. Expropriation is possible.
> **30%**—Property ownership is weakly protected. The court system is highly inefficient. Corruption is extensive, and the judiciary is strongly influenced by other branches of government. Expropriation is possible.
> **20%**—Private property is weakly protected. The court system is so inefficient and corrupt that outside settlement and arbitration is the norm. Property rights are difficult to enforce. Judicial corruption is extensive. Expropriation is common.
> **10%**—Private property is rarely protected, and almost all property belongs to the state. The country is in such chaos (for example, because of ongoing war) that protection of property is almost impossible to enforce. The judiciary so corrupt, that property is not protected effectively. Expropriation is common.
> **0%**—Private property is outlawed, and all property belongs to the state. People do not have the right to sue others and do not have access to the courts. Corruption is endemic.

In short, the overall assessment of property rights evaluates the performance of four parameters of property rights (in combinations):

1. Government guarantees of private property;
2. Court system independence and efficiency;
3. Legal protection of private property rights and government enforcement, e.g., preventing or persecuting unlawfully confiscated private property;
4. Corruption level.

The perspective of property rights represented by the HER rating is complementary to the indices suggested by Burns et al (2006), by addressing the issue of protection and enforcement of importance for investment and credit. The combined grading is less clear, and it is uncertain if there are partial scores associated with each of the factors accounting for the country scores.

As it is understood from available reports, the conversion of descriptive information into scores is in the case of the HER indicator on property rights dependent on the authors interpretation of the mentioned underlying sources, comprising general country profiles, commercial guides and human rights reports, but not dedicated sources on property law and property registration.

As an example one may wish to explore how the Heritage foundation score on #8 Property Rights for Nicaragua was assessed to be 25%. Although the production process is in-transparent, the scale from 0-100 has been elaborated beyond a mere bad-good perception ranking, whether it features property protection regimes in a representative manner or not.

This type of information sources could possibly draw the attention of investors to current problems. Such qualitative assessments however, do not lend themselves easily for comparison or conversion into ratings, and the exact process of assessment is not described. Thus both the general character of the information sources and the assessment scale of the HER indicators can be questioned.

On the other hand the HER assessment scale could be used as inspiration for suggesting another system of scores based on other descriptive and quantitative criteria better targeted. The HER classification system can also be viewed in related to the proposed ranking scale prepared by Deininger, Selod and Burns (2010) with the World Bank research team of the Land Governance Assessment Project.

Discussion of Heritage foundation Indicator #9 Freedom from Corruption

Another relevant component of the Heritage Foundation ranking is the scoring on Freedom #9: Freedom from Corruption, defined by HER as dishonesty or decay. In the context of governance, it can be defined as the failure of integrity in the system, a distortion by which individuals are able to capture personal gains at the expense of the whole. Clearly, transparency and freedom from corruption is a component of good governance, so it is applied as a data source for composite indicators e.g., on governance, see chapter B.7.2.

In turn, the Heritage Foundation Indicator #9 is based on other data sources, e.g., the Transparency International Corruption Index, see below. In this case the Heritage foundation is incorporating the Transparency International's Corruption Perceptions Index (CPI), but only converting the scoring scale from 0-10 to 0-100, so the higher the level of corruption, the lower the score. For countries that are not covered in the TI - CPI, the freedom from corruption score is assessed by the HER authors by using the qualitative information available from various internationally recognized sources.

In this way it is illustrated how the different international indicator systems are interwoven, possibly due to lack of data.

7.5 Transparency International Corruption Perception Index (CPI)

Introduction and definitions

Measurement of corruption is by nature a task that depends on some form of perception based assessments. The Transparency International Corruption Perception Index was first produced in 1995, and is one of the most cited sources on corruption worldwide.
http://www.transparency.org/policy_research/surveys_indices/cpi/2009

The annual Transparency International, Corruption Perceptions Index (CPI), focuses on corruption in the public sector. The CPI ranks more than 150 countries in terms of perceived levels of corruption, through expert assessments and opinion surveys. The surveys used in compiling the CPI ask questions relating to the abuse of public power for private benefit.

The scale of rating goes from 0 (perceived to be highly corrupt) to 10 (perceived to have low levels of corruption). In 2009 the CPI survey rated the level of corruption in total 180 countries, among which only 50 countries scored five or above, and 80 countries scored three or less. Unfortunately the ratings seem to be relatively stable. The bottom ranks of the score are taken by fragile, unstable states scarred by war and ongoing conflict, where governance infrastructure has been destroyed. When key institutions are weak, or non-existent, corruption and plundering of public resources goes out of control, as documented by Transparency International, http://www.transparency.org/publications/publications.

The methodology of TI – CPI (2009) is well documented and well founded on statistical methods. The index has been developed and produced in collaboration with experts from leading universities and institutes under guidance of an advisory committee, http://transparency.org/policy_research/surveys_indices/about
Experts were also consulted by Transparency International on statistical matters of production of the Index.

The CPI 2009 draws on data from 13 different surveys or assessments produced by the 10 independent organizations:

1. Africa Development Bank- Country Policy and Institutional Assessments 2008 (AFDB 2008)
2. Asian Development Bank -Country Performance Assessment Ratings 2008 (ADB 2008)
3. Bertelsmann Foundation- Bertelsmann Transformation Index (BF 2009)
4. Economist Intelligence Unit -Country Risk Service and Country Forecast 2009 (EIU 2009)
5. Freedom House -Nations in Transit 2009 (FH 2009)
6. Global Insights, formerly World Markets Research Centre- Country Risk Ratings 2009 (GI 2009)
7. Institute for Management Development - World Competitiveness Report 2008 and 2009 (IMD 2008 and IMD 2009)
8. Political and Economic Risk Consultancy, Hong Kong - Asian Intelligence 2008 and 2009 (PERC 2008 and PERC 2009).
9. World Economic Forum - Global Competitiveness Report 2008 and 2009 (WEF 2008 and WEF 2009)
10. World Bank - Country Policy and Institutional Assessments for IDA Countries (WB 2008)

The list of data sources is included here to illustrate the connectivity among different indices. It can be seen that the WEF GCI survey data is part of the TI-CPI, and that the TI-CPI and the Heritage Foundation indicator on corruption uses overlapping source data (e.g., EIU 2009).

Among the technical details it was noted that the Corruption Perceptions Index (CPI) gathers data from sources that cover the past two years, and that such data is included to provide a smoothing effect. Most remarkable is perhaps a comment concerning scores provided by experts (risk agencies/country analysts): that only the most recent iteration of the assessment is included, *because they generally change very little from year to year*. That is bad news, not on methodology, but on the status of corruption around the world.

Standards and statistical methods are documented in www.transparency.org/cpi.

Data from 20 countries incl. the case countries (Denmark, Nicaragua and Ghana) have been integrated and analysed, see table B.19.

TI CPI COUNTRY	Global rank 2007	%Perc - Rank	CPI-score 2007	Confidence intervals	Surveys used
Brazil	72	60,0	3,5	3,2-4,0	7
Chile	22	87,8	7	6,5-7,6	7
Costa Rica	46	74,4	5	4,7-5,3	5
Denmark	1	99,4	9,4	9,2-9,6	6
Ecuador	150	16,7	2,1	2,0-2,3	5
El Salvador	67	62,8	4	3,2-4,6	5
Ghana	69	61,7	3,7	3,5-3,9	7
Honduras	131	27,2	2,5	2,3-2,6	6
India	72	60,0	3,5	3,3-3,7	10
Italy	41	77,2	5,2	4,7-5,7	6
Mexico	72	60,0	3,5	3,3-3,8	7
Netherlands	7	96,1	9	8,8-9,2	6
Nicaragua	123	31,7	2,6	2,3-2,7	6
Peru	72	60,0	3,5	3,4-3,7	5
South Africa	43	76,1	5,1	4,9-5,5	9
Spain	25	86,1	6,7	6,2-7	6
Sweden	4	97,8	9,3	9,1-9,4	6
Turkey	64	64,4	4,1	3,8-4,5	7
Uganda	111	38,3	2,8	2,5-3,0	8
United States	20	88,9	7,2	6,5-7,6	8
Total countries	180		top score: 10		

Table B.19 *Country scores in Transparency International Corruption Perception Index*

Although the ranking of Ghana is not particularly poor (69 out of 180 countries) the score of 3,7 out of a maximum 10 is not impressive.

The ranking of Nicaragua is very low (123 of 180 countries) and a score of 2,6 in 2007. More information on Nicaragua and Ghana is found in the case studies, Part D.

7.6 Risks Indicators of Relevance for Property Rights Protection

A similar, but different perspective of property rights is depicted by indicators of risks. It is not possible here to analyze risk indicators at any depth, but a few observations are made below, because political risks are closely associated with risks of property rights protection, as indicated by the definition:

> *Political risk is "… the whole of decisions, conditions or events of political nature able to give birth directly or indirectly to a financial loss or a physical damage for an investment project." (Ferrari, Rolfini, 2008, p.6)*

It is well documented that economic development and institutions, including rule of law and property protection, are interdependent factors (ref. to Part C). Gradstein has analysed how political factors of power and in-equality affect institutional quality, including the protection of property rights (Gradstein, (2007 (1)). Gradstein argues that the support for protection of property rights is greater with more equal income distribution and the smaller political bias. It follows that unequal distribution of wealth and undemocratic political systems are indicators of risks of property rights protection. Therefore, political system indicators are also of relevance for protection of property rights, but this has not been further developed here.

In a conceptual framework on measuring political risks prepared by Ferrari, et. al (Ref. Ferrari, Rolfini, 2008; "Investing in a Dangerous World: a New Political Risk Index", figure 2, p. 9) the list of key factors determining political risks is dominated by factors closely connected to property rights including expropriation risks, transfer risks, rule of law and property rights, regulatory quality and control of corruption.

It is shown that "Secure property rights, a State providing only true public goods and a high level of political stability have a negative correlation with expropriation" (Ferrari, Rolfini, 2008; p. 11). They also claim that instability and risks often have a creeping nature, rather than arising from radical events, and due to their qualitative nature they are difficult to measure.

> *"Today's political risks are not the classic risks associated with communist takeovers or post-colonial outbursts of anti-foreign sentiment. They are more subtle, arising from legal and regulatory changes, government transitions, environmental and human rights issues, currency crises and terrorism. Because these risks are subtle (often occurring at the same time as the government is declaring the country "open for business") they are often hard to manage" (Ferrari, Rolfini, 2008)*

It is suggested here, that political risk indicators, however deficient they may be, are important indicators of property rights protection. To this effect, the political risk indicators developed by OECD and other international institutions may serve for identification of potential high risk countries in screening for risks in development of mortgage credit. Such risk assessments are standard features in the financial world operating with factors of sovereign risks and associated risk premiums, but the land administration indicators may potentially be strengthened by adopting that perspective, since precarious property rights are closely associated with political instability and inequality.

Other types of risk assessments are made within the financial sector of financial institutions and for export credit purposes, e.g., by IMF, OECD. Some risk indicators are confidential or are sold commercially, (http://www.oecd.org/document/49/0,3343,en_2649_34169_1901105_1_1_1_1,00.html).

In line with recommendations by Philips (2006) it is suggested that the land administration professional world may learn from the financial sector strategies for measuring and anticipating political risks, when developing indicators on property rights protection.

> *'Assessing governance as a basis for determining aid policy is a difficult task, but adapting private sector strategies for measuring and anticipating political risk may be a useful starting point for discussion.'*
> *"Research has shown that political risk is a major driver of international capital volatility and of risk premiums on borrowing rates."(Philips, 2006)*

The argument is underlined by the findings of the World Economic Forum global risk report 2010, which shows that one of the highest and most likely risks globally is a collapse of asset values! The risk is assessed at 20% likelihood and a severity of losses above 1 trillion USDs (WEF Global Risk Network Report 2010, p. 3).

> *"A collapse of real and financial assets in advanced and emerging market economies leads to the destruction of wealth, deleveraging, reduced household spending and demand" (WEF Global Risk Network Report 2010, p. 39)Source: WEF Global Risk Network Report 2010,* http://www.weforum.org/pdf/globalrisk/globalrisks2010.pdf

In conclusion it is observed that political risks are of critical importance to the feasibility of developing mortgage credit, because credit contracts depend on predictability and long-term stability, but also because of the risk of collapse of asset values. An effort of identifying high-risk countries could potentially draw on both political risk and corruption indices. However, it has not been possible to go deeper into risk analysis in the present study.

8. Analysis of Macro-Economic Ratings

8.1 Global Analysis of Composite Indices

Availability of Property Rights Indices for Global Analysis

Property rights can be seen as a special case associated to the 'Rule of Law' and good governance indicators. Still, Property rights indicators have been found to be underdeveloped compared to many other indicators, despite the fact that immobile property assets and property rights are so central to people and nations.

Despite many on-going efforts of building property rights indicators few are available with a worldwide coverage, or including most countries of the world. Among these the main ones have been found to be sub-indicators of the WB-Ease of Doing Business Indicators and the World Economic Forum Global Competitiveness Indicators.

Another index of relevance includes the Heritage Foundation Freedom index, which includes a sub-index on property rights. The Heritage index rates property rights on a 10-step scale (in percent), as described in chapter B.7.4, and that index is applied as a sub-indicator in other composite indices such as e.g., the Worldwide Governance Index. However, the data is not available in the public domain.

As has been demonstrated, the International Property Rights index applies two sub-indicators of property rights protection in its ranking composite indicator of IPRI, but due to its conceptual weaknesses, it has not been included in the analysis below.

Little data has been available for independent control of specific scores and general indices, but some factor analysis has been made with the selected data. Therefore the available (few) property rights indicators are analyzed together with wider governance and development indicators.

Back and forward linkages between property rights, institutions, and economic development suggest taking a broader view to screening of readiness for mortgage finance. Indicators on property rights protection serve as sub-indices of macroeconomic indicators, see Chapters B.5.1.

The analysis is focused on potential use of available indices given the information constraints. The idea of perception based indicator systems is to measure complex governance or development issues to reflect the views of a range of informed stakeholders. The justification for perception based indicators and ranking is founded on necessity, because there are few alternatives to measuring many areas of governance. Moreover, perception is relevant and may feature more comprehensive evaluation of a complex system than simple indicators are capable of. The indices are grossly inadequate, though, for profiling of property rights infrastructures, such as cadastres and land registration.

Caution must be asserted in use of macro-economic indices. As was discussed in chapter B.5, due to uncertainties of the indices and associated changes in ranks of individual countries caused by external factors, it is questionable if these indicators are suited for use in comparative studies beyond a generalized global level.

Many pitfalls of applying governance indicators for comparative studies are discussed by e.g., Arndt and Oman, 2008, Kaufmann, (2008), and they are of no less concern in case of sub-indices on property rights protection. Another stumbling block is an inherent or potential overlap of source data.

Application of Sub-Indicators on Property Rights Protection

Two Sub-indicators are available on protection of property rights from the WB EDB (A.) and the WEF GCI (B.) respectively, represent different perspectives of property rights protection: The WB EDB indicator features aspects of transaction costs: How cumbersome and costly is registration of real property. The WEF

GCI represents executives' perception rating of the level of protection of property (real property and financial assets). In principle the case of a high score on B. (that property is well protected), and a low score on A. (that registration and transactions are heavy and costly) may be true at the same time. A comparison is therefore not simple, and it is a question if it is meaningful to create a composite indicator from the two. Another aspect is the errors of each rating, whether stemming from indicator modeling or survey design or in actual measurement. Shortcomings of the EDB-indictor on registering property have already been discussed.

A. The World Bank Ease of Doing Business, in particular component "Ease of registering property",
Source: Expert surveys, basic data (days, steps, costs) converted to rankings

B. The World Economic Forum, Pillar One Institutions, subcomponent Property rights
1. Property rights
1.01 Property rights
1.02 Intellectual property protection
Source: Executive surveys, scale (1 to 7 (top)) The question rated is: "How would you rate the protection of property rights, including financial assets, in your country?" (WEF, GCR 2008-9, p. 364)

The World Economic Forum Index is rating 'protection of property rights' as a broad concept, including both protection of fixed and financial assets in sub-index 1.01, and protection of intellectual property rights protection in sub-index 1.02. In this way the representation of real property rights protection is somewhat 'diluted' although the different factors might be correlating.

The WB-EDB sub-indicator represents aspects of transaction costs of real property, namely registration. The WEF- sub indicator is a more general rating of the protection of property rights, including financial assets, and intellectual property. As can be seen the definition (GCI 1.01) is broad, all including and the ratings of property rights protection are perception based with associated rather coarse scales of measurement.

Comments to the WEF-CGI sub-indicators:
While it is easier to comment on the underlying data of the EDB in the case countries, it is harder to control the quality of the sub-indicator of WEF 4.1.1, since it is generated through a perception based survey among executive respondents. Hard data and other types of information would be needed for a control of its goodness of fit to the subject matter, the level of protection of property rights regime in a nation. In any case the sub-indicator 4.1.1 is a coarse measure.

Comments to the WB EDB sub-indicators
An enhancement of the WB EDB ranking on property rights is proposed through combining its two subcomponents: - Ease of getting (building) permits, and Ease of registering Property. As has seen in the case of Ghana, the shortcomings of one component survey (registering property) was partly compensated by more representative results in another component (Getting building permits).

Conceptually the two sub-indicators are depicting different perspectives of the property regime. The indicator of "Ease of getting (building) permits" concerns land administration efficiency and cooperation between different authorities on land, planning and urban regulations. The indicator also includes the steps of registering the property as part of the construction completion process. It is suggested that cumbersome processes of getting building permits and completion approvals are indicative of mal-functioning urban regulatory systems, thus a problematic property rights regime. The sub-indicator on enforcing contracts could potentially represent another aspect of protection of property rights complementary to registering property, but the EDB survey was focused on commercial contracts (trading).

In the case of Ghana it was found that the indicator on registering property was non-representative of the prevalent property registration cases, but the EDB sub-indicator on getting permits was more representative of the normal conditions encountered. Thus, in this case shortcomings in one sub-indicator could be (partly) compensated by the other indicator.

Technically, the data of all EDB sub-indicators have been collected through the same methodology and design of surveys, which means that the nature of the resulting data is similar, and do not hinder logic comparison or logic operations.

8.2 Regression Analysis of Property Rights and Macro-economic Indicators

Selected Indices and a Countries Shortlist

A comparison has been made to explore the data sets discussed in the previous chapters, in order to explore their potential use in a screening process, while recognizing that the indices may be deficient, but still the ones (or perhaps only ones) available covering most countries of the world.

The analysis is performed of a selection of 20 countries from the long list of countries, including the case countries, and other countries selected to illustrate breadth. A limitation of countries was both necessary, due to the work involved with extracting data for each country, and in order to allow presentations of a table on max one page in the report.

Denmark, Ghana and Nicaragua are case countries, and other countries have been selected from each their region for comparison. There are reasons to include each of the countries on the list, but the selection was not based on well-defined criteria and other countries could have been chosen. There is no representation from Asian-Pacific region except for India. The short list includes countries at different stages of development according to the World Economic Forum classification of economies as illustrated in table 20 below.

It would be desirable to expand the number of countries to improve the analysis, in particular in respect to representation of African countries, and countries in transition.

WEFORUM 2008 Classification	**Stage 1 Factor driven**	**Stage 1 to 2**	**Stage 2 Efficiency driven**	**Stage 2-3**	**Stage 3 Innovation driven**
Europe					Denmark, Italy, Netherlands, Spain, Sweden
Latin America	Honduras, Nicaragua	El Salvador	Brazil, Costa Rica, Ecuador, Mexico, Perú	Chile	
Africa	Ghana, Uganda		South Africa		
Others	India			Turkey	United States
No. of countries	5	1	6	2	6

***Table B.20**. Sub-set of 20 Countries selected for analysis of macro-economic indices*

Correlation analysis has been performed using percentile global ranks (among all countries ranked in the respective index), but as a sub- of indicators comprising:

1. Human Development Index (HDI) 2007

2. The World Bank Worldwide Governance Indicators (WGI)
INDICATORS: including four of the six sub-indices: Government effectiveness, Regulatory qualify, Rule of Law and control of corruption.

3. World Bank Ease of Doing Business (EDB)
INDICATORS: Ease of Dealing with licenses; Ease of Registering Property

4. The World Economic Forum, Global Competitiveness Index
INDICATOR: Pillar One Institutions, and subcomponent Property rights

5. Transparency Corruption Perception Index (CPI)

A factor analysis of the above indices, see table B.21, shows a generally high correlation among the selected indices in the subset of indicators representing 20 countries.

Regression Analysis

The factor analysis has included as well the overall indices as selected sub-indices on property rights of the GCI of the WEFORUM, and the EDB and the WGI of the World Bank. In addition indices of transparency and human development are included.

The Human Development Index has been included in the analysis for comparison, but without having been made subject to special analysis here.

REGRESSION ANALYSIS MATRIX																
YEAR : 2007-2008 (note)		World Economic Forum Worldwide Governance Indicators					World Bank - Ease of Doing Business						Global Comp. Index			TI-CPI
SUBSET OF SELECTED 20 COUNTRIES	1	2	2.3	2.4	2.5	2.6	3	3.2	3.4	3.9	2-av	3-Av	4	4.1	4.11	5
1. Human Development Index (HDI)		0,75					0,68						0,80			
2. WB - Worldwide Governance Indicators (WGI)							0,79		0,65		0,72		0,90		0,90	0,96
2.3 WGI-Government Effectiveness									0,60		0,72				0,92	
2.4 WGI-Regulatory Quality									0,62		0,72				0,86	
2.5 WGI- Rule of Law									0,56		0,65				0,90	
2.6 WGI- Control of Corruption									0,73		0,74				0,90	
3. WB- Ease of Doing Business (EDB)													0,81		0,72	0,82
3.2 EDB-Dealing with licences																
3.4 EDB- Registering property															0,53	0,66
3.9 EDB - Enforcing contracts																
EDB - (Average 3.2+3.4)															0,65	0,66
EDB - (Average 3.2+3.4+3.9)															0,58	0,60
4. World Economic Forum Global Competitiveness Index																0,89
4.1 WEF-GCI – Institutions																
4.11 WEF-GCI - Property rights																0,88
5. Transparency Corruption Perception Index (CPI)																
Computation by use of Excell standard Correlation function	NOTE: YEAR 2007, or as close to 2007 as data permitted															
Use of %percentile rankings for analysis													***	**	*	

Table B.21. *Correlation between selected macro-economic indices of 20 countries, of % rankings 2007-2008*

20 COUNTRIES - selected from ranked countries (of in total 131 to 212 countries): Brazil, Chile, Costa Rica, Denmark, Ecuador, El Salvador, Ghana, Honduras, India, Italy, Mexico, Netherlands, Nicaragua, Peru, Spain, South Africa, Sweden, Turkey, Uganda, United States

Technical Notes:

1. The year of source data is associated with some uncertainty. Dating the source data may seem confusing. The World Bank Ease of Doing Business data stems from the Year 2008-9 report, but the data of this report is declared as covering April 2006-June 2007.
The source data of WEF-sub component 1.01 is also derived from the Year 2008 report, but the origin of data is declared as "Source data from Executive Opinion Survey 2007, 2008 (WEF, GCR 2008-9, P. 364).
Possible differences of time of surveys are thus adding another element of uncertainty to the indicators.

2. There is no confidence level information provided by the WB /WEF of either indicator. A quality control of the WEF-4.1.1 sub-indicator is hardly possible with such a broad perceptional definition.

All correlation factors exceed 0,5 and most are above 0,7 with high levels of confidence. However, the macro-economic indices under analysis are not entirely independent, as some of the sub-indices are coinciding, and there are cross-references among macro-economic indices as commented above. For these reasons it is necessary to interpret the results with great caution as concerns the conceptual relations among the different phenomena monitored. The comments below are focused on the potential use of the macro-economic indices for screening, and cannot be extended to discussing causality, partly to the possible interdependency in the construction of composite indices, and partly due to the weakness of the underlying ratings.

In the data set the highest correlation coefficient was found between the WGI and CPI, 0,96 ***. Although the CPI is one among over 100 sub-indicators of the WGI, this dependency seems to be insufficient to explain a high correlation level (but no statistical analysis has been made in this regard).

Nearly as convincing was the correlation between the WEF Property rights sub-indicator (1.1) and the overall World Bank Worldwide Governance Indicator (% rank): 0,92*** in the subset of indicators for the selected 20 countries.

Correlation is also high between the WB Worldwide Governance Indicators, and WEF Global Competitiveness Index: 0,90***, but again it has to be cautioned, that there is some inbuilt dependency due to data sources applied in the composite index of the Worldwide Governance Index.

These observations are in full accordance with Gradstein (2007, p. 6), who found high correlations between different measures of institutions, and also between institutional indices and risk ratings. Through analysis of time series Gradstein showed that there is a persistence over time in performance measures of institutions, and that 'intertemporal institutional quality tends to correlate with income inequality'. In Gradstein's view underdevelopment is an institutional trap that is affected by the distribution of resources, which he supports by statistical evidence.

Therefore it can be argued that monitoring of asset distribution is key to profiling economies and development. In this way monitoring of real property assets are put into a different light.

Observations re. Property Rights Sub-indices

The correlation between different sub-indicators on property rights, the EDB 3.4 Registering property, and the WEFORUM 4.11 Property rights is 'only' 0,53*, the lowest in the selected data set, as compared to the correlation factor of 0,88*** between WEFORUM 4.11 'Property rights' and the 'Transparency International Corruption Perception Index'. If the EDB registering property is interpreted as a proxy of transaction costs, and if the WEFORUM indicator on property rights can be taken to represent the level of protection of property rights, it can be concluded, that there is not necessarily a higher level of property rights protection with lower transaction costs.

The question is if a composite indicator generated from these two sub-indicators on property rights registration (EDB) and protection (WEFORUM GCI) would provide a better measure for the level of protection of property rights, as has been done in the IPRI rankings? However, the question is not only if a composite indicator of the two would be more representative, but if such an indicator is meaningful. Due to the nature of the original surveys, it is suggested that this would not be the case.

The two sub-indicators of the World Bank, Ease of Doing Business index, (Getting Permits, and Registering Property) have been analyzed individually and combined, because they are based on the same survey principles.

The 20-country data set shows a higher level of correlation between the combined EDB-indicator, and the sub-indicator on property rights of the World Economic Forum- Global Competitive Index.

The averaged indicator results in a better fit with the with WEF GCI sub-indicator on protection of property rights 4.1.1 in the 20 country data set (correlation coefficient **0,65**** against **0,53*** for the single sub-indicator), but still caution must be exerted due to the lack of independent control data.

Due to a lack of independent control data, it is not possible to assess, if a composite indicator of the two would be providing a better measure of the protection of property rights.

Corruption and protection of property rights
The notion that a high level of corruption is inversely related to the level of protection of property rights is supported by the data. Property rights are likely to be heavily affected due to the value of assets at stake, when corruption levels are high, coefficient 0.88***, according to the selected indices). In comparison the EDB indicators on registration show a less significant relation, but the dependency is still high. Whether this is showing that corruptive practices may smooth out the transaction difficulties, or if the indicator of 4.1.1 constitutes a better representation of the property rights governance than EDB -3.4, is mere speculation, as there is no control data.

Other interesting observations can be made, when controlling the Transparency Corruption Perception Index with the sets of macroeconomic indicators. At first, the highest correlation coefficient in the whole set is 0,96*** between CPI and the integrated WB WGI, indicating the almost reciprocal relation between good governance and corruption, although it must be considered that the CPI is also one of the components of the composite indicator of WGI. The same pattern occurs with the total rank of the WB EDB 0,82*** and the WEF-GCI 0,89***.

Property rights sub-indices and Global Indices
The higher correlation is seen between the WEF GCI property rights indicator and the World Bank Worldwide Governance Indicator, 0,92***. If the WEF property rights sub-indicator can be applied as an indicator of property rights protection, it can be seen that general governance indicators are at the same time good representations of the conditions of property rights protection.

The limited data set indicates that the WEFORUM Global Competitive Index appears to be a stronger indicator than the World Bank EDB, when analyzing the general status of property rights protection.

However, with the limited data sets and questions on data quality, these findings open more questions that they answer. What is surprising is that macroeconomic indicators, including TI-CPI, might be better suited for gauging the level of property rights protection than the WB Ease of Doing Business indicators.

8.3 Discussion of Potential Applications of Macro-economic Indices

Two levels of analysis have been made with global macro-economic development indices:

a. At first the potential application of general rankings of governance and development for screening of readiness;
b. Secondly, the use of sub-indices related to property rights protection.

Each of the global indices have their conceptual weaknesses, as discussed in previous chapters, and without control data it is not possible to draw firm conclusions from the data. The findings do not contradict the theoretical discussion on property rights, institutions and economic development in Part C. It may even be argued that the indicators support the theories discussed in Part C, since the macro-economic indicators assign a central role to property rights, which alone justify more attention being paid to development of property rights indicators at a global level.

Although significant progress has taken place in monitoring systems for land tenure security and property rights protection (Deininger, Selod, Burns, 2010), no comprehensive system is yet in production.

Since property rights protection indicators form components of composite indicators at a higher level of complexity, such macro-economic indices are relevant for screening of readiness according to different dimensions of the prerequisites defined.

What can be learned from the monitoring studies of use for the present study:

1. Macro-economic indices are also indicators at this generalized level for screening of the level of protection of property rights;
2. The analysis of the composite indices of WB-Worldwide Governance Index and the WEFORUM Global Competitive Index suggests that both are useful in a screening process for mortgage finance;
3. Transparency Internationals Corruption Perception Index is a powerful indicator on the quality of property rights protection.

Due to the lack of indicators and data on property rights, macro-indicators may potentially support the screening process in a better way than the deficient macro-level information on cadastre and land registration as found today (Cadastral monitoring information sources on comparable country data are deficient).

In cases, where systems of land registration are grossly inadequate, global governance indicators appear to capture the associated institutional shortcomings in respect to property rights protection (at a general level). Therefore, it is suggested that available macro-economic monitoring systems and indices may serve for gauging the overall level of development of the cadastre and land registration system in respect to protection property rights, pledging a property and performing transactions and registration of mortgage.

The detailed analysis of macro-economic indices has shown, that application of macro-indicators of this kind represents a challenge. At first the methodology of data collection must be understood. Secondly, the conversion of surveys or hard data to scores, and scores again to ranking, creates rankings that can only be used for comparative studies with great caution.

As can be seen from the examples analyzed in table B.12, the use of sets of macro-economic rankings illustrate many peculiarities arising from use of macroeconomic scores, e.g., when scores are relatively stable, but ranks are not. Ranks may also be unchanged from one year to another, even if scores change.

9. Discussion and Proposals on Screening of Readiness for Mortgage Credit

9.1 Criteria and Strategic Options for Screening

Criteria, Indicators and Data Availability

The point of departure for analysis is the list of prerequisites developed in Part A.

1. *Economic prerequisites*:
    1. Macroeconomic level stability
    2. Microeconomic level affordability (Income, income distribution, employment)
2. *Institutional prerequisites:*
    1. Stable institutions - overall governance
    2. Working legislation & rule of law
    3. Detailed legislation on property rights protection
    4. Sound Institutions in the domain of landed property
3. *Collateral prerequisites:*
    1. Secure property transactions and mortgage pledging
    2. Security of collateral (mortgage pledges , collateral quality and value)
    3. Effective foreclosure and access to collateral
    4. Access to information for assessing collateral value and credit risk
4. *Housing policy and market prerequisites:*
    1. Housing policy & Clear role of the public sector
    2. Demand for new housing and upgrading
    3. Land supply and Physical infrastructure
    4. Construction sector, & Urban housing markets

***Table A.21**. Propositions on Prerequisites for Mortgage Finance*

Having identified prerequisites will allow moving to the next stage of selection of criteria and indicators with appropriate descriptions or measurement. For each of the prerequisites set up in Part A, a search was made in empirical studies for their possible representation of prerequisites by indicators and parameters, and if minimum standards were defined.

While justification for the prerequisites defined in Part A was argued from an empirical perspective supported by theoretical discussions in Part C, the development of screening approaches is seen as belonging entirely to an operational sphere.

The pragmatic question is what data/indicators are available and suitable for featuring each of the criteria, and how can information sources be matched with procedures of screening. Operational aspects of converting criteria into indicators and of actually populating indicators with data had to be taken into consideration. The overarching constraint was found to be lack of data in suitable and accessible forms.

The defined prerequisites (Table A.21) pertain to different levels of analysis from macro to micro with the economic prerequisites at the macro level. When structuring all of the prerequisites accordingly, it is possible to suggest an analytical structure, which helps sequence a screening process. The analysis and development may therefore be conducted at two complementary levels:

1.) A broad screening of general framework conditions related to macro-economic performance, and
Overall framework conditions representing the whole range of factors (macro-economy, regulatory framework and the housing sector);

2.) A specific analysis of the situation of property rights protection and collateral security.
Criteria related to property rights protection, security of collateral and the property market. (See research questions table column B)

The analysis of overall framework conditions may benefit from available international rating systems and statistics, whereas a more in-depth analysis is required of the underlying factors of the property rights regime. Thereby the more detailed level of analysis will also be sector focused.

The theoretical question of causality between framework conditions and availability of mortgage finance was touched upon in the review of different studies, and discussed in Part C. The definition of prerequisites for mortgage finance does not exclude that housing finance in certain forms precede development of macro-economic stability and other framework conditions. It should. However, there were found some stringent legal criteria on mortgage pledging, just as evidence suggests that effectiveness of foreclosure is a critical criteria for mortgage credit. What are minimum standards and threshold values of various criteria, is to be judged by housing finance experts.

Screening Dependency on Data & Information Sources

In Chapter B.8.2 it was shown that some macro-economic indices are potentially suited for analysis of general prerequisites of macro-level conditions, such as macro-economic stability, rule of law and overall governance, and that they qualify also through good country coverage and updating frequency.

In contrast, there were found serious shortcomings as concerns indicators available in the area of cadastres, land registration, and land management, suitable for monitoring systems and for screening of criteria 2, 3 and 4 at a global level. No functioning monitoring system was identified, that satisfy the needs for information on the property regime in a standardized format or through structured sources at a global level, - not even covering the most affluent regions. The topic area calls for development and production of composite indices in a similar category and class as the macro-economic indices described above.

The option of constructing new composite indices was not found feasible, because 1.) Basic Indicators are defined, but the issue is lack of data and statistics to populating these; and 2.) Construction of new composite indices in the area of property rights and land governance would be a major undertaking of its own, although potentially rewarding. Instead the exercise was aimed at suggesting operational approaches through use of available information.

For this reason alternative approaches had to be outlined for checking the conditions of mortgage pledging and collateral security in different countries.

A wealth of studies on indicators and housing policy is available (Angel, 2000, UN-Habitat- etc.), and some of these sources have been consulted within the constraints of the study. In contrast to other studies, it was not the purpose from the outset to develop a complete set of all possible indicators representing a full model of property rights and land governance, but to search for adequate information for the purpose of profiling the conditions for mortgage finance, preferably in the form of a few powerful indicators.

The underlying idea is to strive at capturing certain characteristics of a given economy and housing market, to facilitate evaluations by decision makers (politicians, financial experts in the mortgage industry, etc.), if or how well a mortgage finance system may

- function under the given general framework conditions (macroeconomic – political – legal)
- match the mortgage finance requirements (what is the potential market segment)
- rely on access to protection of mortgage pledges on the basis of secure property rights (Security of collateral).

Since the Danish mortgage finance system is market based, it will always be an assessment of the investors to evaluate, whether the environment is too hostile and risky to long term investments in mortgage finance, and if the housing market is seen as functioning.

In general, the supply mechanism in a market based system is in the hands of lenders, but they react to market constraints and demand. Demand is typically constrained by structural weaknesses in the market.

Diversified Screening Approach

Variations in information availability vary across countries, so profiling of the conditions for mortgage finance have different points of departures. For that reason a diversified approach to screening is proposed. In countries with good performance according to general criteria, a screening process can be targeted at specific issues of mortgage pledging and security of collateral, whereas in countries with poorer performance at macro-level, it is proposed that the screening need to be broad-spectral. Consequently a segmentation of countries according to their macro-economic performances is used as an aid in setting up a diversified step-wise strategy.

The following four-step approach is proposed:

STEP 1: GLOBAL MARKET SEGMENTATION

An analysis of mortgage markets can be made according to countries' development levels as reflected by their performance in macro-economic indices. Economists suggest that GDP per capita may serve as a proxy for level of economic development. Poor countries perform systematically poorer on issues of governance, and legal system effectiveness, on which mortgage pledging depends. Property rights protection appears to be inversely correlated with corruption perception indices. Housing affordability depends on employment opportunities and income expectations, etc.

Segmentation has been made on the basis of selected macroeconomic rankings with suggestions on both the top and bottom ranks. The upper segments are further suggested grouped according to legal origin, geography and history/tradition.

As long as there are no globally available indicators on property registration systems, land supply, etc., it is not feasible to devise an indicator based segmentation of countries in that area. Instead rapid appraisals are proposed to sort out risks and opportunities by country (step 2) followed by country profiling (step 3) and more detailed analysis (step 4).

Ideally the next step would have been a scrutiny of sector specific indicators, as and if available. However, in case of lack of indicators an alternative strategy is performance of a rapid appraisal for identification of specific risks/constraints and clarification of market opportunities in the specific country.

STEP 2: SECTOR SPECIFIC DETAILED INDICATORS & RAPID APPRAISALS BY COUNTRY

A rapid appraisal is typically performed as a desk study. A collation of information on prerequisites can be made rapidly by use of public resources on the Internet on topics such as legislation, comparative country studies, national reports and statistics. Availability of information may per se be indicative of transparency and stage of development in the area of property rights and legal infrastructure of the mortgage market.

The rapid assessment is suggested as a trouble-shooting exercise, and for adjusting expectation levels to realities in the country. In this way, the country classification in step 1 can be refined by clarification of known risks and problems, analysis of property market profiles and identification of topics for further analysis. If hostile conditions for mortgage credit are identified at an early stage, detailed studies may not be justified from an investor's view point, but diagnostics of the infrastructure of the property and mortgage markets will be even more called upon for purposes of rectifying shortcomings and improving the environment for future investment in the housing sector.

Step 2 is thus focused on identifications of problems and constraints.
If indicators on the status of property rights regimes and legal infrastructure had been available, it is envisioned that such monitoring data could substitute a rapid appraisal, but appraisals might still be needed to explore specific problems.

STEP 3: COUNTRY PROFILES – DIVERSIFIED BY MARKET SEGMENT

The country profiles developed by the European Mortgage Federation (EMF) are tailored to the needs of investors in mortgage finance, and may thus serve as a template for further development in non-

European contexts. The general idea is a structured and condensed presentation by topic with links to live information, as far as possible.

Since the EMF-country profiles are suited for mature environments with assumptions of functioning legal systems and fully registered property rights, it is proposed that the format needs expansion in non-European countries. Therefore, an expanded version has been drafted (a prototype) including a wider range of factors. A prototype format was developed to capture the country profile of Ghana as part of the case study. The format is seen as a first iteration in a process of diversification. It is possible, that different types of profiles are required dependent on segment and group.

The proposed prototype format shall be seen in conjunction with the criteria for mortgage format, and is intended for providing an overview of the topic areas as defined by the set of criteria. When there are no readily available indicators, the structure serves as an aid in getting an overview of the pertaining issues, e.g., by linking to basic data sources. A structured format with summary data lends itself easier to updating than reports, and can be seen as a transitional step towards building monitoring data.

STEP 4: IN-DEPTH SECTOR SPECIFIC COUNTRY STUDIES

An in-depth sector specific study is a natural part of exploring the feasibility of mortgage system development. A closer scrutiny is needed to ensure that legal provisions and procedures on mortgage pledging and foreclosure are in place. Also more details on the functioning of transactions and foreclosure are needed, is possible disaggregated.
Some framework conditions are defined at the national level (legislation etc.), but housing (and mortgage) markets have distinct local characters.

A full understanding of the market potential of mortgage credit, will require a housing market analysis with geographic differentiation. National averages in larger countries may miss out on the differences in growth patterns by region and town areas. Larger urban conglomerates with dynamic markets are of high interest for mortgage market development, as is qualitative differences in urban infrastructure and property values. Geographical analysis of markets will rely on availability of statistics.

How the outlined screening approach covers the information needs related to the proposed criteria is sketched below. The iterative approach concerns both topics and details.

The sequence can be depicted also as relating to the objects of screening, prerequisites & topics, see table B.22.

SCREENING	STEP 1	STEP 2	STEP 3	STEP 4
CRITERIA & CONTENTS	**Global Market Segmentation** (Information Sources)	**Rapid Assessment- by country w/ focus on constraints & risks** (Information Sources)	**Standard Country Fact Sheets** (Information Sources)	**Detailed within-country analysis** (Information Sources)
Background, history, geography	Selected key data (population, size, etc.)	Country profiles /Indicators	Background, overview: Standard descriptive sources Ref: Country Fact Sheet P. 1	Geographic differentiation
1. Economic prerequisites				
1.1 Macro-level stability	Macro-economic indices applied together with international classification systems	Selected topics, Country reports /Indicators	Summary of indicators and national data; Ref: Country Fact Sheet P. 2	
1.2 Micro-level affordability		Summary statistics	Indicators of affordability Ref: Country Fact Sheet P. 5	Statistics, spatially-differentiated
2. Institutional prerequisites				
2.1 Stable Institutions	Macro-economic indices	Country reports /Indicators	Descriptions Ref: Country Fact Sheet pp. 3-4	
2.2 Working legislation/rule of law	Macro-economic indices	Country reports /Indicators	Descriptive, links, time line Ref: Country Fact Sheet p. 3	Laws, procedures, practices
2.3 Property law	Indicators on Legal origin, level of formalism	Country reports /Indicators	Descriptive, links Ref: Country Fact Sheet p. 3	Legislation
2.4 Property institutions	Macro-indicators, if available	Country reports /Indicators	Descriptive, links, statistics, Indicators (Ref: Country Fact Sheet p. 4	Organisational structures, status and capacity
3. Collateral prerequisites				***Detailed legal and technical analysis***
3.1 Secure transactions/pledging		Country reports /Indicators	Basics, transactions, pledges, time, costs Ref: Country Fact Sheet p. 4	Laws, Procedures and Statistics
3.2 Collateral quality & value			Basics, National statistics Ref: Country Fact Sheet p. 4	Statistics, differentiated
3.3 Effective foreclosure			Basics, time and costs Ref: Country Fact Sheet p. 4	Legislation, procedures; Time and costs,
3.4 Access to information			Services, basics Ref: Country Fact Sheet p. 4	Data and cost
4. Housing policy & market prerequisites				***Detailed market analysis***
4.1 Clear housing policy		Country reports	Descriptive (Ref: Country Fact Sheet p. 5)	
4.2 Demand for housing		Summary statistics	National statistics (Ref: Country Fact Sheet p. 5)	Market differentiation, local markets statistics
4.3 Land Supply & Infrastructure		Summary statistics	National statistics (Ref: Country Fact Sheet p. 5)	Statistics
4.4 Construction sector & urban housing markets			National statistics (Ref: Country Fact Sheet p. 5)	Statistics
REFERENCE TO	*B.Chapter 8-9: Macroeconomic classification*	*Case study Nicaragua and Ghana, Part D*	*Case study Ghana; Prototype only*	*NOT PERFORMED*

Table B.22. *Proposed Screening Approach related to Prerequisites of Mortgage Finance Development*

It is stressed here, that the present study did not suggest absolute or final criteria for feasibility of developing mortgage credit facilities according to the Danish model, but was targeted at preparing structured and tailored information to serve as decision support for investors.

A rating system of the conditions in e.g., the property rights and land sector could not be achieved in this study, but as the (tiring) amount of detailed indicators (Chapter B.10) illustrates: Composite indices would potentially ease the screening process significantly.

At first each of the proposed steps of screening are discussed, next the detailed criteria in chapter B.10.

9.2 STEP 1: Country Classification and Segmentation of Global Markets

Analysis and Segmentation of Long List of Countries according to Macroeconomic Classifications

Even before going into details with screening of readiness in a given country, information on macroeconomic conditions are indicative of country context and markets for development of a market based housing finance system, because credit markets are sensitive to macro-economic factors. Applying macro-economic indicators for market segmentation opens for a review of the performance of each country in respect to the defined prerequisites at macro level (macro-economic stability, stable institutions and rule of law). A long list of collated data is available in Appendix 5.

In view of the findings of the analysis of macro-economic indices, chapter B.7 and 8, the following macroeconomic indices and country classifications have been selected as a basis for classification:

1. The World Bank country classification system in respect to poverty and lending criteria
2. The World Bank, Worldwide Governance Index (WGI)
3. The World Economic Forum, Global Competitive Index (GCI)

The World Bank Ease of Doing Business index was not found suited or required for the proposed country classification, although it may serve other functions in country screening for mortgage finance. The use of the Corruption Perception Index by Transparency International was not seen as necessary, as it was represented through the governance and competitive indices. The Human Development Index was used as background information in the classification process.

<u>World Bank Country Classification system</u>
The WB country classification system was chosen as primary classification source, because of its comprehensive country coverage, in total 209 countries (2008), which exceeds coverage by the two macro-economic indices of WGI and GCI. Hereby a scale of five classes was also defined as a point of departure, because of the five level WB country classification scheme from Low income to High Income status.

<u>World Economic Forum (WEF) GCI</u>
The World Economic Forum Global Competitiveness Index is suggested used for segmentation, because it rates economies in a comprehensive manner based on macroeconomic models of growth and development, as described in Chapter B.7.3. The WEF indices are compiled to classify economies in five broad classes from 1.) Factor based; 3.) Efficiency driven; to 5.) Innovative economies, with two transitional stages.

<u>World Bank Worldwide Governance Index (WGI)</u>
The WB's comprehensive rating of governance was found especially useful for identification of the poorest performers in governance, which are synonymous with a risky investment environment, and likely to correlate with poor protection of property rights. In consequence, countries in the lowest quartile of WGI have been classified as high risk areas. The collated classifications of the long list of countries, Appendix 5, shows a coincidence of low WGI performers with the WB classification of countries as least developed, low income countries, and as factor driven economies as defined by the WEF indices.

In comparison the WEFORUM index represents more market related factors than the Worldwide Governance Index, so it is suggested that countries can be grouped for further analysis based on their performance in the WEF GCI as a first step in the screening process. Since the WEF GCI country coverage does not embrace so many countries, and not at all the poorest performers, that ranking system is not applicable in the bottom end of the scale. In the top end of the scale, the World Economic Forum ranking of competitiveness has been applied to identify a top group of countries, due to the holistic quality of the WEFORUM ranking system as argued in Chapter B.7.3.

Therefore selected macro-indices and classification systems produced by of International Agencies were reviewed for their potential application for market segmentation as the first step in a screening process.

Data of the above indices was collated, and options for classification were explored on the basis of actual data distribution, Reference to data and resulting classifications in Appendix 6-7.

Comments to Country Rankings and the WB Country Classification System

The World Economic Forum classification of economic stages is defined as a five class structure: 3 primary stages from basic to innovative economies with two transitional stages. The classifications of the World Bank and the WEF GCI economic development stages are largely consistent, but the differences are notable: As an example, Kuwait is classified by the WB as High Income non-OECD country (Top class), but in the WEF GCI classification it is classified as being at the middle economic development stage 3. Similar patterns are seen with other oil producing states (Saudi Arabia, Libya, Oman, Venezuela, etc.), all performing poorly measured by indicators of governance and economic competitiveness. Furthermore, when considering their weak debt enforcement (Djankov, 2002), the WEF GCI rank appears to better be representing the market conditions in the mentioned countries, than a classification solely by economic indicators, e.g., GDP per capita.

A classification of countries in the group of higher level incomes with poor performance scores in the WB WGI governance indicators could potentially form another category composed predominantly of a group of oil-rich nations. Countries in this group also performed very poorly in the Djankov (2002) analysis of legal enforcement of debt.

The case of Turkey is remarkable, as it is an OECD country, and classified as being at economic development stage 4 by WEFORUM. Nevertheless, its score in the World Bank Worldwide Governance Index is below the 50% percentile rank, and in the Human Development Index Turkey is only ranked 56,7 on a percentile rank. The indices are thus pointing in different directions. In view of the findings of the Djankov study (2002) on legal efficiency and foreclosure, the indication is that Turkey is not performing well in respect to some critical framework conditions for mortgage finance (debt enforcement), but further investigations are needed. The classification of Turkey in the top performance ranks is in any case questioned. Another questionable ranking is that of the Russian Federation, classified by the World Economic Forum GCI at the second best stage of economic development, while Russia's performance according to the Worldwide Governance Index is as low as in the 25.6% percentile rank - at the same level as Niger and Libya.

Other differences (not explored here) are seen between classifications and rankings of e.g., Paraguay and Philippines as measured by the different indices.

Aspects like size of market have to be considered both in positive and negative ways. Huge countries like Brazil and India have such a large internal diversification that a common rank or classification hardly makes sense. National indicators conceal in-country variations of a substantial nature in case of large countries. Irrespective of national indices, a differentiated study of in-country variations would be needed in large countries, where lead areas might be at an advanced stage of development. As was illustrated by Japelli (2002), even larger EU countries may have substantial regional differences in legal efficiency and mortgage market potential as in the case of Italy.

The potential markets of small countries and economies are naturally limited irrespective of their overall performance. Very small economies or small housing markets are not considered relevant for the present study, because there is needed a certain market volume in order to make an investment in development of the Danish Mortgage Credit system viable. This does not exclude introduction of the financing model, e.g., through in collaboration among countries, but that has not been discussed here.

Unfortunately, it is crowded in the bottom ranks of countries measured by any macro-economic index. A low percentile rank therefore means that a country is seriously underperforming.

Proposed Segmentation of Countries and Markets

Through an analysis of 209 countries of the World Bank global list of countries and territories patterns of ratings by different indices were seen as largely consistent, but with some notable differences.

In Appendix 5 data from leading macro-economic indices have been merged in normalized form (percentile ranks), and patterns can be seen in the classification of countries across the different rankings among countries in each end of the performance scale. In the lowest ranks, as well as the highest, there is seen a wide concordance between the performance as measured by the selected macro-economic indicators.

Where ranking of a country differs among indices, it is expected that differences are informative and could be helpful in screening and narrowing down the list of candidate countries, where the prospects for mortgage finance development are better.

A proposed segmentation of the long list of countries and territories was done by using of the World Bank list of economies (countries and territories), in total 209, as the point of departure. The long list was at first reduced by eliminating the smallest countries of less interest for mortgage finance, irrespective of income levels. Although no strict criteria was applied it is estimated that about 32 countries/territories, e.g., tiny island nations, belong to a group of small economies.

The rankings of the remaining list of countries (177) were explored from the consolidated indices and classifications, data in Appendix 6. The Human Development Index was applied as additional information. On this basis the remaining 177 countries were grouped into three broad segments.

At first the group of weakest performing countries was explored through the collated data, and the pattern of distributions was explored. Unfortunately, most countries of the world are not fulfilling the most basic requirements, so the threshold for fulfilling basic requirements for mortgage finance (rule of law, security of collateral, infrastructure) will most likely be above the median performance level.

For this reason and based on the actual data distribution, it was assumed that countries scoring in the lowest quartile would stand a low chance for qualifying for mortgage credit development. Exceptions are made for large countries, where average indicators disguise underlying regional diversity. Huge countries like India, China, Brazil and Indonesia require a much more differentiated analysis.

A precise classification may not give much meaning, but combined criteria have been applied here to narrow down the list of countries of interest for mortgage market development: The lowest performers are suggested defined as those classified by the World Bank as Low Income, or in the lending category of IDA or HIPC, or in the lowest quartile of performance in the Worldwide Governance Index. As a result 79 countries/territories of the WB-list fall into this category.

Among the remaining countries, a further grouping of countries is proposed. Different criteria have been considered. The OECD membership is based on economic performance of economies rather than on regional association, and may thus represent an option for market classification. Apart from Mexico, all 34 OECD members have been classified by World Economic Forum in one of the two top development stages (innovative stage or in transition to). Mexico performed below average among the worlds' countries in the Worldwide Governance Index 2007 (percentile rank 46,8).

In the WEFORUM 2008-9 rating 33 economies were classified as innovative (rank 5), and 14 in transition from efficiency driven to an innovative stage (rank 4), out of in total 133 economies rated.

On that basis it has been suggested to apply the following criteria for a preliminary classification of countries by sorting out the poorest performing countries and identifying the top performing countries. It is suggested that countries with the poorest framework conditions for introduction of a market based mortgage system are defined as comprising:

- Countries classified by the World Bank as "Low Income", Lending category: IDA and HIPC (Highly Indebted Poor Country)
- Countries scoring in Lowest quartile of Worldwide Governance Index (Percentile rank <=25%)

In this way in total 111 (79 + 32) countries of in total 209 economies on the WB long list are suggested grouped as of low interest for mortgage market development.

At the top end of the scale the WEF Global Competitive Index is suggested applicable for segmentation of mortgage markets. As a result the following grouping is suggested:

1. Top segment:
Defined as those countries, which are classified by the World Economic Forum as Innovative economies (rank 5) or in transition from efficiency driven to innovative (rank 4). *In total 48 countries (year 2007-8).*

3. Bottom segment:
Defined as those economies classified by the World Bank as Low Income, or lending category IDA, HIPC, or countries performing in the lowest quartile of the World Bank's Worldwide Governance Index. With the data applied 79 countries fall into this category. *In total 79 countries (year 2007-8).*

2. The Middle segment:
The remaining economies (209-32-79-48=50), in total *50 countries* are grouped in the middle segment, when using the classification on the selected data sets.

See Appendix 6-7, Country Classifications 2007-8

It is furthermore proposed, that the most likely candidates for mortgage market development are to be found in the top and middle segments. The two case countries, Nicaragua and Ghana, are categorized as belonging to the bottom market segment, when applying the proposed criteria, ref. to case studies in Part D.

The suggested classification was made intuitively based on the actual data distribution, and is thus subject to discussion. The WEF Global Competitive Index was seen as the most refined macro-indicator for the purpose, but its country coverage does not include most of the poorest countries.

The proposed grouping is not expected to form a precise nor permanent classification, and the grouping is coarse, so that great variations are found within them. The grouping can be used for diversification of further feasibility studies and screening suited for each category. The proposed macro-economic classification is expected to be helpful for identifying the weakest candidates for mortgage finance (lowest segments) already at a first step of analysis.

It is expected that mortgage finance development is encountered with high barriers or less potential in the bottom segment of countries on the short term, where even the most basic prerequisites might be unfulfilled. Conditions can change, though, through determined national efforts to improve prerequisites for mortgage credit e.g., in the legal system.

The classification was made based on available data, but since class limits were set – not arbitrarily – but according to criteria which can be questioned, the classification of some countries can be discussed. The proposed classification does not suggest predestining a certain outcome of a feasibility study, but serves for diversification of analysis formats in the next stages. Clearly the lower segments of the market require

careful, broad-spectral scrutiny of conditions, risks and opportunities, whereas a more targeted analysis of markets in countries in the top category may suffice.

Differentiation of macro-economic performance and mortgage market segments

Refinement of the country grouping can be perfomed - if useful for the financial sector - by including all details of the mentioned macro-indicators in the form of sub-scores and additional statistics, but that has not been done in the present study. Basic statistics on urban housing, demographics and urban change could serve quantification purposes on the demand side.

Within each segment, further groupings can be made according to various criteria, which shape the profile of mortgage finance, e.g., regional characteristic; economic, historic and cultural features or development paths. A regionalization of countries according to common history or culture might be helpful, but rather self evident. The Muslim world with an increasing penetration of "Islamic financing" has not been analyzed here. In so far as these economies are submitted to in-transparent practices as inherent in Sharia law, these practices are hostile to implementation of long term mortgage financing according to the Danish securitization model discussed here.

One type of grouping has been shown to impact on performance of legal systems in general, and transaction costs and debt enforcement in particular: Origin of legal system and level of legal formalism. Legal origin has been shown to explain a large part of the level of legal formalism, which in turn in reciprocally associated with quality of legal protection and services, according to e.g., the ZERP study of conveyancing costs in Europe (2007). Development theory of institutional economics supports the notion that lower levels of legal formalism are conducive to economic development. A classification of countries according to legal traditions or current legal systems will also capture the possible in-transparent legal framework status associated with 'Sharia' finance, an increasing feature in Muslim countries according to (Sookhdeo, 2008).

Some European studies (ZERP) and global studies (Djankov 2002; Rosenthal, Voeten, 2007) comprise valuable contributions on the measuring and classification of legal systems. However, it has not been possible here to go deeper into the topic. Considering how important the topic is, and that the information is relatively stable, it appears to be a rewarding venture to include legal origin and legal systems' characteristics as input into feasibility studies and country ratings on readiness for mortgage finance.

In view of the legal system origin impact on performance and economic development, macro-economic indicators of the Worldwide Governance Index (sub-index regulatory quality, rule of law) might be seen as outcome indicators in this respect.

9.3 STEP 2: Rapid Assessment by Country

A natural next step of screening is suggested to be a close scrutiny of performance in the real sector and associated infrastructure. Due to lack of satisfactory monitoring indicators and information on the status of property rights, cadastres and registration by countries worldwide, it seems necessary to conduct the second step of screening in the form of a rapid appraisal of the feasibility of developing mortgage finance by case country.

It is presumed that the countries with the lowest scores in macro-economic indices are identified in the first step of screening, so that the second step of rapid appraisals are applied for countries with some positive development features, or where there is reason to doubt available information.

A rapid appraisal can be conducted as a desk study and/or as an in-country appraisal with the purpose of identification of Constraints /Risks and opportunities of importance for the mortgage market, re. examples of rapid appraisals, see case studies in Part D. A rapid appraisal is seen as useful both for potential investors and for governments for taking appropriate action.

In the second step of screening, it is proposed to focus on constraints and critical issues of legal registration systems, urban land supply and foreclosure. Hereby, possible risk factors associated with property rights and the real credit system can be identified at an early stage ("killer-options"). Inspiration can be found in other types of rapid appraisals or audits, e.g., the proposals by USAID on the LTPR country studies, which also include an expert rating.

The approach used in the LTPR assessment is seen as a process oriented tool with feedback processes, conducted as an audit, to be used where information on property registration and the land market is incomplete, in-actual or unreliable. The LTPR -expert rankings of country constraints on a scale from 0 to 7 may also be indicative of dis-qualifying factors rather than feasibility of developing the mortgage credit market at the time. Hereby, the bottom ranking markets can potentially be identified in such an analysis.

Other inspiration can be found in the diagnostic approach of the LARA Land Assessment framework developed by the World Bank (Razzaz, 1999(?)).

The structure of the LARA diagnostic tool, groups criteria for housing market developing into three sections:

1. Property rights, information, contracting and Enforcement, which is split into two.
2. Finance and Risk Management (subdued here, as it is not the focus of the study)
3. Real Estate Market Structure.

Point 3. is well developed and could possibly serve as inspiration for development of indicators in the area of the mortgage finance and the property market.

No full proposals have been developed here on standards of the output format of rapid appraisals, apart from collating information for possible use in the next stage of screening: preparation of standard country profiles.

An unstructured rapid appraisal was conducted in-country in the case of Nicaragua as member of a fact-finding mission by VP-Securities A/S partially financed by DANIDA in 2008. Another rapid appraisal was conducted as a desk study in support of VP-Securities feasibility studies in Ghana. The findings were in both cases problematic as discussed in Part D – Case studies.

In the case study of Ghana, the feasibility report was structured under the same overall headlines as the proposed "Country fact sheets", which again were set up to cover the information needed for the criteria. In this way the headlines of feasibility reports and country fact sheets can be seen as complementary components of a screening process, although short of providing refined composite indices of readiness for mortgage finance.

Possible further development of rapid appraisals may be seen as part of an endeavor of improving efficiency of reporting, accessibility to information, meta-data and building of indicators.

9.4 STEP 3: Differentiated Country Profiles acc. To Country Classification

Standard Fact Sheets (country profiles) of European Mortgage Federation (EMF)

Reference: http://www.hypo.org/Content/default.asp?PageID=420

Inspiration for country profiling was found in country fact sheets developed by the European Mortgage Federation (EMF), the voice of the mortgage industry in Europe, representing both national banking associations and mortgage lenders from EU- member states. The EMF promotes development of standards, codes of conduct and policies on behalf of the industry. The EMF has presented the mortgage markets of each of its member states by a fact sheet, which is here seen as representing key information requirements by the financial sector. The latest formats (2009) include data and links to source data, see fact sheet example, Denmark, http://www.hypo.org/Content/default.asp?PageID=420. By doing so, the validity and life time of the fact sheet will presumably be extended.

When comparing the data of the EMF fact sheet with the prerequisites for screening, it can be seen that some topics are underrepresented in the EMF standard format, though, when applied to countries with less developed framework conditions.

Since the information contents is designed for European conditions, it is suggested here, that similar fact sheets, but with an extended information contents, would serve well in improving access to basic information needed for profiling mortgage markets elsewhere,.

The format of a standard 'Country fact sheet' is also prepared and applied by other international organizations, either in the form of spreadsheets with statistics, or in combined descriptive and quantitative forms. For example, see the (condensed two page format) of the Country Economy Profiles prepared by the World Economic Forum, http://www.weforum.org/documents/gcr0809/index.html.

Other examples of country profiles are available in the CIA World Fact book, found at:
https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html (example Ghana).
The CIA fact book also includes functions for country comparison:
https://www.cia.gov/library/publications/the-world-factbook/rankorder/rankorderguide.html

The approach of preparing a condensed and standardized country profile is used in other sectors, and at different organizational levels. Such overviews were found to be helpful entries to detailed country studies.

Other examples of country fact sheets prepared by sector organizations can be found on such diverse topics as e.g., nature conservation and statistical systems.

The UN-ECE Committee on Housing and Land Management has proposed a modular approach for future country profiles on the housing sector and for land administration reviews (UNECE, 2009, http://www.unece.org/hlm/documents/2009/ece.hbp.2009.5.e.pdf).

The UN-ECE describes the preparation of country profile as a process-oriented exercise drawing on the committee's work on housing statistics. The country profiles are seen as useful for improving policies and practices and also aim at providing information to potential investors. The proposed profiles constitute a strategic and structured analysis of a country's housing sector, as represented by five major areas: (i) the framework for the housing sector transition; (ii) the existing housing stock and new housing construction; (iii) the institutional framework; (iv) the legal framework; and (v) the financial framework. In this way the concepts of the UNECE profiles may substitute part of the proposed format of country profiles developed for this project, if or when available. However the UNECE design is still sketchy.

When preparing similar country fact sheets for profiling mortgage markets it will be natural to link to those indicators that are available (the Cadastral Template, for example). The more and better indicators are available, the more preparation of standard country profiles can benefit from them. In the prototyped format proposed here, (ref. to Appendix 9) standard indicators are used to various degrees.

A note of caution is attached to the use of monitoring data and statistics: Statistics, and even more so derived indicators, will always be lagging events in a rapidly changing capital market. In particularly the date of validity could be years behind, if using census data, since National censuses of population and housing are normally performed with a 10 year interval.

Differentiated Country Fact Sheets: Prototype with Expanded Data Contents

When using the EMF – data sheet as a point of departure for profiling potential markets outside Europe, it is suggested that additional information is required in concordance with the proposed list of prerequisites set up in Part A, because no conditions can be taken for granted.

It is assumed that the key data applied by the EMF as key data in country reports on mortgage financing in Europe could also serve as indicators worldwide, although it may be difficult to access data.

The EMF reports include other indicators, such as e.g., % owner occupied housing, which serve as an indicator of the potential market. The EMF reports on established mortgage markets in Europe include key statistics on the market of the mortgage loans, securitization and growth rates of their volume, which serve as indicators on "the depth" of the existing mortgage market (Ref. to annual reports of the EMF, http://www.hypo.org/Content/Default.asp?PageID=159).

Especially, added data is needed to depict the nature of the property market, and the property rights infrastructure, since property registration and property markets can be assumed to be less mature.

The discussion on detailed indicators in Chapter 10 has been supporting the selection of data contents /indicators included in the prototype country fact sheet. The connection between prerequisites, criteria and indicators need to be permeating the different levels of screening, and reflected in the design of data contents in the fact sheets. However, a full cross check of information in the different components of screening has not been made, and stringent selection data contents and refinements of the structure are to be made, in due cause in case of operationalization.

Similar to the design of the EMF country fact sheets, it is desirable to link data entries of the extended Country Profiles with standard live-data sources. The concept is illustrated with a prototype fact sheet of Ghana, reference to case studies in Part D, and prototype Country Fact sheet in Appendix 9.

The prototype format is somewhat larger than the format of the EMF country fact sheets, due to the added data requirements. The structure has been defined with reference to prerequisites, but adjusted for the purpose of creating a simple overview.

PROTOTYPE COUNTRY FACT SHEET structure		
Country Fact Sheet page	**Information - Headlines**	**Status of Ghana Prototype**
1. General Country Information	Basic Country Information a. Geography, b. Population, c. Housing	*Information drafted with some shortcomings*
2 Macro-economic Indicators	a. National Economy Key data b. Macro-economic indicators c. Governance indicators	*Most data and links compiled, but data is incomplete*
3. Property Law & Protection of Property Rights	a. Land Tenure System and Property rights protection, b. Legal development path c. Assessment of regulatory sufficiency & quality	*Some data and a legal development path sketched*
4. Land Administration and Property Rights Infrastructure	a. Basic functions and services b. Output and performance c. Protection of collateral	*Topics outlined, but no data compiled*
5. Housing Stock, Demand, Affordability and the Housing Market	a. Housing policy b. Housing Affordability c. Housing market, urban infrastructure and the construction industry	*Topics outlined, no data filled in*

Table B.23 *Proposed Fact Sheet Information Structure*

<u>Comments to Prototype Country Fact Sheets as developing in the Case of Ghana</u>
The country fact sheet benefits from linking to other country profiles with standard background information (National website, CIA fact book, or other). A selection of information has been made in view of the purpose.

A wealth of standard information sources is available of value for the Mortgage finance country profiles both as concerns design and contents. As an example the World Economic Forum has produced condensed two page standard country profiles with valuable information and basic indicators such as, e.g., GDP (PPP USD) per capita.

Information on the property and housing markets has to be compiled the hard way from basic statistics and from scattered information sources. For this reason many of the topics on which information is required or desirable, has only been listed as desirable data contents or entries, but no data has been filled in. A detailed design will depend on what data sources are realistically available. Completing the country fact sheets would require in-country information providers or a detailed in-country study.

Some information has been sketched based on the desk study. This includes a condensed time line of events, representing dates on especially

- Enactment of Legislation on land and property
- Land reform and registration activities
- Other reforms of importance.

For natural reasons, emphasis in the fact sheet is laid on housing market information, but little data has been included. One reason is that a most valuable source of information, the national census of population and housing is taking place in 2010, so no newer data is available than census data from the last census ten years ago (2000). Determining for the property and housing market are indicators of demand, especially population growth, urbanization and income, as can be derived from census data eventually.

The country fact sheet was prepared in tandem with the feasibility study and a common structure between the two has been strived at, although not fully achieved, ref. to case studies in Part D.

<u>Closing remarks on country fact sheets</u>
A country fact sheet is expected to facilitate potential investors make an early assessment of the market, and can serve as a point of departure for more detailed feasibility studies and for geographic differentiation, see Step 4 below.

A country fact sheet must be maintained, if it is to be of any value. In Denmark the mortgage industry is providing such information, and it is possible that preparation of country fact sheets in other countries could be driven by the financial sector, although the land administration and property institutions need to contribute. The first version requires some effort, but the idea is that consequent updating be eased by use of standard statistics.

The country fact sheets do not capture conditions in the financial sector, which is beyond the present study. As a point of departure a marked based housing finance system is dependent on working with a stable banking sector operating under a suitable financial legal framework with a functioning capital market. A Danish mortgage system is furthermore dependent on an active capital market with domestic (especially institutional) investors, for whom the mortgage bonds fit into their investment portfolios. This has not been included in the country fact sheet, either.

9.5 STEP 4: Detailed Screening with Market Analysis and Geographic Differentiation

A final step in feasibility studies is suggested to be a detailed scrutiny of the legislation, procedures and property markets. This step has not been conducted as part of the present study. The legal analysis is proposed to at first comprise a study of legal provisions and procedures and next a review of available transaction and foreclosure statistics.

The housing and mortgage markets are shaped by local factors, and might vary from town to town with more markets being more developed and transparent than others. Leading local markets could possibly spearhead mortgage market development, despite weaker performance in the country as a whole.

A detailed screening could be helped by a checklist of relevant indicators. For this purpose, suggested indicators have been compiled from reviewed monitoring systems and studies. A range of indicators associated with each of the prerequisites for mortgage market development is elaborated in Chapter B.10.

Disaggregated and geographic analysis of submarkets has not been conducted as part of the present study.

9.6 Concluding comments on Screening Methodology and Monitoring in Cadastre and Land Registration

Status and Expectations to ongoing Monitoring Activities

A search for answers to basic questions on protection of property rights is a struggle with monstrous detail in countries, where cadastres exist, and where not, a monstrous struggle for finding some detail.

As has been demonstrated by the review in the previous chapters, rich sources of information are available in many countries on cadastres and property registration, but that information does not lend itself easily for monitoring of the property market or for use by the financial sectors' assessment of risks of property rights protection and access to collateral. On the other hand numerous reports and papers include valuable information on national systems, but despite available information of many kinds, it is left open to decipher from country studies in large quantity, what are the conditions of property transactions, land supply and collateral security of relevance for mortgage finance in a given country.

Generally, what information is available is scattered, comes in inadequate formats, and statistics and performance measures are in short supply. Land professionals have not been focused on delivering monitoring data in this regard.

There is little accounting for land and property despite real assets making up most of a country's assets. Even public land is often not accounted for in statistics or balance sheets. In view of the staggering amount of values represented by real assets, it is astounding that managers of these assets (land agencies, etc.) are not held accountable thereof.

Considerable progress has been seen in establishing monitoring systems over the latest decade, but generation of reliable data with regular updates and open access remains a challenge. It seems safe to conclude that there is still no global, standardized and functioning monitoring system or standardized metadata systems on land registration /cadastre at a comparative level in support of the operation of the housing finance market.

Aspects of governance and the market environment are covered by extensive modeling work performed by research teams of the WB and the World Economic Forum. The present study acknowledge that the World Bank Worldwide Governance Indicators framework provide a comprehensive model of governance and the WEFORUM GCI of overall economic development. Monitoring data of this kind can be applied in different ways, by use of overall ratings or for studies of the relative performance within each of its sub-indices. Within these indices aspects of property rights takes a prominent role, but the foundations of the underlying ratings are weak, because there are few indicators available.

The sub-indices available on property rights protection (of the macro-economic indices) do help classify countries along a macro scale with a grouping of countries according to their property regimes in rankings indicative of the highest and lowest levels of protection, but they are too vague and coarse for the purpose of screening of conditions for mortgage finance development. This calls for further development and refinement of property rights protection indicators, not remixing available indicators/indices.

Monitoring systems and models on land registration, cadastres and land administration have been long under way, and have been developed by teams of experts, discussed in hearings in professional networks, etc. so they can be regarded as being weighty proposals. Despite all these resources invested in design of monitoring systems, the current status of implementation is discouraging, since data for the suggested indicators is still to be captured, which gives reason to face the task of country screening with humility, and to consider changing approach. At the same time it shows that the land sector has not delivered even the most basic statistics.

Considering the centrality of property rights for development, and the forward backward linkages of property rights, institutions, economic development as discussed in Part C, it is suggested here that

- available macro-indicators on governance and development may currently constitute better indicators for gauging the level of protection of property rights, than available specialized ratings of ease of registering property rights (EDB)
- current monitoring systems on property rights protection, cadastre and land registration are much needed, but in their present form are inadequate both for screening of land registration systems and for strengthening of macro-indicators on governance and economic development.

One part of the monitoring challenge is designing adequate indicators (not too many), the other is populating the indicators with data, which is the tougher part. Common for the proposed global monitoring systems in land governance is that the monitoring systems have not yet been widely implemented, so e.g., the feasibility of the indicator systems is still to be tested, when the framework is to be populated with data from many different nations. In the meantime alternative strategies need to be considered, and if it is possible to learn from approaches taken by economists /statisticians in building macro-level indices in governance and development. A top-down approach is required, which is not relying on generalization of individual property data.

There is currently a huge conceptual gap between development efforts in monitoring of indicators in property rights protection, in cadastre and land registration, and the efforts of cadastral modeling (Lemmens, Oosterum, 2006), etc., which was the topic of a (peer reviewed paper presented at the FIG- working week, 2008. Proposals on strategies of alternative approaches to building appropriate information and formalization of property rights were outlined in (Haldrup; 2008).

Concluding Comments on Screening in Support of Decision Making and Policy Development

From the outset, screening of the conditions in the property rights protection and property market was intended for use by decision makers in mortgage market development in accordance with the project definition. As work proceeded, it seemed more urgent to reflect on the critical importance of a rectification of imbalances and shortcomings in land supply, land registration, and land information. As expressed by Renaud (2008): Finance cannot be expected to overcome dysfunctional land institutions, and market based mortgage credit will only be available, if conditions permit (ref. to the prerequisites, table A.21). Low demand (affordability) is an indicator of deep structural problems connected with land supply and property institutions.

For these reasons, the screening framework may have an inverse function of serving as a framework for reform in the sector. The lack of information is indicative of the lack of reform, and could be guiding reform efforts into serving development requirements and setting priorities.

In other words, the call for sweeping reforms in the land sector have to be seen in the light of the macro-economy, rather than driven by actors of one specialization or another, or dealt with through curing of symptoms, rather than addressing root causes.

Despite a focus on unveiling potential problems through screening, a positive outlook is just as important: What are the opportunities for development of mortgage finance? Although the analysis of prerequisites tended to give a sinister perception of the state of the world today, inspiration can also be found in relatively small events that triggered a positive series of other events, like establishment of mortgage credit associations in the mid 19th century in Denmark. The analysis in Part A of the Danish mortgage finance system provides evidence of how healthy incentive structures in mortgage finance may potentially trigger mechanisms of change and engender economic development.

Much more work is needed to clarify how such opportunities can be detected.

10. Indicators of Prerequisites for Mortgage Finance Development

10.1 On Development of Detailed Indicators and Data

Screening of prerequisites for mortgage finance development has to be materialized through definition of criteria and indicators followed by populating the indicator with data, since indicators are needed for representation of the phenomena and for measurement of the status. If indicators and composite indices are to be developed in a stringent manner, they must be based on well defined models of property rights protection, collateral security or effective urban land systems, whatever are the topics in focus. Short of such models, the present study has only discussed possible indicators depicting factors of the criteria defined.

The discussion of indicators in chapter 10 is serving as a support of feasibility studies and country screening, but more as a checklist of relevant factors, than as stringent set of indicators. For these reasons chapter 10 is open in form and contents.

It was not found possible to define what would be minimum standards, but instead indicators may serve diagnostic purposes for stakeholders, whether investors in the mortgage industry or decision makers in the area of land and property rights legal and technical infrastructure. Neither was it possible in this limited study to fully explore potential application of standard statistics (e.g., on demographics and economics) for the purpose.

Elaboration of detailed indicators has been made in the area of land and property rights and property markets, with a long list of suggested detailed indicators attached.

Correlating factors could be helpful in the search for fewer yet representative sets of indicators. An ideal indicator would be one capable of representing a complex situation through a simple parameter (e.g., derived from a factor analysis).

A fully effective and operational screening process of the conditions for development of mortgage finance is awaiting better monitoring systems in the real sector of land registration and land supply, both in contents and coverage. Eventually, it is expected that detailed indicators can serve as input data to generation of composite indices in land and property rights similar to macro-economic indicators on governance, rule of law and competitiveness.

The high amount of detail suggests that composite indicators are required so as to service the financial sector better. If statistical models can be built, factor analysis will allow identification of a few interdependent variables. Since not even basic and simple indicators are currently produced in the land sector, a major effort lies ahead before the land sector is properly represented in both standard statistics and development indicators.

Below follows a compilation of series of indicators, selected or derived from other studies to provide an easier overview of relevant factors. The overview includes a whole range of issues of importance for reforms, although many of them are outside the expertise of the author. However, the emphasis has been laid on discussion of what indicators are relevant, rather than on detailed design of indicators. Since many proposed indicators are likely to correlate, the list is not suggesting that all the information is needed to screen the level of maturity of the framework conditions for mortgage credit. The discussion on indicators needed for measuring each of the prerequisites is illustrative of the complexity of the topic, and shows the need to develop composite indices.

The indicators require interpretation in order to serve for screening of readiness for introduction of a market based mortgage system. In particular it is a question how to move from a definition of general criteria to specific threshold values. This question is left open here.

The overall structure follows the list of prerequisites for mortgage finance, defined in Part A, Chapter 12 and each of the four groups of prerequisite is discussed as a cluster of factors.

Each section has been structured by first presenting a list of suggested indicators followed by discussion of justification. The list of indicators is neither complete nor unique. A full coverage would require an underlying model and comprehensive statistical analysis to support fitness for purpose of selected indicators (Ref. to OECD, 2008, "Handbook on Constructing Composite Indicators", p. 15).

10.2 Discussion of Indicators of Economic Prerequisites

1. Economic prerequisites: 1.1 Macroeconomic level stability 1.2 Microeconomic level affordability (Income, income distribution, employment)		
Proposed Indicators	Source Data	References
Composite indicator		
"Macroeconomic stability", the 3rd pillar of the Global Comp. Index	World Economic Forum, Global Competitiveness Index	www.weforum.org
Criteria		
- Resumption of economic growth, (GDP growth) - Lowering of inflation, - Recovery of real wages and - Perception of employment stability for the majority of the population.	National statistics UN DATA	UN-ECE Guidelines 2005b European Mortgage Federation
General economic indicators		
- GDP per capita - GDP growth rates - Inflation rates - Interest rates	National statistics UN DATA	UN-ECE Guidelines 2005b
Population and income indicators		
- Unemployment rate - Percentage of the population below the poverty line - Gini-factor of income distribution - No. of households (HH) and percentile below UN-defined poverty limit; - No. Of Households and Percentile HH-income > XXX USD per month (specific value calculated as minimum monthly installment for standard house)	National statistics UN DATA	UN-ECE Guidelines 2005b

Criteria 1.1 Macroeconomic level stability

The question of what is relative macroeconomic stability is to be answered by macro-economists. The topic is included here since macro-economic indices play an important role in the proposed screening process. Macroeconomics affect both the demand side, affordability and market size, and the supply of credit through attraction of lenders' capital. Macro-economic instability will increase risks, expectations and credit costs. Justification of proposed indicators is made by citation of – what is argued to be - authoritative sources.

The World Economic Forum captures the situation of macroeconomic stability in its Global Competitiveness Index, the 3rd pillar, "Macroeconomic stability", which is based on sub-ratings of the four factors of: Government surplus/deficit (hard data), National savings rate (hard data), Government debt (hard data), and Interest rate spread (hard data). Hereby the World Economic Forum captures key economic data complementing the indicators above. Since the WEF GCI indicators on e.g., macroeconomic stability are model based, it is suggested that they may possibly serve the purpose of screening for readiness of mortgage finance, without going into detail with the specific factors of macroeconomic relevance.

Macroeconomic stability is defined by UNECE (UN- ECE Guidelines, 2005) as an unconditional and absolute prerequisite, but in rather generalized terms. Some indicators on what are the necessary economic conditions for revival of the market-based housing finance sector are given in the form of four determining factors (UNECE 2005, p. 4, p. 10, p. 55):

1. Resumption of economic growth, (GDP growth)
2. Lowering of inflation,
3. Recovery of real wages and
4. Perception of employment stability for the majority of the population.

The UN-ECE guidelines outline indicators of stability as strong public finances and inflation rates of below 10 to 15 percent (UNECE, 2005, p. 61).

That the mentioned macroeconomic factors also capture essential features in established markets can be seen from European Mortgage Federation (EMF) sources on the European mortgage market. The factors 1-4 are included in the EMF standard profiles of national housing finance markets in their annual reports, which cover the following indicators of the housing finance situation in a given country: GDP growth, unemployment rate and inflation. High interest rates would confine mortgage finance to the more affluent households and would have other negative effects like lower domestic savings (UNECE, 2005, pp. 67-68).

Criteria 1.2. Indicators of microeconomic affordability
It is proposed here, that in emerging markets or transitional economies with widespread informality, a wider range of indicators is needed to capture the economic situation than in well established economies. It is therefore suggested to expand the number of indicators on employment and income with indicators of poverty and income distribution, so as to better assess housing affordability and profile the property market.

Proposed expanded employment indicators

- Unemployment rate
- Percentage of the population below the poverty line
- Gini-factor of income distribution

The above indicators also represent weaknesses (UNECE, 2005, p. 5). Deep inequalities in wealth distribution are potential sources of instability.

These indicators may serve to assess market segments, for which mortgage credit is *not* an immediate option. Eventually, affordability will have to be calculated based on both income data and on housing cost data (see criteria 4 below). Demographic data on population distribution and economic statistics on income segments are needed for generation of differentiated indicators on affordability of housing.

10.3. Discussion of Indicators of Working Legislation and Sound Institutions

2. Institutional prerequisites: 2.1 Stable institutions - overall governance 2.2 Working legislation & rule of law 2.3 Working legislation on property rights protection 2.4 Sound Institutions in the area of Landed Property		
Proposed Indicators	Source Data	References
Composite indicators		
Worldwide Governance Index (WGI) With Sub-indices	The world Bank	Kaufmann, …
Global Competitive Index (GCI) with sub-indices, Institutions	World Economic Forum	
Indicators		
Corruption Perception Index	Transparency International	
Details, see below		

Criteria 2.1 Stable Institutions - Governance
Introduction of a market based housing finance system depends on the existence of working legislation as a basis for sound institutions and good governance in different spheres of operation, whether in the financial sector or in government institutions. Institutions as a theoretical concept is discussed in Part C, and how it relates to governance. The broad prerequisites of stable institutions are not representable by simple indicators or captured through data in case work.

Due to the composite and general nature of the concept, the study relies on representation of the overall status of governance through standard ratings of governance and institutions, in the form of macro-level indicators, provided by acknowledged international agencies. These governance indices have been developed by expert teams over the years, and are model based. The indices are populated with data from a wide specter of national surveys covering most countries and available with annual updates:

- The Worldwide Governance Indicators (WGI) project, World Bank (212 countries included in 2007)
- Global Competitiveness Index, World Economic Forum (131 countries included in 2007)
- The World Bank Ease of Doing Business indicators, (178 countries included 2007)

In addition the World Bank Human Development Index and the Transparency International Corruption Perception Index are included in parts of the comparative analysis.

The large number of countries included in the above ratings facilitates comparative international studies. The ratings do not, however, provide a definite answer to what falls below an acceptable standard of governance to nurture economic development, and when used as indicators for the screening of readiness for mortgage finance, the question remains on how to define thresholds.

The above ratings are generated through large sets of sub components covering overall characteristics of the legal and institutional framework. The mentioned rating systems have been included in order to cover both the governance and the marked perspectives, see detailed analysis in Chapter B.7.

Criteria 2.2. Working Legislation and Rule of Law
Of paramount importance for a market based housing finance system is the existence of an appropriate, functioning legal system (UNECE, 2005b, p. 14). Mortgage lending depends on private contracts, whether covering property transactions or financial transactions representing high asset values.

For evident reasons, a mortgage credit /securitization system depends on adequate laws, legal systems, and judicial processes that allow households to establish ownership or pledge collateral, and perform property transactions with as few obstacles as possible. It follows, that functioning legislation depends on the existence of strong institutions, a judiciary and government entities, which are capable of guaranteeing embedded rights to title and the mortgage, and capable of enforcing these rights (UNECE, 2005, p.1). Enforcement of relevant legislation is clearly a precondition for trust in the mortgage system, and therefore the legal system must function well. A general factor, which has been shown to be determining for legal system effectiveness, is legal origin.

Working legislation and rule of law is a component of a number of macro-economic indicators. For measurement of the conformance with the general principle of working legislation and rule of law, the present analysis relies on available global macro-economic indicators on governance and development, especially the World Bank, WGI, and the Global Competitiveness Index of the World Economic Forum, as argued in Part C.

Also the Worldwide Governance Indicators (WGI) project, developed by the World Bank, holds key indicators on the rule of law. The Worldwide Governance Indicators (WGI) project includes ratings of: Regulatory Quality, Rule of Law, and Control of Corruption.

The Global Competitive Index of the World Economic Forum includes a large number of sub-ratings under its first pillar "Institutions": Intellectual property protection, Property rights, Transparency of government policymaking, Judicial independence and Efficiency of legal framework, see Chapter B.7.3.

For these reasons it is suggested that the *broader* aspects of working legislation and sound institutions are monitored by the mentioned global indices, whereas judgement of what are minimum threshold levels is left open.

At the *specific* level the present study focuses on legislation and related institutions in the specific area of property rights legislation, transactions, mortgages and foreclosure, because this is critical to mortgage finance.

Macro-level and specific level indicators are interdependent. Property rights protection is an indicator of general rule of law, and thus a key element of macro-indicators, as reflected in the construct of macro indicators on institutions and rule of law. Property rights can therefore be included both as indicators at macro-level and as detailed level indicators.

A macro-level factor, which has been proven of importance for the quality of the legal system, is its legal origin, since different families of legal systems carries different levels of formality of importance for transactions. In addition to the macro-indices it can be considered to include 'legal origin' as an indicator at a more detailed level of analysis.

Criteria 2.3 Working Legislation on Land and Property Rights Protection

Property rights protection is here dealt with both as a component of "rule of law" criteria, and as a criteria of its own. Embedded in the topic of property rights protection are issues of collateral security, which are also covered as a set of prerequisites and criteria.

The UNECE (2005) document is unequivocal in its emphasis of the prerequisite of a reliable property rights protection system, with access to efficient foreclosure. Legislation alone does not suffice. Sound institutions and enforcement is required. The issue of property rights protection and secure collateral is a top priority, as evidenced by associate phasing like "first and foremost" applied in the guidelines.

The essence of the role of real property institutions for mortgage credit systems is summed up in the UNECE document (2005, pp. 13-14), and includes a functioning land registry, a foreclosure system and effective enforcement.

Other sources also emphasize (Hassler, 2005) the importance of the existence of adequate laws, titling systems, and judicial processes that allow households to establish ownership or pledge collateral.

Legislation and institutions protecting property rights are required for pledging of property rights. The different levels of prerequisites for mortgage credit follows a logical chain from top level 'Rule of law', including protection of property rights, specific issues of land registration and functioning of the property market to criteria for collateral security such as mortgage pledging, and effective foreclosure.

Adequacy of land legislation and institutions for development of a market based mortgage system is a question of capturing the critical characteristics both of operations and the legal foundation.

An analysis of the legal framework is possibly the most demanding aspect of the screening for readiness, since all legislation has to be seen in its proper context and in view of legal practices in the given country. The devil is to be found in the detail. Therefore outcome indicators can be more easily applicable in the first steps of screening, but a detailed legal analysis is mandatory in case of serious investment plans.

It is suggested that the quality of the legal framework depends on:

a. Existence of relevant legislation and necessary clauses
b. Clarity of provisions and of authority

c. Coherence of legislation: Consistency (non-contradictory)? Inter reference of related laws? Common or related definitions?
d. Maturity of legislation: Development of regulations, guidelines, standard forms, and instructions? (to reduce the distance between law and practice, engender standardization and fairness)

The question next is what criteria qualify conditions or processes as "adequate", "functioning" or "effective". Having in mind the informal status of land rights in many countries, a principle problem will be an evaluation of the status of implementation, and an analysis, if ad-hoc registration systems suffice, or what level of partial system coverage/quality can be considered functioning and "adequate". Functioning legislation is related to legal systems guaranteeing property rights, contractual freedom and rapid foreclosure of debts, according to (UNECE 2005b, p. 55). Measurement of qualitative dimensions of property rights systems and property markets would require use of composite indices similar to available macro-economic indices, but such rating systems do not exist.

As can be seen the above criteria are qualitative, and depend on a legal review of existing legislation. A review of relevant legislation may include a long checklist of issues of relevance, ref. to Part A, Chapter A.10. A full legal review is cumbersome and demanding. Therefore, it might be considered to take an alternative approach of focusing on outcome indicators, before going into detail with the legal framework:

Potential outcome indicators on working legislation include the status of implementation of legislation whether at organizational level or in respect to data. Inversely, indicators on Non-functioning legislation are useful as well, for example on the level of conflicts, corruption and other problems.

Of specific relevance is a detailed scrutiny of the registration system both according to legal principles and implementation quality, and to what degree protection of property rights and pledges can be achieved through different types of legal registration systems, titling systems or deeds' registration systems, a suggested item to be added to the research agenda, ref. to (Part IO, Chapter 9).

Outcome indicators may provide a clearer and more representative picture of the legal framework, where informality is widespread, than a detailed analysis of laws, which may or may not have been implemented. Suggestions on outcome indicators are listed below under criteria 2.4.

If for example the deeds registration provides weak protection in general, details on land records in the system are of less significance. The value of deeds' registration systems is highly dependent on implementation quality, whereas title registration systems are generally protected by a guarantee.

In conclusion, housing experts and mortgage market participants leave no doubt of the critical importance of clear property rights, and secure property rights as a "sine qua non" for mortgage finance. Irrespectively, the present study has to contend with outlining a proposed set of criteria and lists of screening parameters in the area of land registration etc., since developing a full model nor propose composite indices was infeasible here.

As an intermediate solution, a detailed checklist of issues and indicators has been collated from reviewed sources, and structured in the same way as the defined prerequisites. How the list of issues and proposed indicators can be transformed into a true monitoring system with performance measurement is a pending task. The list of indicators is illustrative of the tiring amount of detail, and a reminder of the urgent need for development of composite indices.

Criteria 2.4. Sound Institutions in the Area of Landed Property

For many reasons legislation and implementation are here treated as two topics!

The structure of criteria and indicators below is adopted from the analysis of the land administration monitoring system proposed by Burns, et. al, (2006), because they are focused on outcome indicators and seem to be the best available at the time.

The indicators developed by Burns (2007) are targeted at monitoring implementation and operational issues, but are not designed for the purpose of mortgage financing. Therefore, a question is how to enhance the structure for that purpose here.

Even then, the indicators defined by Burns are not pinned out to define the criteria for mortgage credit, and even less so provides suggested threshold values of what could serve as minimum standards. A distance between law and implementation represents either an obstacle or a risk for introduction of mortgage credit system.

For these reasons the structure below is suggested as a long list of relevant topics, only, and some are elaborated with suggestions on definition and measurement scale of indicators. Eventually, development of indicators is not a matter of a full mapping of a functioning system, but about identification of a few, powerful indicators representative of the overall situation.

However, the real challenge is to identify sources of information in order to populate the indicators, so in reality the task has to be approached trough analyzing available information (statistics), to detect how indicators of enforcement can be deducted from available sources, albeit with reference to the outlined criteria.

Since the real problems of mortgage finance are to be found in connection with informality and a distance between law and practice, it follows that working out a detailed system of criteria and indicators would not carry fruits, where most needed – due to lack of data. Consequently, a long list of relevant topics needs to be revised in view of what data can be found for populating the indicators.

There is a call for going from a long list of relevant factors to a few powerful indicators! In this respect poor performance on critical parameters could be classified as "killer options", - but only for the time being until the area has been reformed.

An approach to developing criteria for "sound institutions" is to measuring relative performance in respect to parameters of: capacity, implementation level, quality, and enforcement. More exact measures can also be represented by indicators on productivity, process times, data access and exchange.

In order to make each of the mentioned indicators meaningful, a definition of certain standards or selection of comparative datasets will be required. Adequacy is a relative phenomenon. Without having reference data on well-functioning services or minimum standards, such ratios have little use, beyond giving a notion of the scale of the problems in extreme cases. A preliminary list of issues and potential indicators has been compiled from reviewed sources, such as Burns (2006) and the Cadastral Template (Steudler, et al. 2004).

In this way the findings constitute a long check list, but no indicators were found readily available, nor was it possible to develop a system to meeting the needs of the finance sector as part of the present study.

> "Much work has been done with respect to reopening, restructuring and establishing property registers/cadastres. Even in those countries which had a higher percentage of homeownership at the beginning of transition, registries were not up to date and considerable effort has still to be made to make them a reliable source of information on property titles. Again, proper legislation does not guarantee optimal performance; in a majority of the countries the registration of titles or mortgages takes a long time, which increases risk and consequently acts as a restraint on the demand for market housing finance." (UNECE, 2005, p. 6)

Re. Enforcement guarantees

Enforcement is a difficult factor to measure in situations of high levels of informality. It may be necessary to look for indicators on land conflict level, case burden of land cases in courts, process time, or to analyze obstacles to access to justice (time, money, distance to services). Relevant factors to measure include indicators on conflict resolution, legal process effectiveness and debt enforcement.

> "Legislative obstacles such as a poor legal framework on foreclosure, property registration, mortgage banking regulations, a new effective (well-targeted) system of social/affordable housing, and so on. Effective

> enforcement of the law is as important as passing the legislation itself. "It turned out that building up efficient enforcement procedures is more difficult than the creation of new laws."
> "A developed housing finance sector also requires strong institutions (central bank, judiciary, administration and other government entities) which guarantee embedded rights to the title and the mortgage and enforcement of rights." (UN-ECE, 2005, p. 62)

It can be concluded that lack of data and information is also a strong (negative) indicator on the status of implementation and protection of property rights. Inversely, the more information is available on property rights and implementation, the better is the status of property rights presumably, because reduction of uncertainty and risk is a condition for economic development, according to (North, 1990).

2. Institutional prerequisites: cont. 2.1 Stable institutions - overall governance 2.2 Working legislation & rule of law 2.3 Working legislation on property rights protection 2.4 Sound Institutions in the area of Landed Property	
Long list of factors and potential indicators	
Re. 2.3 Working legislation on property rights protection	
<u>1. Laws regulating ownership of land and immovable property</u> a. Land law defining types of land tenure and land authority: Freehold, Leasehold, Joint ownership, common land, traditional tenure, public land, etc. b. Land reform laws Current land redistribution reform legislation (Could recent, ongoing or incomplete reforms cause challenged ownership or other difficulties of tenure insecurity?) c. Special legal situations re. buildings Separate ownership of land and buildings? (Are there risks of complex ownership, which could inhibit the property market and the use of the property as collateral for mortgage credit?) Existence of laws on condominiums (if relevant) d. Special legal situations of informal settlers (Can formal ownership be challenged by informal settlers?) Years to achieve prescriptive rights Protection of (illegal) land occupants	
<u>2. Laws regulating other interests in land (/immovable property)</u> a. Legislation regulating servitudes, building and dwelling rights Advanced issue, if basic registration of ownership is a challenge b. Private mortgages and charges – *Critical issue* Allowing a property to be pledged as collateral protecting interests of both parties c. Public (municipal) charges (Hidden charges? too advanced in early stages of development)	
<u>3. Laws on cadastre and land registration (Title to land)</u> a. Cadastral legislation; or provisions on unique definition /identity of the property Principles: (Taken from cadastral template) Year of current cadastral law, Years of continuous cadastral legislation, Cadastral authorities: Cadastral identification according to law: b. Legislation on registration system Principles: (Taken from cadastral template) Year of current registration law, Years of continuous registration legislation,	

Authorities: Constitution of property rights; proof of title Registration of charges (mortgages) in order of priority of rights Type of connection and reporting with cadastral authority: Access to land registry records	
Re. 2.4 Sound Institutions in the area of Landed Property	
1. Working Institutions – Basic services Number of registries per 1 million inhabitants Number of registries per 100.000 square kilometers, or for example: Number of professionals employed in cadastre and land registry per 1 million inhabitants (or per 100.000 Households)	
2. Professional standards, professional organization and public controls Professional capacity in property law, valuation, and in the financial sector: - Ethical standards and organization of professionals (as represented by?) - Supervision of property market and mortgage institutions (how?) - Access to appeal and dispute resolution (administrative appeal, out of court dispute resolution, etc.)	
3. Status of Implementation – Level of formalization % Coverage of cadastral index maps (urban and rural) /area of private land; Status of updating? % Area coverage of deeds/title registration (urban and rural) /area of private land, or no. of properties; Number of entries per 1 million inhabitants Use of cadastral index maps for registration? Maturity of legal framework: Existance and availability of law commentaries, instructions, cases, hand books, tutorials, training materials, etc.	
4. Reform Issues; Modernisation in Progress - Principle of modernization: ad-hoc, systematic? - Ongoing titling; Expanded coverage /new areas covered/year - Modernisation & computerization of cadastre? Areas converted /year; additional properties/parcels entered/year - Modernisation & computerization of registration services?	
5. Enforcement guarantees Indicators on - conflict resolution, - legal process effectiveness and - debt enforcement.	

10.4 Discussion of Collateral Prerequisites: Secure Property Transactions and Mortgage Pledging

3. Collateral prerequisites: 3.1 Secure property transactions and mortgage pledging 3.2 Effective foreclosure and access to collateral 3.3 Security of collateral (mortgage pledges, collateral quality and value) 3.4 Access to information for assessing collateral and credit risk	
Long list of factors and potential indicators	
Indicators on 3.1 Secure property transactions and mortgage pledging: *Profile of the property and mortgage market* Statistics on market size and activities; Availability of property market information; *Secure registration of mortgage pledge in orders of priority*	

Statistics on mortgage pledging statistics and associated transaction costs; Access to property information and protection against hidden charges; *Transaction activities and costs* Statistics on transaction costs to incl. time (complexity) and costs (including taxes).	
Indicators on 3.2 Effective foreclosure and access to collateral *Foreclosure legislation* *Foreclosure statistics (*Standard procedures, Statistics on prevalence, time, costs *Physical access to collateral with effective eviction* Standard procedures Statistics on eviction and conflicts; Information on alternative housing options;	
Indicators on 3.3 Security of collateral (mortgage pledges, collateral quality and value) *Public land (and property) valuation system and data* *Housing Insurance functioning* *(Re. urban quality, see Indicators on Housing)*	
Indicators on 3.4 Access to information for assessing collateral and credit risk Indicators on readiness are degree of implementation of information systems and *Access to information on properties, the property market, etc.* - Property Identification and Registration Systems, - Property valuation and taxation system, and - Property market information and sales information. *Access to information on applicants for mortgage loans* - National identification system; - Income reporting (tax declarations); - Bad debtors' information system; - General Land Information System, And Geographic Information System. *In more sophisticated markets: Indicators on ICT*	

The above prerequisites represent the core issues in mortgage finance, as argued in Part A and C. Therefore particular efforts are needed in working out how monitoring of performance in each of these areas can be conducted at a global basis. The discussion below is only opening fragmentary to the issues to be clarified. At first each criteria is discussed, and at the end a number of potentially relevant indicators are listed.

Criteria 3.1 Secure Property Transactions and Mortgage pledging

Mortgage pledging is an invisible transaction with assets of high value, which therefore requires strong legal protection, perhaps even more so than when transferring ownership of the underlying property. The Danish law on land registration was from an early time designed to ease mortgage pledging. As formulated by the father of the Danish modern land registration act, Vinding Kruse in 1923, *"Implementation of the basic principles of the Danish public registration system serves as a lever for development of mortgage credit."* (Kruse, 1923, p. 196).

Measurement of the quality of legal protection will be highly dependent on a legal review, and thus a topic suited for coverage in feasibility studies, if no statistical evidence is available on the functioning of the legal system, especially on the number of mortgage pledges already registered. In a broader sense, legal protection depends on the quality of institutions.

An outcome indicator of institutional quality, in this case of property institutions, is the measure of transaction costs as supported both in theory and practice. Investment decisions are usually time dependent, so transactions have to be made swiftly. High transaction costs will inhibit efficient allocation of resources in

society, including property transactions. A clear and efficient registration system can potentially keep transaction costs down, both in respect to time and costs. A prerequisite for mortgage finance is that the transaction costs are non-prohibitive, but what the tolerance of the market is, is context dependent. Mortgage pledging is also dependent on transparency including access to information, and protection against hidden charges and expropriation without due compensation.

In emerging markets it follows that mortgage markets are thin. Statistics on the depth of the mortgage market is informative, and a variety of lending activities are indicators of a healthy competition (UN-ECE 2005), but it can be discussed if the availability of different forms of housing finance can serve as an indicator of the housing finance situation. A small market is indicating severe constraints in the market, whether on the supply or demand side. However, given the whole idea of introducing new mortgage credit facilities, a small mortgage market is also signaling a large potential future market.

Given the critical importance of enforceability of lenders' security interests, makes capture of the conditions for mortgage pledging a central part of a screening process. As suggested feasibility studies are needed to examine the legal framework, procedures and effectiveness in this respect.

Criteria 3.2 Access to effective foreclosure

Collateral security is tied to performance of the legal system in general, and contract enforcement in specific. It is an indispensible part of basics, that foreclosure must be effective and efficiently conducted.
Practice has to follow law swiftly, to secure lenders against loss in each specific case, a lesson learned early in Denmark. Foreclosure legislation in Denmark was amended in this regard in support of the first Mortgage Credit Act of 1850.

More generally foreclosure practice can be seen as a component of a sound credit culture: It installs respect for the system by borrows, whereby responsible borrowing is nurtured. This is not to belittle the negative effects on the unfortunate borrowers going through forced sales for whatever reasons, also those beyond their control. But to ensure a low risk environment in the capital market, it seems important that social issues associated with foreclosure are dealt with through other channels, as discussed in Chapter A.10.3.

At a much more fundamental level is the ability to hold borrowers responsible and pursue personal debt, which depends on legislation, information infrastructure and enforcement.

In addition the creditor must be able to gain physical control of the property through an effective eviction process. This is the hard part, if there are inadequate provisions for social assistance in the country. In a mature system like in Denmark, alternative housing is available on rental or subsidies basis depending on needs, but that was not the case when the mortgage finance system was first introduced in the mid 19th century. The deterrent of effective foreclosure seems to have impacted on the credit culture in Denmark, where 'strategic' defaults remain in-attractive.

In summary, factors of importance are acceptable time of foreclosure, and non-prohibitive transaction costs To this ends statistics on foreclosure and transaction costs are helpful.

Criteria 3.3 Security of collateral (mortgage pledges, collateral quality and value)

Security of collateral relies on clear property rights to allow mortgage pledging, but also depends on conservative valuation standards and effective access to collateral through foreclosure with a speedy repossession process. Conservative LTVs combined with effective foreclosure, means that borrowers have something at stake: Borrowers loose their savings and their home, if they do not honour their debt obligations, ref. to discussion on the North-Weingast commitment mechanism, Part C.

The criteria of security of collateral depend partly on legal framework and partly on the value of the collateral. The value of the collateral must cover the outstanding debt in case of default, and the creditor will need to get legal access to the collateral as well as physical access to the property.

A distinction can be made between prerequisites for introduction of a mortgage credit system, and such factors which can be controlled by lenders in operation post factum. Lending practices and valuation standards are to a large degree matters to be managed by mortgage finance institutions in operation, and can thus not be considered prerequisites per se. When loan underwriting is performed by entities sharing the risk in lending, incentive structures are aligned which engenders responsible practices.

Lending operations depend on facilitating legislation and infrastructure, access to market data and other information, but market volatility remains a significant risk factor beyond control. Conservative valuation combined with restrictions on LTV is key to responsible lending practices, so that volatility in the market can be cushioned by the equity, although it may dwindle during recessions.

Collateral quality is tied to urban standards and public infrastructure. Collateral value needs to be protected against development and environmental hazards. Information on planning standards, infrastructure and environmental protection is therefore of importance for the mortgage industry.

Some risks can be controlled trough appropriate practices and by mandatory insurance coverage of borrowers, but mortgage lenders are subject to the power of market forces. Insurances do not provide protection against value hazards (lack of respect for zoning/planning, expropriation /confiscation, environmental hazards, illegal settlements, etc.)

A pre-assessment of market conditions can be made to explore to what degree supportive information infrastructure and legal protection is in place for loan underwriting, especially re. identification of and information on applicants and on the property market. On the other side implementation of mortgage finance systems may impact on the credit culture and provide incentives for development of information services, as discussed in Part C.

Criteria 3.4. An infrastructure for Information for Assessing Collateral and Credit Risks

The better Information is available for underwriting, the better risks in mortgage finance can be managed. Special challenges meet mortgage lenders in emerging economies, where information infrastructure is deficient, and if prospective borrowers have undocumented and potentially unstable sources of income. In case of relatively small loan applications, information costs could be in-proportionally high. A network of information channels and supply chains is needed to overcome shortcomings in public information systems, in a similar way as mortgage credit associations relied on a network of local assessors.

However, risks derive not only from a high level of informality, which may add costs, but not necessarily form un-surmountable barriers, as from a high level of illegality. Fraudulent documents and illegal activities are poisonous for the credibility of the legal system and for confidence in transactions and the market in general.

A critical component of screening of the readiness for introduction of a marked based mortgage system will be an assessment of the level of illegality associated with real property, whether in respect to questions of legal rights to land, or construction activities based on permits achieved in questionable manners. In a similar way, market information forming the basis for property valuations must be submitted to checks and quality control. In this way information challenges in emerging markets is more than a technical issue.

Readiness for mortgage credit systems is improved with better transparency of markets. Therefore available public information systems are indicative of readiness, although information systems may be at initial stages of development and implementation.

10.5 Discussion of Housing Policy and Market Prerequisites

Housing policy and market prerequisites:

4.1 Housing policy & Clear role of the public sector

4.2 Demand for new housing and upgrading
4.3 Land supply and Physical infrastructure
4.4 Construction sector, & Urban housing markets

(Indicators discussed, but not outlined)

Criteria 4.1 Clear Housing Policy
The present study does not cover housing policy as such, but statistics on the status of the housing adequacy and the property market will be fundamental in an analysis of the housing needs and the market for mortgage credit. It can be mentioned that a functioning market for housing and housing finance also requires a free pricing mechanism of interest rates, rents, house prices, construction costs, etc. according to UNECE (2005, p. 55). The market may potentially be distorted by state subsidies.

A widely adopted goal for housing policy around the world is affordability of housing, although it is not always clearly defined by what means it will be achieved. Since the definition rests on a ratio of cost of housing to income, there are many contributing factors, see point 4.2 below.

An example of how taxation has impacted on the incentive structure of mortgage credit is found in the history of deductability of interest rates in Denmark, which has amounted to indirect subsidies.
Property owners have not carried the real cost of mortgage credit, if both inflation and tax policies have offered benefits to those investing in real property compared to rental households. But also social housing has been subsidised.

Alternative housing options other than freehold family houses or apartments are important for offering households alternatives to large investments in owner-occupied housing. At the same time a palette of housing options strengthens the mortgage credit system, since the availability of a rental market and social housing supports effective foreclosure.

Criteria 4.2 Demand for new Housing and Upgrading
Existence of a market demand for housing and credit is fundamental to developing the mortgage finance market, but this is not much of a constraint in major parts of the world where the urbanization rate is high.

The urbanization rate is an indicator of the dynamics of development, and is of importance for profiling the housing market. Another indicator is the size of the construction sector, which is reflective of different stages of development. At the peak of urbanization rates it may constitute about 7-9% of GDP, compared to a low 2-3% in an underdeveloped housing market, according to Renaud (Renaud, 1997).

- No. of households, urban – rural, and Urbanisation % pro anno provides statistics for housing demand
- Construction sector as % of GDP

A complication is however, that in informal economies business activities could be severely underreported, and statistics may also be deficient. Therefore, it might be possible to suggest criteria of importance for introduction of market based housing finance, but a lack of data could hamper a screening of these factors.

Housing demand around the world is gigantic, but the housing market is tied to affordability of housing, and affordability is much dependent on household income. As a rule of thumb, housing prices to incomes should be no higher than 5, and in specific cases better around 3. At the same time, the house-price to income indicator is of paramount importance, because it captures distortions in the underlying property sector.

A significant component of an analysis of framework conditions is associated with the issue of affordability, because affordability determines market structure.

As concerns homeownership, the concept of affordability rests on the idea that as many as possible should be able to afford decent housing and to acquire homeownership. Therefore, affordability of housing depends on firstly 1.) The relative price of housing (units) to income, and secondly 2.) The Cost of mortgage credit.

If the relative price of dwellings is so high, that only a smaller section of society can afford acquiring their own homes, then the second part of affordability is less relevant. If homes are unaffordable to the majority, the root cause lies in structural issues like malfunctioning property institutions, including insufficient land supply to urbanization, and insecure property rights. And as stated by Renaud, mortgage finance systems cannot remedy such structural shortcomings.

As concerns the second factor, the cost of credit depends on many factors associated with the financial system and macroeconomics. It also depends on risk factors associated with mortgage credit related to the mortgage pledges and collateral security, which reduces credit risks. The cost of credit is additionally determined by e.g., securitization principles, transparency, and the financial markets.

Criteria 4.3 Urban Planning and an Active Land Supply

With high speed urbanization and weak urban governments, the overarching challenge of urban development is land supply for urbanization and establishment of adequate infrastructure.

Urban planning, infrastructure and construction quality are determining for collateral quality and value.

Urban quality depends on effective urban planning. Urban planning without an active land policy may provide little promise to housing development, and an active urban policy is dependent on local governance. Without land supply for urban development prices are pushed up on developed land, and poor quality informal developments without infrastructure abound. Local governance depends on income sources, typically land taxes, so urban development is also dependent on establishing public revenues.

Establishment of physical infrastructure must be financed through fees or local taxes, which again underlines the importance of building basic registers for use in levying fees and property taxes.

Installation of infrastructure post-factum is much more costly than before constructions take place, and will typically result in much lower urban standards. Thereby, affordability of decent housing becomes seriously affected. In consequence, land supply is the most important factor on the supply side in affordable housing.

In this way, a number of relevant indicators can be suggested of various types: input, performance or outcome indicators. The most simple types of indicators possibly belong to the outcome group, as measured e.g. by actual land supply and delivery of developed land.

Criteria 4.4. Construction Sector, & Urban Housing Markets

Finally, the housing market depends on the existence of a construction sector and local building material production. With local production of construction materials follows employment and lower costs, both factors affecting affordability positively.

The indicators on primary and secondary property markets eventually need to be stratified in market segments and geographically differentiated, with an extraction of urban markets in main urban areas. Geo-statistical analysis and segmentation is important. There is not one housing property market but many. The economic distance between leading and lagging areas can be significant.

Mapping out of the housing markets is seen in conjunction with development and differentiation of the indicators outlined above. Eventually, some indicators are multifunctional, and a selected of fewer, yet representative indicators need to be made.

10.6 Concluding Discussion on Property Rights in an Information Void

On Indicators and Scarcity of Data

There is no lack of evidence of the decisive role that property rights protection play in economic development and the consequent need for statistics and indicators on the status of the property rights regime. Despite the intensification of monitoring in many different fields, indicator development and international monitoring systems in the real property sector are still in an early design phase. Development of monitoring in cadastre and land registration seems to be separated from other governance monitoring efforts, and not connected to larger projects of monitoring economic development, even if property rights are components of composite macro-economic indices. Property rights protection is prominently represented in macro-economic indices but measured by rather vague ratings, presumably due to lack of better data.

The review has shown that cross country indicator data on cadastre and land registration is fractional at best, and there has been found no evidence of development efforts as concerns composite indices in the area of property rights protection and collateral security similar to macro-economic indices.

In informal economies a complicating factor is that business activities could be severely underreported, and that general statistics is likely to be deficient. Therefore, it might be possible to suggest criteria of importance for introduction of market based housing finance, but a lack of both reliable general statistics and sector specific data could hamper a screening of the actual framework conditions.

The root problem may not in the first instance be a severe lack of data, but rather that the lack of national statistics and sector-specific information on property rights and real assets is indicative of severe shortcomings in the land sector, which is suffering from widespread informality of property rights in many countries. Moreover, land agencies do not seem to have been made accountable for the real assets that they management, which is exposing the real sector to moral hazards. Lack of information may potentially serve as a smokescreen for misappropriation of public or common land resources.

However, deficiencies in monitoring systems and statistics are not only found in data poor environments. It has been shown that summary statistics and indicator data is also difficult to access across developed economies with well-established land registration systems. This is presumable due to a traditional micro-focus in the land sector, so that little attention has previously been given to the information requirements at macro-level as required for property market analysis and monitoring in the financial sector.

Since the mortgage finance systems are bringing the capital markets in intimate contact with the real sector as already observed by Kruse (1923), and the monitoring of real assets and of their collateral value are being intensified, then it is suggested that the immovable property services will increasingly have to match the auditing and monitoring requirements in the financial sector.

Formulation of basic prerequisites and information requirements from the side of the financial sector can be seen as an opportunity of redirecting focus in the land sector in service of economic development. As has been argued in Part A and C, property rights protection and land supply for urbanization are critical factors in building mortgage finance facilities and in economic development in general.

In the endeavour of building monitoring systems and statistics in real property matters, there is inspiration to be found in using micro data (disaggregated statistics), as well as in macro-economic indices when building property rights indicators in the service of the financial sector.

Implication of Findings for the Land Sector

Having found that monitoring systems and indicator data are grossly inadequate can be a platform for redirecting approaches to reforms and information strategies to fill in the information void and to serve the ultimate goals of economic development.

A top-down screening approach in four steps has been proposed to overcome the lack of indicator data in the land and immovable property sector. In this process methodologies from other sectors have contributed to shaping the proposals both as concerns country profiling and the use of composite indices.

In this effort, the land sector could potentially be benefitting from progress in other areas, and by adopting ideas from other professional sectors, as for example:

1. Application of macro-economic indicators in building a comprehensive understanding of economic development and the role of protection of property rights;

2. The creation of country fact sheets similar to the EMF factsheet, but in extended version, inspired also by the use of standard Country Fact Sheets featuring the status of development in other sectors or countries;

3. Extensive use of national statistics, especially census data, with disaggregated data on population and housing to identify clusters and segments, so as to align policies and reforms with differentiated requirements and needs;

4. The inverse use of criteria for screening of readiness for mortgage finance development, applied instead for defining development agendas in the land and housing sector;

Discussion of indicators and screening can in this way be turned into a productive exercise, even if not immediately fruitful for rending simple ratings of readiness for the mortgage industry.

A new vision on monitoring land a property might help setting priorities in interventions in the land sector with the prospect of fuelling a positive development momentum.

The professional fields of cadastre and property registration have tended to be micro-focused qua their role of providing services for users in the market. On these grounds there is a lack of general statistics on land tenure and the property markets even in countries with well-developed real property rights registration and protection, as is the case e.g., in Denmark.

International development indicators, on the other hand, put property rights protection in a central position for economic development, but the way indicators on property rights protection are defined and measured results in flawed indicators and coarse international rating systems. Irrespectively, such ratings are playing a central role in many top level decisions, e.g. on international cooperation projects.

Another way of turning the depressing story on the status of indicators on property rights and land registration into productive use, is to adopt monitoring strategies as developed by macro-economists using composite indices. In case of land data, the tradition strategy of at first building detailed data, and afterwards aggregating data, is a long painstaking process taking decades.

The production of cross-country macro-economic indicators on 'Governance' is being followed by similar monitoring strategies within the domain of land and immovable property sectors, as evidenced by the Land Governance Assessment Framework (Deininger, Selod, Burns, 2010). Rating of the special aspect of 'land governance' may even be helped by supplementary information from (geo-data) sources.

The long lists of potential indicators listed in Chapter B.10 demonstrates a tiring amount of detail, and the outlook for populating these indicators with data could potentially be long.

For the purpose of observing the framework conditions of property rights it is proposed here, that the structure of the Global Competitive Index (GCI) of the World Economic Forum may lend itself well for classification of the development state of real property markets and mortgage financing. The differentiation of performance indicators and requirements at different economic stages is well represented by the structure of the GCI by a distinction between a basic stage, efficiency enhancers and innovative and sophisticated

features of the economic development. A similar distinction could possibly be applied in relation to the real property and finance sectors.

The accounting for property assets is becoming increasingly important as part of private companies' balance sheets, but has so far not been given priority by land administration agencies, despite the magnitude of the value of the real assets they administer or oversee. This is yet another huge area to be developed under the constraints of limited resources. This leaves open a huge wide area of research on composite indices of central important for economic development, as well as hard work on production of basic data and statistics.

The analysis suggests that at present available macro indicators on governance and development are contributing more to the understanding of the protection of property rights, than available data on property rights contribute to them. The qualitative reasoning of causality suggests that it needs to be the other way round.

There is mounting evidence that legal inefficiency and lack of appropriate accountability and intervention in the land sector is holding back economic development. A first step of accounting for land and property could improve transparency and thus reduce risks and entry barriers for housing (finance) development.

But information does not stand alone, it is also an outcome. Fundamental reforms in the land sector and appropriate interventions are at the bottom of the matter. Under conditions of severe scarcity, setting appropriate priorities is a true challenge. The present study suggests reconsidering previous reform and information strategies in the land sector by taking a cluster approach and by differentiated interventions in different market segments and clusters, as discussed in Part C.

Hereby, it is suggested that a critical mass of a well regulated immovable property market segment could possibly be generating sufficient volume in mortgage finance and bring about reductions in the costs of credit. Mortgage credit development could in turn potentially help engender legal culture and market behavior, expand the formal sector, invigorate the secondary property market and increase volume in housing supply. Through a larger formal sector public revenues can be increased for improving physical infrastructure and urban quality, which raises housing quality and asset values, etc. Fueling such positive dynamics would allow the powerful locomotive of mortgage finance to be set in motion to the benefit of both individual stakeholders and the overall economy.

The stakes are high, and the prospects of acting are bright due to the external benefits provided.

"….. A well-functioning housing market requires an effective housing finance system can provide large external benefits to the national economy:
• Better overall living conditions for families who can access a home and, thus, improve their housing quarters.
• Improved urban infrastructure (housing demand stimulates utilities, schools, transportation).
• Enhanced economic and social mobility both within metropolitan markets and regionally within a country;
• Improved labor market mobility, diversity, and accessibility;
• Increased savings (by giving households an increased motivation to save);
• Increased consumer spending and investment financed by homeowners borrowing against the value of their homes;
• More capital for entrepreneurs;

International experience suggests that there is a causal link between housing demand, housing finance, financial sector development, and economic growth.

In urbanizing countries, where the development process generates sharp increases in mobility and relocation, housing investment increases as a share of GDP. Increased financial sector institutional development and macroeconomic stability in developing countries is conducive to a rapid rate of growth in the supply of housing finance.

Experience from developed countries also suggests that the process of financial liberalization and shift from directed credit to market allocation provides significant impetus to the growth of housing finance." (Harvard, 2005)