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Danish Mortgage Finance, Property Rights Protection and Economic Development

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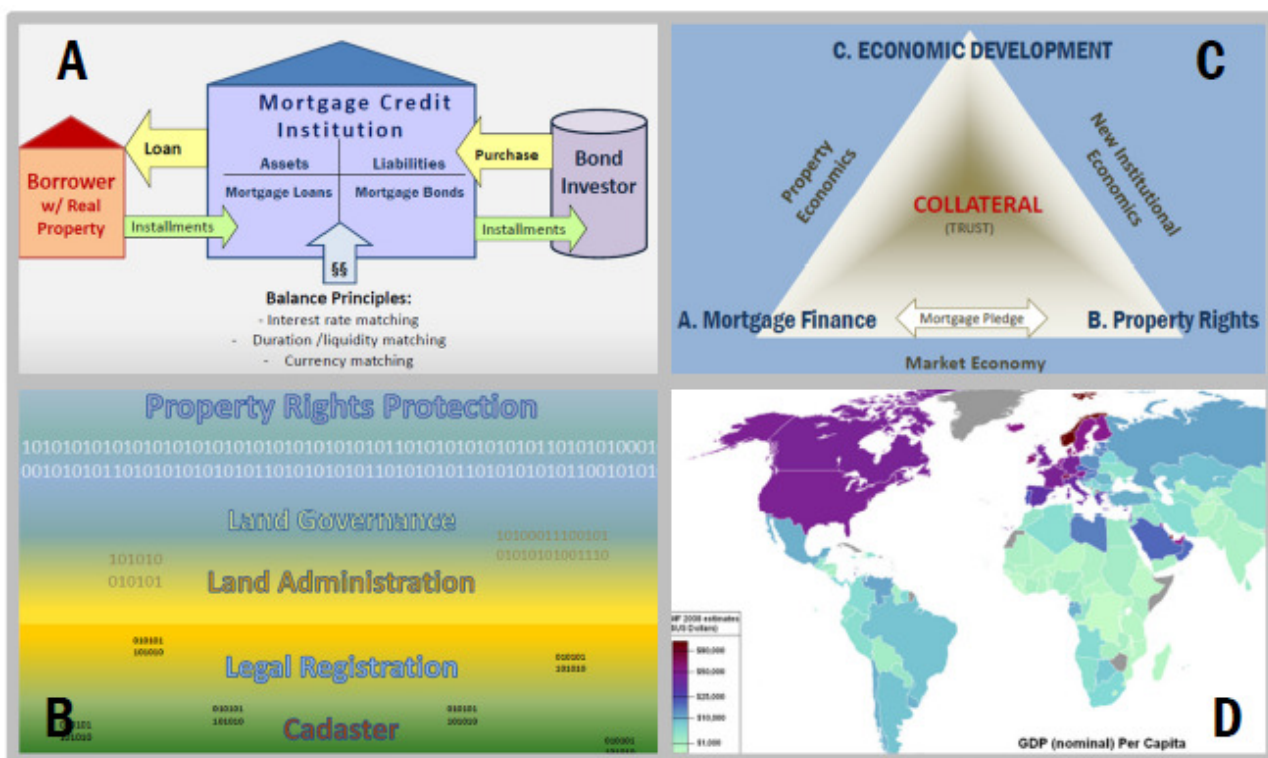
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PART IO

INTRODUCTION AND OVERVIEW

DANISH MORTGAGE FINANCE, PROPERTY RIGHTS PROTECTION AND ECONOMIC DEVELOPMENT



Submitted as Introduction and Summary 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
Supervisor: Dr. Tech. Erik Stubkjær, Aalborg University**

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

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1. PhD Project Overview

1.1 Research project

The research project takes its point of departure in the Danish system of Mortgage Finance (DMF), which is acknowledged internationally as a robust, simple and efficient model of mortgage finance. The Danish mortgage finance system is market based and stands out with its 200 year long history. During more than a century the Danish securitization system has covered the dominant part of the demand for long term real credit in Denmark.

The PhD idea was conceived by professor, Dr. Tech. Stubkjær inspired by the activities of VP-Securities A/S in implementing a system of the Danish model of mortgage credit in Mexico in a joint venture, 'Absalon', with the Soros Foundation. Thus the project was designed to support efforts of transplanting the Danish mortgage finance system to other countries.

The PhD-project achieved external funding from VP Securities Services A/S (later renamed VP Securities A/S, here abbreviated VP), and was initiated in October, 2007. The preliminary project topic was "*Mortgage Credit, Title Registration and Cadastre for Housing and Poverty Reduction*".

The direction of the research was defined through the cooperation agreement between Aalborg University (AAU) and VP Securities A/S, on financing of the PhD study. The VP Securities' requirements to the PhD project were specified in the PhD-cooperation agreement to comprising four large issues:

- Assessing a country's readiness for introduction of mortgage credit based on macro-economic and political stability
- Classification of countries for the potential of export of VP-securities mortgage solutions
- Screening of the adequacy of the infrastructure in a given country in respect to cadastre, real property registration and other functions of importance for securing collateral and for valuation of properties.
- Analysis of the legal system and regulations, which could form hindrances for introduction of the mortgage credit system.

The Danish Mortgage finance system targets a market segment of owners with a certain amount of collateral, which can be pledged as security for mortgage credit. Therefore the topic of "poverty reduction" in the original research title was replaced with "economic development", while maintaining the focus on provision of affordable credit options for middle and lower income market segments. The project focus has been delimited to address mortgage credit for housing in an urban context. None the less, the topic domain remains huge.

Accordingly the research focus was defined within the original general topic areas for accommodating monitoring and rating of the infrastructure of real property and screening of the overall readiness in a given country context for introduction of mortgage credit according to the Danish model.

At the same time these given research tasks, oriented towards designing screening methods for readiness, depend on a deeper understanding of the three large topic areas: A. Mortgage finance, B. Cadastre and land registration, and C. Economic development. The project title is suggesting a relation between the three phenomena, so that the questions on their interdependency or causality invites further analysis.

In consequence the overall research topics embrace different levels of research within the theoretical questions associated with each of the three topic areas and their interdependency. The overall challenge is therefore how to reason within an overwhelming complexity of topics and abstraction levels.

Planning, case studies, and development did not occur in a sequential, logical fashion. Initially, the aim was preparation of three papers rather than a monograph due to the character of the project domain. However, as the study proceeded, the challenge of creating a coherent study linking the three topic domains was taken on, even though an attempt to do so under the given circumstances will inevitably have its inherent limitations.

1.2 Danish Mortgage Finance (DMF) and the Given Research Challenge

The Danish mortgage credit system is recognized internationally as an efficient model of housing finance, but when considering a transplantation of the Danish mortgage credit system to another country, it is necessary to analyze what are the criteria for its functioning elsewhere. For this purpose a good definition of the components of the system is required, together with an understanding of the conditions for its functioning in Denmark. This includes the challenge of separating the phenomena, the financing system per se, from its setting, and analyzing what factors were determining for its evolution and performance.

This raises a range of questions: What were its legal, technical and organizational foundations and its overall cultural context over time? And what factors contributed to or determined its success in Denmark? Why and how did the Danish mortgage credit system evolve to form the system known today? If the financing model is sound, is there any reason that it could be bound to a Danish context?

Therefore, a review of its development over its 200 year long history was expected to throw light on both the core principles of the financing system and what were the relevant contextual factors.

Moreover, how the DMF has functioned under different stages of economic development in Denmark could be of relevance when considering its introduction to countries, which are not currently advanced economies. The history of the mortgage finance system might allow drawing parallels to conditions in emerging economies today. An exploration of this kind leads to general questions on what role did the particular form of mortgage finance system play for economic development in Denmark?

More specifically, transplantation requires a specification of prerequisites for its functioning, and an analysis of the feasibility of introducing it to other countries in respect to property rights protection and associated legal system and infrastructure.

Although the Danish Mortgage finance system is included in a number of international comparative studies, their analytical perspective has been predominantly descriptive as concerns the characteristics of the Danish mortgage system and property market, rather than an analysis of its potential application in other countries.

Consequently, the present study has looked into the history of the Danish mortgage finance systems and strived at tracking its development path in main traits and understanding its context for the following purposes:

1. To help identify and describe the core features of the financing system, and its contextual parameters;
2. To analyse the evolvement of DMF during different economic development stages in Denmark;
3. To study the interplay and dynamics between property rights and mortgage credit development over time;
4. To observe the role of DMF in economic development in Denmark.

Other associated questions for exploration were e.g., what makes the DMF different from other housing finance systems, and what does it mean for its functioning elsewhere. In other words, is there a distinction between the general conditions for mortgage finance systems, and the special conditions for the functioning of the Danish securitization model?

The magnitude of the above questions exceeds what can be covered in depth in a single study. Irrespectively, it has been strived at discussing the grand picture, albeit with severe limitations, thus to prioritize breadth, rather than choose a few questions for comprehensive coverage, because it was found difficult to navigate within the wider issues without having a general representation of the domain.

Therefore, theoretical challenges of the study abound, but within the superstructure certain topics have been explored at some depth. One such topic is the development path of the Mortgage Credit Institution as concerns its dependency on the property rights institutions and the property market infrastructure. Hereby, the study takes its point of departure in a holistic understanding of property institutions, as developed in (Stubkjær, 2004).

The challenges are many, among others to understand how property institutions can be analyzed in a broader (global?) development context at macro level. Other challenges arise with conceptualization of the development processes of property rights at the mezzo and micro-levels in support of the research questions. The study faces limitations in the theoretical area in this respect, e.g., because case studies materialize how development has occurred in selected areas, but do not necessarily explain causality.

The study of the Danish mortgage finance system is benefitting from rich documentary sources (mostly available only in Danish) and long time series of statistics, which in the present study is however covered in fragments only. The emphasis is laid on the interplay between property rights and mortgage financing, or in general - security of collateral - although it has also been found necessary to strive towards presenting a larger picture.

The giant topic areas and its different abstraction levels have posed a methodological challenge. Therefore, the focus defined by the tasks set up by the VP-Securities cooperation agreement, has given a direction through the overwhelming complexity of the subject area, which has served more as a blessing than a straight-jacket.

1.3 Structure of the Thesis

Initially the research domain was mapped out in a matrix of questions representing the three topic areas of mortgage finance (A.), property rights (B.) and economic development (C.) at different abstraction levels of analysis, see the question matrix in appendix 1. In this way it was clarified what would be the logic connecting the different topics, and what would be the line of exploration to be pursued. The matrix therefore served as a mental map in the multitude of issues within the topic areas.

The report has been structured correspondingly into three main parts A, B, C and D supported by Introduction and overview, plus appendixes. The thematic parts (A, B, C) corresponding to the three main topic areas have been written, so that they can largely be read independently.

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Appendices

Documentation, Data, Proposed screening formats, and References

1.4 Overview of Project and Findings

The study explored basic needs, preconditions, screening of readiness and strategies of property rights protection for introduction of a mortgage finance system modeled after the Danish system of mortgage credit.

In order to do so, the Danish mortgage finance system was analyzed over its' 200-year long development path, so as to identify what were its core features and the determining factors for its success.

The market based finance system has proven both robust during crisis and adaptable to different stages of economic development in Denmark, from an agrarian society in the 19th century to an advanced urbanized society of the 21st century, thanks to the balance principle of securitization.

The findings were largely of three kinds:

A. Identification of features of the Danish mortgage finance system over time and in context:

- Contributions to understanding the interface between mortgage market and the real property sector at different stages of development, and what were the mechanisms and transmission channels of change;
- Observations on the competitive advantages of the Danish model of housing finance, and how the fully market based mortgage credit system built on secure property rights has served Danish society and democratized mortgage credit over time.
- Propositions on prerequisites for transplanting the Danish mortgage securitization system to other environments with emphasis on preconditions related to the real property sector;

B. Inventory of cross-country information sources for screening of readiness for mortgage finance development and proposals on screening resulted in the following findings:

On information sources for screening:

- The inventory found an information void of cross-country monitoring data on cadasters, land registration and land administration /governance, suited for screening of readiness;
- Some major macro-economic indices with global coverage were found to be representing information on the prerequisites for mortgage market development;
- Based on an analysis of the correlation between indices on respectively property rights protection and macro-economics it was suggested, that macroeconomic indices may serve as proxies for the level of protection of property rights, when information on property rights is unavailable;

Design of method and strategy of screening of readiness for the Danish model of mortgage finance:

A step-wise strategy was proposed built on a differentiated screening approach depending on grouping of countries into overall segments:

- Step 1: Segmentation of the global market by grouping of countries into three overall groups by use of macro-economic indicators (data of 209 countries collated and analyzed);
- Step 2: Rapid appraisal with a focus on constraints and barriers for mortgage finance development (exemplified by case studies of Nicaragua and Ghana)
- Step 3: Preparation of standard country fact sheet in differentiated format depending on market segment (prototype developed in Ghana case study);
- Step 4: In-depth country study with a particular focus on legislation and market information; (exemplified by case study of Ghana)

Documentation of the above is found in Part B and in the case study, Part D. In support of the above the overall prerequisites developed in Part A were elaborated with suggested sets of indicators for screening of quality of property institutions, security of collateral and property market conditions, see Part B, chapters B.9-10.

C. Discussions on selected theories of economic development, in view of potential implications for strategies in upgrading of real property rights protection, e.g. on

- the role of real property infrastructure in engendering economic development in view of financing and urbanization in emerging economies;
- real property institutions seen in the light of development theories;
- the role of mortgage credit in advanced economies and its interface with the real sector;
- Lessons learned in the sub-prime crisis and its implications for development of ‘sub-prime’ markets around the world;
- Implications of the above for strategies of improving real property institutions for expanding access to real credit to wider segments of the market.

The study illustrated the centrality of collateral as a concept, and ‘collateral security’ as an operational factor, and that defects in that regard have negative effects on availability and costs of credit, as well as on the overall economy, whether in advanced or emerging economies. In the case of Denmark, property rights were in place prior to development of the mortgage finance system, and it was shown how mortgage finance has been the dominant factor in the Danish capital market for over a hundred years.

2. BACKGROUND

2.1 Point of Departure

The PhD project represents a battle with three giant topics: Housing finance, property rights (incl. cadastre and land registration) and economic development.

The nature of the research area, mortgage finance and protection of property rights, is one of overwhelming complexity and scale. Access to housing with basic facilities is one of the biggest development challenges in a rapidly urbanizing world. The housing deficit is growing in many cities of the world, resulting in congested and poor living quarters and low quality of living in and around urban centers. Current urban systems in many cities worldwide are incapable of coping with the need for housing to a growing number of inhabitants, and huge investments are needed for housing development, urban infrastructure and upgrading of slums. Furthermore, the recent financial crisis has demonstrated the role of mortgage finance in the international capital market and underlined its impact on the real economy.

The project title implies a relation between three topic areas representing heterogeneous concepts at different levels of abstraction, from the applied research disciplines of land registration to the more general and complex field of economic development. By including the key concepts of “Cadastre” and “Land registration” in the title, the signal is clear: this is a topic embedded in an operational environment, since cadastres and land registries are operational manifestations of a property rights’ regime.

The three topic areas represent rather separate research fields, so creating an integrated view of the project domain represents in itself a challenge.

The Danish model of Mortgage Finance (DMF) can also be regarded as a particular (technical) model within the wider financial domain of housing finance. Economic development, on the other hand, is a concept belonging to the highest level of abstraction, which encompasses development economics as a whole field of its own.

The question is what research methodology is applicable and supportive of observations, analysis and reasoning in the project domain defined as the interference between mortgage credit (A.), cadaster and land registration (B.) and economic development (C.).

Different levels of questions and tasks are to be addressed:

1. Overall research methodology;
2. Design of screening methodology for screening of readiness, including propositions on indicators, for potential transplantation of the DMF to other countries;
3. Discussion of theoretical questions associated with each of the topical areas, and their interrelation.

There are connections between the three methodology levels, especially when extracting criteria for mortgage finance development.

How economic development relates to developments of property rights, the property market, and financing of housing can be explored from different perspectives: by taking a general theoretical approach, or viewed in relation to definition of criteria for mortgage finance.

For example it was found that one of the prerequisites for mortgage market development is relative macro-economic stability and growth. But it was also found that better mortgage financing triggers higher building activity, and the housing industry is fueling economic development, which illustrates potential backward and forward linkages between housing finance and economic development.

When analyzing the combined topics of mortgage credit, cadaster and land registration, and economic development, a common denominator emerges: the topic of “collateral”, which was found to be central for

the study. Collateral security is inherently associated with a formal property regime with registered rights to real property.

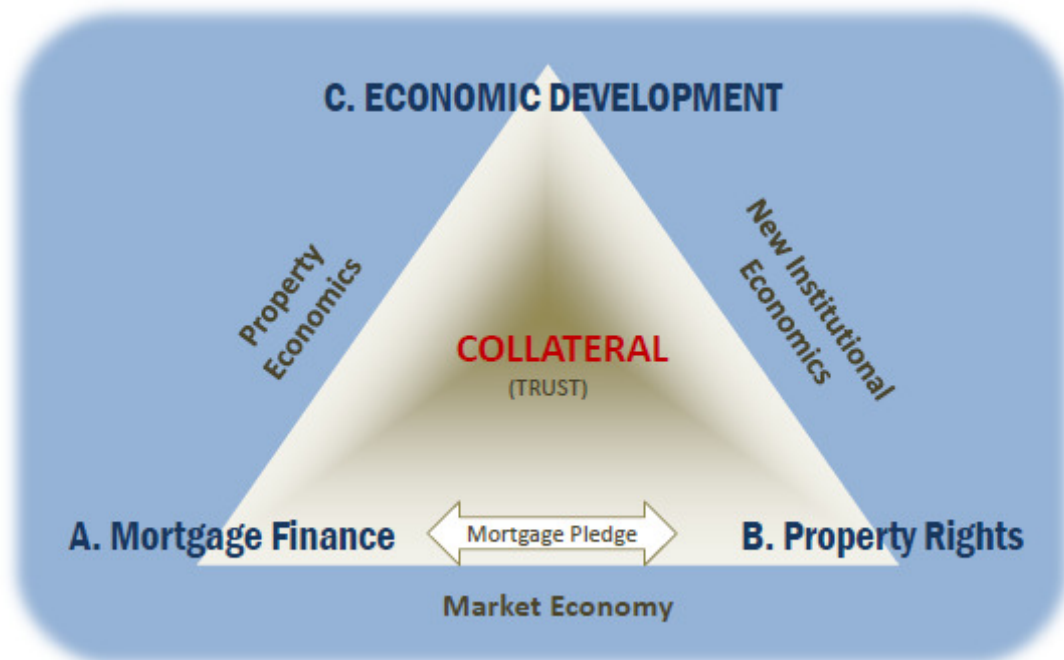


Fig. C.2. The Role of Collateral as a Common Denominator between Mortgage Finance, Property Rights Protection and Economic Development

Within the research domain topical theories have been selected with reference to their interrelation. The study found that the combined topics of mortgage credit, cadaster and land registration, and economic development show that the issue of “collateral” is a common denominator of high importance (without excluding the existence of other common denominators). The links were elaborated through discussions on the theories of New Institutional Economics (NIE) and property economics, as well as the basic market functions linking the real and the capital market, ref. to Fig C.2.

While many studies of land tenure security in developing countries analyze various forms of tenure security based on social tenure, the point of departure for the present study is a need for formal registration of rights to property in the cases, when property rights are to be used as collateral for mortgage credit. Formalization is a major challenge in many developing economies, where land tenure is predominantly informal, just as the classical methods of land titling are disputed options of land tenure upgrading under many circumstances.

The study explores preconditions, basic needs and strategies for establishing sufficient security of tenure for introduction of a mortgage system modeled after the Danish system of housing credit. The opportunity of working in the team of VP Securities A/S in the preparatory phases of establishment of mortgage credit in different countries has provided a unique drive towards responding to the research question of most relevance for a key development agent.

The study of the interaction between facts/ findings and theoretical generalization is pervasive in the discussions and analysis, and has resulted in some observations with elements of generalization.

2.2 Elaboration of Research Questions and Structure

The PhD-project domain opens windows to vast research fields, so delimitation was challenging and necessary. At first it had to be defined where the project was positioned within the three topic areas of mortgage credit, property registration and economic development.

For this purpose the research topic descriptions and the VP-Securities synopsis were converted into a set of questions, which reflect issues to be analyzed concerning criteria, readiness and potential for introduction of mortgage credit.

This was done by preparing provisional research questions structured and set up in a matrix illustrating relationships among issues, different levels of abstraction, geographic sublevels and thematic dimensions in matrix form, see **Appendix 1**. In this way research area has been mapped out as a form of territory represented by a number of research questions forming a kind of discrete points in that terrain. The overall questions are listed below.

Each of the three main PhD topics represents a column (A, B, C) in the question matrix, while questions at different levels of abstraction and detail were represented by rows,

- A.** Mortgage credit (and housing finance)
- B.** Cadastre and Land registration
- C.** Economic Development.

The questions to be explored wind through the topic areas and levels to form a logical sequence of what aspects are relevant and what direction is required to respond to the given tasks. The question matrix served as a mental guide through the complexity at hand, and as an organizing tool of the output, but the research topics listed are non-exhaustive and were refined under way. However incomplete, the provisional matrix indicated relations among thematic topics and what were the broader perspectives of specific research questions.

These three topic areas are interdependent, and questions can also be structured according to the three views of criteria, readiness and potential:

A. Mortgage Credit:

1. What are the requirements for successful introduction of a Danish model of mortgage system?
2. How can the readiness (context, parameters and risks) be screened, analyzed and rated?
3. How can the potential market for Danish mortgage credit be assessed?

B. Property Rights, Cadaster and Legal Registration:

1. What are the specific preconditions for introduction of the Danish model of mortgage systems outside Denmark in respect to real property infrastructure and services (criteria)
2. How can preconditions of mortgage credit be screened in respect to services of cadasters, property registration, valuation and security of collateral in general? (measurement of readiness)
3. How can development of cadasters and land registration systems widen the access to housing finance? (potential)

C. Economic Development:

1. What macro-economic factors are relevant and critical for introduction of a mortgage credit system?
2. How can the readiness of a given country for introduction of a mortgage system be described in respect to broader factors of socio-economic development?
3. What are the (possible) relations between development in housing finance, the property registration system and economic development?

The interrelations between the three overall topics were explored, while emphasis was laid on the central area of **B. Property Rights Protection, Cadaster and land registration**. These questions formed a guiding thread in the study, but are not explicitly referenced in the text.

As it can be seen, the above questions defined as a consequence of the documents of the PhD-stipend are highly ambitious, even including seed questions of research for many disciplines, which by no means can be covered by the present project or an individual researcher. Irrespectively, it was not possible to cover the key questions of the research without delving into the wider topics mentioned, whether within housing finance or economic development. Cutting away the challenging macro-level questions would deprive the key questions of their proper context.

Instead, the overall logical structure of research questions was maintained, but the interdependency of subject areas was analyzed without covering all issues at the same level of detail.

The country case studies were conducted in cooperation with VP-Securities, and play a supportive role. The sub-national level analysis was not covered beyond a few examples. The interrelation between the three overall topics was explored, while the depth varied and was concentrated on the central area of cadaster and land registration.

Schematically priorities can be illustrated in the matrix as radiating from the top of the central column. The higher priorities are in column A and B from the top. Delimitation of research questions in respect to C. on development economics was a challenge not represented in the matrix structure. The goal of Part C was to linking up with recent ideas of selected development economists in order to provide feed-back to questions of A and B.

An advantage of presenting a larger overall structure of research topics, than can be covered by the project, was that the framework helped positioning of specific issues in a complex, multidisciplinary context.

2.3 Definitions and Understanding of Key Concepts

Definitions and discussion of concepts are generally integrated in the chapters, where they appear, or in some cases reference is made to external sources. There was made no complete list of terms or definitions. Due to the centrality of the concept of mortgage credit and property rights, these concepts are discussed below.

The Concept of Mortgage Credit

The present study concerns the type of housing finance as provided through the particular financing model prevalent in Denmark, here called the Danish Mortgage Finance system (DMF), “Dansk Realkredit”.

Present forms of long term credit in Europe have a long historical track record. Early inventions of modern banking in Tuscany during the 14.-15.th century generated standards still applied in book keeping today and created basic financial terminology of Italian origin since long integrated into national glossaries worldwide (*credito*, *debito*, *banco*, etc.). The terminology is itself indicative of how ideas of finance have spread around Europe at an early time. Generally, the etymology of key terms of financing in Northern Europe originates from Latin /Italian, Greek or French.

The etymological origin of the key term, **Credit** (ref.), captures the essential challenge of financing: That long term credit is a matter of trust.

Credit is etymologically associated with trust, as the word originates “from Old Italian *credito* (from Latin *creditum* something entrusted to another, loan, from neuter of *creditus*, past participle of *credere* to believe, entrust”) just as debit stems from Latin (plural of *debitum* debt, from neuter of *debitus*, past participle of *debēre* to owe). Source: <http://www.merriam-webster.com/dictionary/credit>

The time dimension inherent to credit induces uncertainty into a loan agreement. Both borrowers and lenders have expectations to the future and to the prospects of repayment of the debt, but the basis of their assumptions may change over time. Prior to entering into a loan agreement a rational lender must have reason to trust, that the debt will and can be repaid. Lack of trust, for one reason or other, is a deterrent to long term credit. An associated challenge of long term credit is the condition of asymmetric information between borrower and lender.

Housing finance in general is here understood as credit for purchase or improvement of residential property irrespective of funding source or credit conditions. Thus housing finance includes a range of options from micro-credit - extended based on guarantees embedded in social incentive structures - to mortgage credit based on collateral security.

The topic of the present study is not housing finance in general but **mortgage*** credit, e.i. housing credit secured by a pledge in real property. The following definition of mortgage pledge and mortgage credit, are applied:

1. Mortgage pledge: A grant of *a security interest* in real property to secure a loan, often for the purchase of the property.
2. Mortgage credit: A loan secured by an interest in real property.
*(*Mortgage - etymology a "dead pledge"*).

Accordingly, the mortgage credit is tied to the underlying property *right*: The property right burdened by a mortgage pledge is serving as **collateral** for the mortgage credit. Note, that it is not the physical property that serves as collateral, but *the legal right to that property*, which is burdened, and thus serves as collateral. Therefore, a mortgage pledge presupposes the existence of formal property rights.

Generally, collateral is defined as “Assets with monetary value, such as stock, bonds, or real estate, which are used to guarantee a loan”.

Collateral <http://financial-dictionary.thefreedictionary.com/Collateral>

Assets pledged as security for a loan. In the event that a borrower defaults on the terms of a loan, the collateral may be sold, with the proceeds used to satisfy any remaining obligations. High-quality collateral reduces risk to the lender and results in a lower rate of interest on the loan.

Collateral. Assets with monetary value, such as stock, bonds, or real estate, which are used to guarantee a loan, are considered collateral.

It can be seen that unfolding the etymology of key concepts opens doors to a historic perspective, which seems to offer insight into the nature of mortgage credit systems, and the role of history in this subject area. At the same time the definitions above reveal inherent characteristics of mortgage credit.

It can be concluded that the first iteration of propositions for success criteria for introduction of the Danish mortgage finance system can be derived already from the definition:

1. Mortgage credit relies on the existence of secure property rights as defined by law and formalized;
2. Mortgage credit is extended only on the condition of pledging an interest on the property concerned;
3. That the value of the pledged property is expected to cover the outstanding debt; and
4. That secure mortgage credit presupposes effective access to the collateral in case of default.

Criteria for mortgage system implementation are thus closely associated with the very nature of mortgage credit, and mortgage pledges rests on the principle of a formal property rights regime granting security of collateral. Presentation of findings on prerequisites and criteria, see below in chapter IO.4.4, reference to Part A chapter A.12.

Despite the focus on the Danish mortgage finance system, a comparison with other mortgage finance models was included to help set the profile of the Danish system into perspective. Therefore, Part A includes a brief review of major mortgage finance systems, Part A, Chapter A.1.

On Concepts of Property Rights and Challenges in the Area of Land Registration

A discussion on the nature of property rights and land tenure security is included in Haldrup (2008), with an outline of the noted differences between property rights in a formal (typically European) and informal contexts.

The Danish mortgage finance system relies on a secure and transparent formal real property regime that protects investors against legal risks. The questions to be explored are – when transplanting the mortgage finance system to another context – what would be required for secure registering of mortgage pledges on real properties, and what would be the minimum requirements to the real property registration system in legal and operational terms for serving the mortgage industry.

Writers in urban economics are unequivocal on the role of the formal sector for market based housing finance systems, which in turn is linked to a formal property market.

Harvey and Jowsey (2004, p. 22) stress that what the real property market is actually dealing with is “property rights”, also referred to as “interests”. It is also clear that the concept of rights is essentially a legal one: it presupposes the existence of authorities, that there is a sovereign power which will, if necessary, protect the rights vested in the owner. Moreover, the right must be clearly defined, which implies also a specification of the limitations to the right (ibid., p. 24).

Therefore the question is not if property has to be registered to serve as collateral for mortgage credit, but what is the legal framework required, and what registration system is providing sufficient legal protection for mortgage pledging, (Part B).

How to gauge the quality of the property rights protection lies at the heart of the project. Ideally, development of indicators and monitoring has to be founded on a conceptual model of necessary property rights infrastructure corresponding with the complex nature of real property, whether perceived from legal, economic, technical and social perspectives among others.

In particular a conceptual framework of property rights registration is called for when mapping out the variety of legal property regimes found around the world. The basic legal principles of registration range from full title registration to various types of deed registration with or without supportive cadastral systems. Of importance are not only the founding legal principles, but the quality of implementation and effectiveness of services.

The task at hand comprises both definition of prerequisites with special emphasis on property rights registration to sustain mortgage credit development, and how to measure if these conditions are fulfilled.

Such specific questions link up with ongoing debates on the role of property rights, formalization of real property rights through land titling, and the justification for interventions in land tenure regimes. On one side security of collateral is at the heart of any form of long term real credit, and collateral is inherently associated with a formal property regime with registered rights to real property. On the other side, land titling programmes have been met with critique over the lack of proven effects in respect to developing the mortgage market, discussed in (Chapter C).

At the core of the topic area are questions in the debate on titling vs. other aspects of security of tenure. In this area there are many theoretical discourses on property rights, so the list below is incomplete, although illustrative of the different flavors of the discussions on property rights and property registration:

A. The formalization debate: Pros and contra of Land titling in statutory legal-administrative system, and on the role of land titling for credit (De Soto, World Bank, FIG, etc.)

B. The secure tenure debate: On how to secure tenure in cases of vulnerable, informal tenure typically in developing countries: On access to land and housing for all, on equitable development, cultural dimensions of tenure, plural legal systems, urban development, slum and poverty (UN Habitat, GLTN, FIG, etc.)

C. Good governance of land embraces a range of issues debated by land professionals (Deininger et al., 2010, Enemark et al, 2010), such as e.g.:

- Land & natural resource: protection of environment, sustainable development, etc.
- Urban planning, land delivery and infrastructure development
- The technical-organisational infrastructure (SDI), notably cadastres, land registries and (e-) government services, with associated supportive technical disciplines of surveying & mapping, LIS/GIS, etc.

D. The institutional debate: On the role of property institutions and transaction costs for development (North, 1990, New Institutional Economics)

E. The economists' debates on land and real property, on land economics, collateral and financial development (Steiger & Heinsohn, 2008, Renaud (1996, 2004, 2008), Sheng et al. (2006), etc.)

As it can be seen, the present topic cannot be placed within one particular of the above mentioned theoretical discussions, but relates to many of them. The only delimitation of the topic is the urban perspective.

In general property rights represent major share of all assets in society, and are therefore features of the larger political economy. Matters of property rights have been central to political sociology /philosophy at all times, and thoughts on property rights are shaped by political ideas and moral values.

The need for modeling of property rights protection and indicator development is discussed in Part B, chapter B.1.2.

The Concept of Economic Development

A special methodology challenge was posed by the questions of what constitutes economic development and what are the relevant factors of macroeconomics in housing finance and property rights protection. Since the present study is not in economics or one of economic development per se, a standard framework has been chosen for coping with the topic of macroeconomic factors in development of mortgage finance.

The overall challenge was that of developing an interdisciplinary approach, while keeping a focus on the core research questions.

The topics of macroeconomics and economic development are dealt with in two ways:

- a. Setting up a framework for screening of readiness for mortgage credit, required use of definitions of macroeconomic factors and availability of macro-economic indicators. Both definitions and indicators were selected among standards defined by international institutions, such as the World Economic Forum, the World Bank, and the European Mortgage Federation;
- b. Observations on economic development were derived from economists' findings documented in authoritative sources related to the topics of mortgage finance and property rights protection respectively.

In this way, economic development was not studied as an independent topic, but with the purpose of collating findings by economists for analysis of the given questions related to development of mortgage finance and property rights protection.

The point of departure is taken in the none-exclusive perception of economic development theories, as defined by the World Economic Forum with reference to the Global Competitiveness Report (2008-2009, pp. 1-2, <http://www.weforum.org/documents/gcr0809/index.html>).

The definition of economic development links economic development with economic growth:

Economic development. Qualitative change and restructuring in a country's economy in connection with technological and social progress. The main indicator of economic development is increasing [GNP per capita](#) (or GDP per capita), reflecting an increase in the economic productivity and average material wellbeing of a country's population. Economic development is closely linked with [economic growth](#).
(Source: The World Bank: <http://www.worldbank.org/depweb/english/beyond/global/glossary.html>)

Gross National Product (GNP) per capita is widely acknowledged as a key indicator of economic development, because it has been found to correlate with a number of other factors of development. However, the World Economic Forum has built a more comprehensive set of indices representing multiple dimensions of economic development, in the form of a Global Competitive Index (GCI). The GCI comprises a representation of national competitiveness, which captures both macroeconomic and microeconomic factors of economic growth. The Global Competitive Index translates advanced economic theory into an application oriented model suited for operative purposes of monitoring, see Chapter 7.1 below.

3. Research Domain and Methodology

3.1 Theory and Methodology

Domain and challenges

Considerations on research methodology had to start with an analysis of what is suited for the phenomena at hand.

The term methodology is used here with different meanings, depending on the levels of discussion. At the overall level methodology is referred to as the scientific basis for understanding the phenomena under investigation and for logical reasoning.

Methodology is also used at the application oriented level of developing operational solutions to the challenges of screening for readiness for mortgage finance system implementation with reference to the output requirements defined by VP-Securities A/S.

Different levels of questions and tasks are to be addressed:

1. Overall research methodology;
2. Design of screening methodology for screening of readiness, including propositions on indicators, for potential transplantation of the DMF to other countries;
3. Discussion of theoretical questions associated with each of the topical areas, and their interrelation.

In between these levels there may be encountered other uses of the term, methodology, e.g. in relation to specific development tasks.

As concerns the fundamental issue of research methodology the theoretical basis encompasses different components:

- What is the general understanding of the phenomena (topics and general domain)? (ontology)
- And with what scientific methods will the phenomena be analyzed and what is the basis for reasoning? (Epistemology)

The research domain is multi-topical, cross-disciplinary, and globally oriented (geographically). The thematic topic areas spans different levels of abstraction, from the micro level of land rights, cadastre, land registration, to macro-economics. At the mezzo level the issue of property rights is centrally placed within development theories, through e.g., institutional theory (North, 1990, 2000). And there are interferences between these levels and domains. Therefore, it is no easy question to determine what is a suitable methodology in the given topic areas. Instead, different approaches were applied for analysis of different components of the study – in addition to basic qualitative reasoning.

By exclusion, the domain is not within natural science and not within a personal sphere, whereby certain forms of methodologies are also excluded. Within the large group of societal fields the current project belongs to the broad interdisciplinary area of law and economics, but also specifically to urban economics, although neither of these classifications provide methodological guidance.

The project title suggested as a general preposition that each of the topical domains of mortgage finance, land registration and economic development, affects or depends on the other(s), possibly in bidirectional ways. The task was thus to explore how, and to capture what factors, events and forces would be essential for development of mortgage finance development in other country contexts.

The direction of the research was given by the search for criteria and readiness for introduction of the Danish mortgage system. In this way the propositions gave orientation, but did not lock in the discussion from the start. The initial approach was explorative.

An obstacle was the absence of a model for, what is 'secure property rights', in specific what is 'security of collateral', to allow measuring of the degree of protection of property rights and the sufficiency of the property rights infrastructure to serve mortgage finance development.

Through the structuring of topic domains, Parts A, B, and C, it emerged that different methodologies might be suited for each topic domain, as illustrated by different characters of the operative level of land registration, vis á vis the theoretical concept of economic development. However, methodology questions were only explored as part of the process, since there was found little immediate guidance in this respect in the traditions of land professionals and property registration research.

A given methodology from the outset was the use of case studies for screening the conditions for possible introduction of the Danish mortgage system to selected countries (Part D), but no hypothesis was initially defined. The research questions are dominated by “What” and “How” questions, which according to (Yin, 2003) make case studies suited. The cases in the present study serve different functions as discussed below in Chapter 3.4 and 6.

General Methodology inspired by Ely

The overall challenge was finding a suitable approach to drawing conclusions in such a ‘bewildering complexity’ (Ely, 1884). How is it possible to select data, and determine meaning? What is the relation between data, observations and theories?

In order to search for answers to these questions, the initial approach to a methodology was intuitively explorative, and started off by reviews of literature and cases in a search for clues on the interrelations between mortgage finance, land registration and development, and for ideas on how to cope with the monstrous topic areas in a more structured manner.

The methodology and logic reasoning applied in the study found its form through an explorative methodology as described by the founder of land economics in the US, Richard T. Ely (1854–1943), and as expanded on by McMaster and Watkins (2006): Explore facts in order to theorize, and theorize in order to explore facts. This is a methodology without predefined hypothesis, and characterized by the notion that data is not given, but taken.

The McMaster and Watkins’ review of logic reasoning and methodology development suggested that the methodology developed by Ely captures the essence of methodology issues still actual today in urban economics. Ely (1884) advocated explorative forms of reasoning in urban economics, and was stressing the importance of history and institutions (such as political and legal) in spatial economic processes (McMaster, Watkins, 2006, p. 917), much akin to New Institutional Economics.

In the methodology suggested by Ely(1884) a central point is a rejection of the theory-data dual, because, “Data are not ‘given’, but ‘taken’” (McMaster, Watkins, 2006, p. 905), and they are taken with a basic idea in mind, so there is no independence of hypothesis, auxiliary assumptions and ‘ceteris paribus’ clauses. From this understanding of urban complexity follows a rejection of the following form of reasoning in schematic form:

Hypothesis + Assumptions, Empirical evidence, => Deduction of Conclusions
(P1, ..., Pn => C (premise 1 to n leads to Conclusion))

Instead, an understanding outlined by McMaster with reference to Ely is adopted here, that empirical evidence can never be conclusive, but data can be supportive of a proposition. In other words, data may be employed to narrow down the range of possible detailed relations between variables (McMaster, Watkins, 2006, p. 904).

For these reasons an alternative style of reasoning was suggested by McMaster (2006) – with reference to Ely - which is described as deduction in ‘reverse plus additional conditions’. The reason why this is relevant to the present study is the point of departure that ‘collateral security’ is mandatory for mortgage finance development, but the question is what factors are required for ensuring collateral security. Therefore the study depends on a reasoning proceeding from conclusion and some premises to other premises as follows:

Pk <= C, P1, Pk-1, Pk+1, Pn (where Pk is a new explaining factor)

In this way the logic reasoning proceeds from evidence to explanation by observation of interference between background theories and observations. The nature of inference highlights the absence of the dualism between 'facts/observations/data' and 'theory' according to (McMaster, Watkins, 2006).

According to the nature of this form of reasoning, evidence is not considered conclusive, but supportive, and scientific knowledge from other areas/fields may be called upon (abducted) to solve an entry (ibid., p. 909), who is using a crossword -analogy.

This form of reasoning is corresponding with the research challenge of the present project, because it is given as a fact (~conclusion) that mortgage credit is dependent on registering mortgage pledges in a formal property registration system, but many of the premises (prerequisites) associated with a functioning mortgage credit system are unknowns to be explored.

Furthermore, Ely emphasized "the importance of description of institutional structure, and historical and spatial contexts in analysis, which was reflected in highly disaggregated empirical studies that tended explicitly to consider discontinuities in the urban system ..." (ibid., P. 910). This perception of urban systems is in accordance with current understandings of the central importance of institutions in economic development.

The Ely-methodology (Ely, 1884, p. 47) is represented in congested form also in McMaster and Watkins, (2006, p.):

"The first thing is to gather facts. ...

We must arrange and classify the facts gathered, at least provisionally, to assist us in order to observe.

We must observe in order to theorize, and theorize in order to observe.

But generalizations must be continually tested by new facts gathered from new experience. "

It is assumed, that a similar line of reasoning applies to application of theoretical sources: they are selected among a myriad of available contributions to the topics, and then consequently pushed to the back or front depending on the meaning, they provide to the questions at hand when analyzed through qualitative reasoning, or they are pointing towards other sources. However, if such an explorative approach is to be efficient, a central starting point is required with a set of theoretical sources at the core of the topic matter.

To sum up, in the present study no initiating hypothesis was defined (for testing), but the general notion of the centrality of collateral was elaborated, and the nature of relations and interdependencies were explored between the three topic domains of A. Mortgage Credit, B. Property rights and C. Economic development.

What is not evident from the above is that the exploration starts with a given conclusion or propositions, as described by McMaster (2006). McMaster includes an interpretation of Ely's methodology. In reality Ely used the term of "hypothesis", however not for testing but in the meaning of a guiding thread in 'the bewildering labyrinth of facts':

"The term inductive, on the contrary, is to be applied to those writers who do not start out with all their premises ready made, but who include the induction of premises within the scope of their science and proceed to use these premises deductively. The inductive political economist, for example, gathers together particular facts relating to the effects of the; and observing particulars in which these facts agree among themselves, separates out these similar and forms what we call a generalization. The inductive economist starts with some hypothesis to serve as a guiding thread in the bewildering labyrinth of facts. He generalizes in order to observe, but likewise observes in order to generalize." (Ely, 1884, pp. 7-9)

The methodology suggested by McMaster /Ely is supportive of pluralism and invites an explorative and creative approach through discovery and analysis, but it does not necessarily offer means of judging between competing theories.

It can be seen that according to Ely, data become involved in theory generation as opposed to solely confirmation. "Indeed, as noted, Ely envisaged an extensive role for statistics. ..." (McMaster, Watkins, 2006, p. 917), and Ely stressed "... the importance of history and institutions (such as political and legal) in spatial,

economic processes.”. Ely applied background information (and theories) in supporting ‘entries’ and ‘clues’ (analogy of cross-words).

However, the study did not go into depth with methodology questions, and did not proceed systematically according to a predefined plan in this regard. Severe shortcomings are also found in its lack of exploitation of statistics and statistical methods.

Ely (1883, p. 283) observes of the German Historical School (McMaster, Watkins, 2006, p. 915):

*“The German Historical School’s (associated with the work of Friedrich List, Karl Kneiss, Gustav Schmoller, Werner Sombart and Max Weber, and others) key ideas may be summed up as: **first**, the rejection of the exclusive employment of deductive reasoning; by contrast, the use of historical contextualisation and statistics is considered to be a necessity; **second**, immutable natural laws in economics, such as the law(s) of supply and demand, are rejected, instead the interdependence of theories and institutions, and the specificity of epochs (or countries) and requisite systems is stressed, **third**, the laissez faire system is utterly rejected. Instead, the school considered that ethics, law and economics were entwined, and in doing so further rejected the notion that the assumption of self-interest furnishes an adequate explanation of economic action (see Hodgson, 2001).”*

In conclusion the study was inspired by the general understanding of urban economics represented by Ely through McMaster and Watkins, and findings of the study were in line with the finding of the historical school on historical contextuality, and that law, economics and ethics are intertwined.

(The normative nature of recent land administration studies were commented in Part B, and some ethical questions discussed in Part C).

Furthermore, a theoretical paradox has been noted, namely that pragmatic and pluralistic approaches are theoretically supported (McMaster and Watkins, 2006, pp. 914-).

Structure of Analysis inspired by Næss and Jensen

In respect to analytical structure (not provided by Ely) it was found that the methods, developed in Næss and Jensen (2002), were applicable in the project domain.

Of particular relevance was their suggested approach of reasoning built on a dynamic relationship between *structures, (causal) mechanisms and events*, suggested for research in urban land use and mobility, an area which carries similarities to that of urban development and housing finance (ibid., p. 297). They argue that in social sciences causal relations in correlating patterns can better be explained by analytic generalizations rather than by statistical generalization. In urban land use and mobility studies they emphasise the importance of theories and concepts.

A parallel challenge is the study of mortgage finance and urban development, despite obvious differences, and it was discovered that the methodology of studying structures, events and mechanisms of change was providing a valuable format to the analysis, which was also predominantly relying on qualitative reasoning.

An explorative approach was taken to studying the development of the Danish Mortgage finance for extracting propositions on the prerequisites for development of the mortgage finance system elsewhere, see part A. In a similar way clues were followed in studying the role of mortgage finance and property rights protection in economic development. Post factum it became clear that findings and observations made suited into an analytical structure of structures (funding, organization, incentives), mechanisms and events, as represented in the discussion on economic development in Part C. Indeed, such observations of the dynamic systems of mortgage finance, property rights and economic development were helpful in seeing development patterns of potential importance for generalization.

The present study encountered difficulties in collating sufficient hard data to do quantitative analysis in the first place, and has resorted to predominantly qualitative reasoning, supported by a few case studies. With reference to Næss and Jensen (2002), this may have been a suitable approach in any case. In Part B, little data was identified for use in quantitative analysis of country readiness, but some ratings were integrated for quasi-quantitative comparisons of country performance in international macro-economic rankings, ref. to

Part B, 8.2. In Part C the discussion on economic development is entirely based on qualitative reasoning through extraction of findings from other studies.

During the project, the role of the case studies was gradually seen in a different light, because the selected countries were found to be inadequate for generalization on a wider scale. Instead, the case studies served an important role in illustrating the suggested approach to country screening of readiness for mortgage finance.

One theme has been running as a red thread throughout the study: *the centrality of the development path*, (North; 1990), a key also to the thinking of earlier writers (Ely, Weber). In line with this perception, attention has been paid to information for illuminating development processes, through history and contextual information, as the time has permitted. However, the material presented here is but scratching the surface of this important issue.

It has been endeavoured in a myriad of sources and case material to be searching for recurring patterns and opportunities of generalization. Because the project domain represents an intersection between three large topic areas, which seems to have been under-explored, this has been a most interesting and challenging task. This was even more the case in view of the importance and actuality of mortgage finance at a global scale.

Helpful in this respect was the term '*triangulation*', which occurs in various methodology contexts in connection with qualitative reasoning, e.g., because of the basic construct of a project with three topic domains (A., B., C.). In some respects it has also been possible to apply abductive reasoning to the area of real property from the area of economics. It was suggested that in management of real assets a similar requirement has to be applied as in management of fiscal assets, namely that of strict accountability.

In the professional field of property rights it is found appropriate to use analogies with reference to the field of surveying! 'Triangulation' is used in the meaning of building a stronger reference structure in the interference between observations from different perspectives. Initial (pro-)positions can be used as first iterations. The approach is used in mapping out rather unknown territories – in this case of the project domain. Once it is better mapped out, more focused methods and reasoning can be applied.

In conclusion the methodologies applied in the study do not provide conclusive evidence on the questions of the study, but have served for drafting propositions based on evidence found in numerous studies. The broad approach taken to mapping out the project domain has left innumerous questions open for future analysis and development, including open questions on research methodology, ref. to Chapter 10 below.

3.2 Challenges related to Screening Methodology

Design of Screening Methodology

Feasibility studies are needed prior to any investments in setting up a mortgage finance system according to the Danish model, so therefore a system of screening the readiness of the particular market is required. In consequence, the study was aimed at designing screening methods for conditions related to protection of property rights, security of collateral and wider issues of the property market with an emphasis on emerging markets, primarily in developing economies.

The focus of the study has been non-European countries due to the special needs for preparing feasibility studies in those cases, where the context and the conditions differ significantly from a Danish environment. Principles, though, are expected to be generally applicable, even if methods will require refinement in a European context.

The research topic of preconditions for introduction of the Danish model of Mortgage finance to other countries has been defined in relation to on one side specific protection of property rights and on the other the general issues of economic development. Mortgage finance is here analyzed in the context of urbanization and private housing (excluding mortgage finance for businesses and other purposes).

The task at hand differs from much research on cadastre and property registration, in that *the point of departure* is not one defined by a professional interest in cadastre and land registration, but one defined by financial experts working on transplanting the Danish model of mortgage finance to other countries.

Thereby, the preconditions and criteria for introduction of the DMF are to be defined through those sectors dependent on the systems of security of collateral and other functions of urban land development serving the housing finance and housing development sector.

The screening approach needs to link up with industry standards, and consider operational constraints, since the study is to be serving an operational environment. Consequently the project has made extensive use of studies prepared by housing finance experts, as well as by the mortgage industry.

The analysis was supported by case studies and findings extracted from various comparative studies and country studies, see discussion below in Chapter 6.3.

Comments on the Process

The process was characterized by an early start of case studies, before the framework of criteria etc. had been drafted. Furthermore, the process was spiral shaped returning to some issues a number of times, as more observations and facts emerged. Although the case studies were important, they were not conducted as field work or collection of primary data.

The main information source for the study consisted of harvesting information from available literature, reports and international databanks, both as concerns topical studies as case country studies. The amount of data and information available was found to be so rich and plentiful, that it was seen as offering an effective access to information. Hereby the specific country case studies as part of the present project came to take on a less dominating role in the total project, while still serving in an iterative process for correction of proposals and inspiration.

At the specific level some answers to specific questions were determined normatively through evolving financial sector standards (UNECE 2005, and others)). Rich sources available served as the offset for definition of some theoretical propositions on criteria for introduction of a system of mortgage finance according to the Danish model (UNECE, 2005). These criteria were then helpful in analysis of the case studies and larger sets of indicators. Clearly, there were no straight way, but the various sources were used as input in an iterative process.

Qualitative reasoning was based on findings in sources, e.g., comparative studies prepared by housing finance experts (ref. Djankov, 2002, Lex Mundi studies, etc.).

It was found that the present project may benefit from recent advances in development of general indicator and rating systems on governance and economic development, such as e.g., the World Governance Indicators developed and produced by the World Bank. Of particular importance for the study were the rating systems developed by the World Economic Forum in cooperation with leading economists. The concepts and ratings of the Global Competitive Report served different purposes in the present study by providing a framework for definition of economic development and by its positioning of property rights protection therein.

3.3 On the Role of Topical Theories

Theoretical Issues related to the Topic Areas

Identifying or defining a suitable analytical framework is an overall challenge in this multidisciplinary research area, which falls between traditional fields of law and economy. Although the perspective is by nature multidisciplinary, focus on the property rights protection has been retained, so as to strive towards achieving a deeper understanding within that field. Property rights protection is within the field of law, but can be viewed from many other perspectives.

Dealing with the economic development dimension, as well, adds a wider dimension to the domain defined by the combined topics of mortgage finance and property rights protection. This is so more exiting that protection of property rights and property institutions are at the heart of some recent theories of economic development, ref. to triangle in figure C.2, in chapter IO.2.1 above.

The question matrix illustrates an overall logic, although questions therein are incomplete:

- Development of strategies and tools with reference to the output requirements defined by VP-Securities;
- Explorative analysis of case information for feed back into screening method development, and strategies of development of cadastre and property registration systems in support of housing credit;
- Discussion of theoretical questions in parallel with the above.

The research question matrix served as an aid in orientation in a vast subject field and in *setting priorities*. It was impossible to cover all issues in depth, but the matrix has helped illustrate the context of selected issues. As an example it is clear from the table that the definition of criteria is a first task in developing a screening system.

Within each of the three main topic areas key literature and the state of art has been explored as time permitted, and the main findings presented in three parts representing each of the topic areas of A. mortgage finance, B. property rights protection and C. economic development (*Ref. to Part A, B and C*).

Each part has been prepared to permit rather independent reading with the intent of giving an introduction to the state of art in each area.

The literature review was supportive of clarifying the research questions, and represents a broad range of sources from theoretical studies to analytical reports and guidelines prepared by or for the mortgage industry. The review process was iterative and gradually expanded during the analysis and work with case studies, however fractional in nature given the wide topic area.

This approach combined with topical theories has provided a framework for the case analysis and development of screening strategies and methods, as well as been linking up to the ongoing high level debates on the nature of and preconditions for economic development.

Cadasters and land registries are historically formed by the development path of each country or area. Even in the European Union, where integration has taken place in other legal areas, does each national cadastre and land registration system still have a distinct native character, although the use of information technology has created a technical convergence. As a consequence a country specific analysis is required, whether in Europe or elsewhere.

The topic of property institutions is a central issue in newer development theories, an area characterized by a dynamic evolvement of ideas. Even more so is the area of housing finance, which has gained renewed actuality in view of the global financial crisis ignited by the sub-prime crisis in the USA. Housing finance systems and property markets are not neutral to each other. Therefore, comparative studies and monitoring systems have been applied for studying what roles different factors play in mortgage finance, property rights and economic development.

It is emphasized here, that development economics is a vast field of its own, so that the analysis has linked up to development theories and has applied concepts and definitions by authoritative economic sources, but there was made no contribution to that field. The main output of the study was defined in terms of development of screening methods, rather than in building theoretical models.

The key area of the Danish mortgage finance system represents a fascinating factor in Danish history, which has received comparatively little attention, when considering its central position in the economy, and in the economic history of Denmark. Digging out sources throwing light on its over 200 year-long development path has therefore been an exquisite pleasure. Voices from the past of knowledgeable persons from the mortgage credit associations provide observations on housing finance, which appear timeless.

Finally, it shall be mentioned, that when delving into the rich source material on the Danish mortgage credit system, it became clear, that this material (in Danish) is not accessible for international experts. With the increasing focus on the qualities of this particular mortgage finance model, there is a special obligation to help communication of information on Danish source data to a wider audience. However, the present project has not been able to serve that purpose at any significant scale.

3.4 Country Case Studies

The use of case study methodology was part of the original project definition. A paper was prepared as part of a PhD-course on the role of case studies in the study, but in accordance with the perception that knowledge is perishable, not all the ideas described therein are fully representing the role of cases, as they evolved during the later stages of the project.

Experimentation as such is not an option in the present topic area, but the occurrence of the financial crisis ignited by the so-called subprime crisis in the US in 2007, can be perceived as a form of global case or experiment, which happened to have illustrated many of the issues and questions of the present project on a global scale, ref. to discussion in C.7.

At country level each country is shaped by its special history and development path although impacted by global trends, so therefore one may consider each society a kind of experiment. Hereby, cross country analysis enables some forms of inter-institutional comparisons similar to case studies at an international scale.

As the study developed, there were included different levels of case analysis:

1. An in-depth study of the case of mortgage finance in Denmark and its (long) historic development path, including an analysis of context;
2. Analysis of the case of Nicaragua, including desk-review and an in-country feasibility study;
3. A desk review and feasibility study of the case of Ghana;
4. Analysis of Indicators covering a short list of 20 countries incl. Denmark, Nicaragua and Ghana (each with data from comparative countries).
5. Macro-economic analysis of the long list of countries of the world as represented by selected, global indicator systems and data.

To each of these levels pertain different types of inquiries, which however, all refer to the general framework of research questions and to the outline of criteria for mortgage finance developed during the project.

The case of *Denmark* allows a study of the ontology of the Danish mortgage finance system, and on its inference with contextual factors and supporting institutions. On this basis, conclusions were drawn on the core features and prerequisites of the functioning of the system, ref. to Part A.

The case countries selected by VP Securities A/S happen to be interesting cases of property rights and property institutions. The two country cases were

1. **Nicaragua**, one of the poorest countries in Central America, and rated in the weakest quartile of countries in respect to protection of property rights and level of corruption. Property reform issues remain incomplete or unresolved, and the cadastre and property registration systems are defunct. The judiciary system and other public institutions are politicized, and democracy is under pressure.
2. **Ghana**, regarded as one of the best performing countries in South Saharan Africa. The governance system is characterized by having a plural legal system, statutory and customary. The stately property institutions are undergoing reform, but are not yet well functioning. A parallel and dominant chiefly system of 'customary tenure' is controlling estimated 80% of the land area. A distorted property market has resulted in extensive slum areas.

(Reference to Part D: Case studies, Nicaragua and Ghana)

As concerns the case of *Nicaragua*, the inquiry was shaped by the special situation of the country at a fragile cross-road between political reform and deterioration of basic institutions, including the rule of law. In this

way the focus of the Nicaraguan case study was on critical issues of political stability, macro-economics and the basics of rule of law and property rights protection.

Ghana, on the other hand, represents a case of sustained reform in many areas, so that the case study could be dedicated to the specifics of the property market, land rights, land registration and associated institutions.

Work on the detailed cases (Nicaragua, Ghana) helped developing the proposed assessment framework for an operational context. In neither case are the standard conditions fulfilled in terms of a functioning property registration system (with protection of collateral), sound institutions and a regulated formal property market - even from a superficial view. The big question was, if it is feasible to introduce a mortgage finance system similar to the Danish model under so different circumstances, compared to what was the case when the system was introduced in Denmark or is currently the case? Or what would be the required improvements to constitute the minimum requirements for introduction of the system?

The selected countries cannot be said to be representative, but they encompass a variety of cultural-historical differences articulated in the present status of their property rights institutions, housing conditions and their property markets. Perhaps, these cases can be regarded as extreme in some respects (e.g., unsettled post-conflict status (NI) and a complex customary system under transformation (GH)). For sure, the evolution of tenure systems and property rights has taken significantly different development paths in the two countries.

Finally, work was done on the use of macro-indicators for international comparisons among countries, partly in the form of a short list of 20 countries, and as a long list of data of the countries of the world included in the selected monitoring systems (about 200), Part B.

Comparative analysis of the three case studies (DK, NI, GH) and selected other countries were made through the use of macro-level development indicators as available through international organizations (World Bank, World Economic FORUM, etc.). Comparisons at macro-level can be used in an analysis of whether (or in what way) the case countries are representative or not, or as a basis for discussing generalization of findings.

These macro-level “case studies” have been aided by the growing number of international indicators and monitoring efforts at macro-level. The global cross-country analysis based on such macro-level indicators has been supportive of exploring the research questions on screening of readiness for mortgage finance.

The underlying idea is that the idiosyncracies of each society constitute a ‘kind of experiment’, which enables limited inter-institutional comparisons, as suggested by McMaster (2006; p. 907).

For these reasons a cross-country comparative analysis can serve for exploring what types of institutional arrangements are more beneficial than others (McMaster 2006, p. 907, after Viskovatoff, 2004, p. 285); in the present project, more specifically, to study the factors engendering mortgage finance development, a question discussed in all of the components of the study, with special reference to Part A and C.

4. Summary of Findings on Part A - Danish Mortgage Finance

4.1 Core Features of the Danish Mortgage Finance System and its Framework Conditions

Overview of Part A

The Danish mortgage finance system has been described and reviewed from three perspectives:

1. In comparison with other mortgage finance systems; (Chapter A.1)
2. In view of its historical development path, (Chapter A.3-7), and
3. By analysis of its (current) legal framework; (Chapter A.10-11)

The comparative review is based on findings of selected comparative studies prepared or commissioned by UN-ECE (2005), the European Mortgage Federation (Wyman, 2006), and the OECD (Hardt; 2000).

The UN-ECE (2005) document plays a special role in the study, as it was found to represent an assessment framework for development of housing finance in emerging markets developed in a cooperative effort between representatives of academia, the mortgage industry and governments.

United Nations Economic Commission for Europe, 2005, "Housing Finance Systems for Countries in Transition, Principles and Examples", United Nations, New York and Geneva, 2005, <http://www.unece.org/hlm/prgm/hmm/welcome.htm#housingfinance>,

The generalized level of the UN-ECE document helps position the special focus of the present study within the overall range of framework conditions for mortgage credit.

The historic review draws on a large number and variety of sources spanning over a century (mostly in Danish) including both secondary and primary sources, such as e.g., contributions from key persons in the mortgage industry to the ongoing debate over time and reports of parliamentary committees submitted in preparation of legal reforms.

An overview of events is represented by a time line of events both directly related to changes in the mortgage finance system, and to important events in society setting the development path into context (Chapter A.xx).

The descriptive components of the study serve two overall purposes:

- At first the explorative analysis facilitated identification and description of the factors of central importance for the functioning of the system over time, whether intrinsic to the system, or components of its operative environment and the market factors.
- Secondly, the analysis served as the foundation for development of propositions on what would be the expected prerequisites for its functioning in another country context.

The analysis pointed to what structures, factors and events played a role in shaping the mortgage finance system, and what impacted on the housing and mortgage market in Denmark. It was discussed what were the mechanisms of change, and how the finance system was adapted over time in response to changing circumstances, international standards and market conditions. In this way the Danish mortgage finance system could be represented as a dynamic system, with reference to (Næss, Jensen, 2002).

In Part A key features of the mortgage finance system were mapped out, and propositions were made on what are the prerequisites for the functioning of the mortgage finance system elsewhere. The findings were expanded with discussions on the role of the Danish mortgage finance system in economic development in Denmark.

Below follows extracts of the descriptive elements of Part A, followed by comments to selected issues and events, which have shaped the Danish Mortgage Finance system. Finally, are outlined propositions on prerequisites for transplanting the Danish mortgage finance to other contexts.

Structure of Part A. On Mortgage Finance Systems

This study includes at first an exploration of what were (and are) the essentials of the Danish System of Mortgage Finance, and what are the reasons, why it is functioning well in DK, from three different perspectives:

- A comparative overview of mortgage finance systems, including the DMF;
- A historical analysis of the Danish mortgage finance system and its context over its 200 year long history;
- A review of legislation in respect to key principles and security of collateral.

On that basis further questions are analyzed, such as e.g.: What are the general conditions under which the model could be a relevant option of housing finance outside Denmark? And in specific, what would be the required minimum conditions for the DMF to function in a different country? Finally follows the question of how the framework conditions can possibly be screened in a given country under analysis.

The historical review of the Danish Mortgage credit system through its 200 years' of history illustrates how the credit system emerged at an early stage of transformation of the Danish society from a largely agrarian economy in the mid 19.th century and how it functioned at different stages of economic development with gradual adaptations, and how the mortgage finance system functions today in an advanced economy.

The Danish mortgage finance system is also studied as a case of mortgage finance development, so its long development path is described and analyzed based on rich information sources (mostly in Danish) documenting its development path, in particular in periods of economic crisis or challenges, when the system was debated and revised. It is in times of crisis that the qualities of mortgage finance systems are shown.

The Danish case illustrates the development of a mortgage financing system under basic pre-modern conditions. The same securitization principles have endured and proven robust and efficient also in an advanced economy. It is therefore natural that the Danish mortgage finance model is of potential interest for developed as well as emerging economies.

Propositions on prerequisites for introduction of mortgage finance were developed from the review, and aided by the structure of principles and prerequisites for housing finance defined in a UN-ECE-study (2005) prepared in a joint effort by researchers policy makers and the mortgage industry in support of development of housing finance systems in countries in transition. The UNECE (2005) overview of prerequisites for housing finance, have provided a structured framework and formed the point of departure for the present study in identification of preconditions for introduction of a system of DMF.

While the general topic of mortgage credit is at the top of the world economic news, changes are also taking place in Denmark, where the specific Danish model of mortgage credit based on the balance principle and large series of credit & bonds has come under pressure due to resent changes in legislation and organization of the mortgage sector largely imposed through new international regulatory standards.

Characteristics of the Danish Mortgage Finance System in Brief

The review of international studies showed the comparative advantages of the Danish mortgage finance model based on the balance principle, in terms of its simplicity, robustness, and efficiency of capitalization. The system is entirely market based, and risks of mortgage lending are largely reduced to credit risks through the securitization model supported by a strict regulatory environment. The mortgage finance system has proven capable of riding off storms in the capital market.

The qualities of the Danish mortgage credit system can be accredited to a number of factors, primarily the balance principle (the securitization model) characterized by its in-built alignment of interests and incentives. The Mortgage Credit Act is dedicated to protecting investors in mortgage securities, but hereby it is also serving the borrowers' interests by attracting capital at lower cost.

In summary, the current Danish mortgage credit system is based on the following characteristics:

- Mortgage loans are capitalized (securitized) by simultaneous issue of mortgage bonds with mirrored conditions of the loan re. interest rates and amortization based on the balance principle (match funding);
- Mortgage credit bonds are anonymized, standardized securities issued in large series, and traded on the stock exchange;
- Effective interest rates are market determined and transparent;
- Mortgage loans are issued against collateral security in the borrower's real property;
- Mortgage loans are granted as long term loans on terms strictly regulated by the Mortgage Credit Act including maximum Loan to Value (LTVs) defined by property class;
- Loans are non-callable by the lender;
- Borrowers have access to early redemption (without penalty) by buying the underlying mortgage-credit bonds at market price, or repay at par value;
- Specialized non-stately mortgage banks act as market intermediaries and both issue, hold and service loans and bonds;
- The mortgage credit risk stays on the balance sheet of the issuing mortgage institution and is not passed on to the investors in bonds;
- In case of default, the legal provisions and procedures ensures an effective and swift access to the collateral;
- Mortgage Credit Institutes act under a strict regulatory regime and supervision, and are not allowed to enter into other banking activities;
- Bond Investors have complete knowledge of the security of the bonds based on collateral in real property, within the regulated limits, and based on additional tiers of capital coverage of the mortgage bank;
- Investors in mortgage bonds have a preferential status to the collateral pool in case of bankruptcy, and are also protected by additional capital coverage;
- In the 200-year history of mortgage credit in Denmark no investors in Danish mortgage bonds have suffered losses due to the default of a mortgage bank;
- The model of securitization and organization is low cost due to its simplicity, standardization and trust in the issuing institutions.

The system has proven to withstand many types of crisis over 200 years. Ladekarl (1997) stresses the importance of a long, low-risk track record for investors' trust, which translates into lower interest rates and thus more affordable credit for borrowers.

The qualities of the securitization model are highlighted in a number of comparative studies and praised by international financial institutions, such as e.g., the International Monetary Fund's technical note on the Danish Mortgage market (IMF, 2007).

As can be seen, the securitization model of the balance principle takes the center stage.

The Balance Principle

The founding idea of the Danish Mortgage Credit Associations /Institutes (MCI) is to provide long term financing of real property and to serve as an intermediate between the borrower and lender. Danish MCIs were originally (and until recently) formed as associations of borrowers, and borrowers carried joint and several liability for outstanding debt against the mortgage association in addition to the collateral of their individual mortgages, a layer of security now replaced by other types of capital coverage.

The Danish mortgage finance system is a market based model built on the so-called balance principle, fig. A.3:

Loans are financed through concurrent issue of bonds under identical conditions of duration, currency, interest rates and amortization. Specialized mortgage credit institutes, since 1989 also called mortgage banks, act as market intermediaries, which both issue and service the loans and bonds. The cash flows are kept simple, and the Danish mortgage-credit bonds are described as "pass-through" securities. The core feature of the financing system is its simple and robust funding (securitization) model.

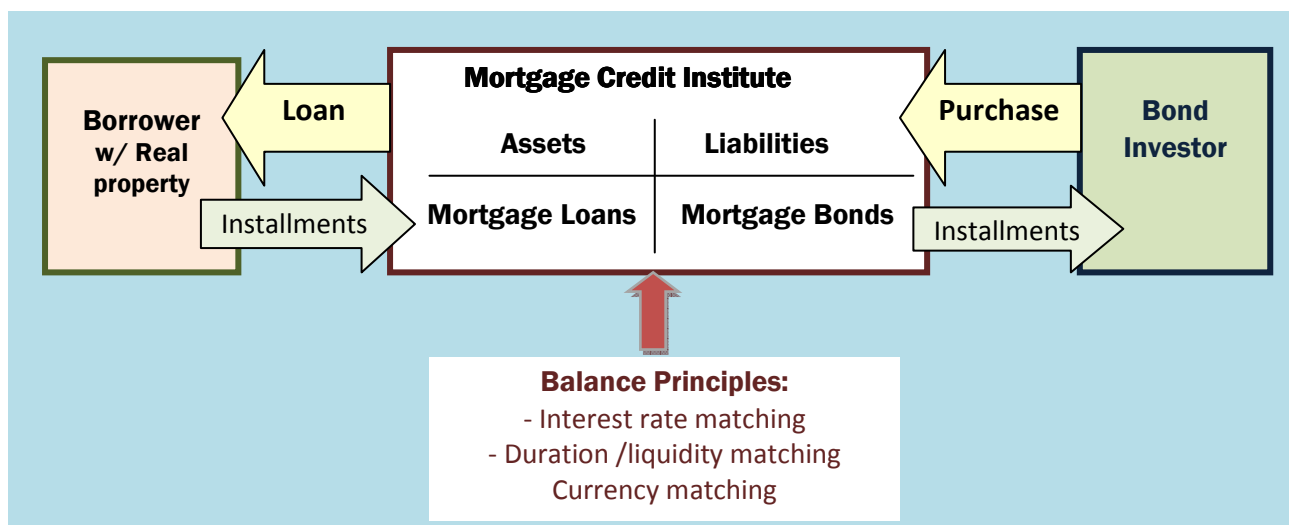


Figure A.3. The Balance Principle of Securitization (Source IMF, 2006, p. 5)

Loan capital is raised through issue of standardized and anonymized covered bonds with a nominal value, currency and interest rate identical to the loan, and these bonds are (in principle) sold by the borrower on the capital market. The proceeds of the loan determine the effective interest rate, which have always been determined by the market. Loans were and are long term and non-callable from the side of the lender, but callable by the borrower. In other words, the borrower can pay back the loan at any time by buying back the corresponding bonds at market value, or the outstanding debt at par-value, without being exposed to paying penalty interest (but a standard administration fee is levied). Thanks to the early redemption option and buy back option, the Danish mortgage finance system has counter-cyclical qualities (Svenstrup, Willemann, 2006), and turn-over in the mortgage bond market is high.

The Danish mortgage finance system is vertically integrated, so that the three functions in mortgage financing are all held by the Mortgage Credit Institution (UN-ECE, 2005, p. 12):

- *Origination*: the initial granting and funding of the loan;
- *Ultimate holding and funding*: the eventual holding (and thus funding) of the loan; and
- *Servicing*: the arrangements to facilitate timely payment of principal and interest.

The mortgage finance system is designed with an inbuilt healthy incentive structure, since the credit risk remains on the balance sheet of the issuing mortgage credit institution. The simple and transparent funding mechanism reduces risks and overhead costs, and standardized loan conditions protect borrowers against predatory lending.

As a result of the capitalization process according to the balance principle and the Danish mortgage credit legislation, the main risk remaining held by the mortgage credit institute is the credit risk. Credit risk is hinged on both Loan-To-Value rates (LTV) and on valuations, so mortgage finance depends on the quality and security of collateral.

Mortgage bonds issued in the same series are secured by associated “collateral pools” of the pledged properties. Through the balance principle of securitization are mitigated a number of risks pertaining to other mortgage finance models (currency risk, interest rate risks, liquidity risks of mortgage credit institutions, etc.)

Mortgage credit institutes are mono-line businesses not permitted to engage in (other) banking or investment activities regulated by stringent provisions on maximum LTVs and appraisal rules, and capital coverage requirements, previously in mortgage associations also a coverage through members’ joint and several responsibility.

Although loans are provided through capital invested in the corresponding amount of covered bonds, the investors will have a claim against the Mortgage Institute, not the individual borrower, while the Mortgage Credit Institution in turn have secured collateral in the pledged properties, and investors are covered by additional tiers of security in base capital and reserve-funds of the Mortgage Credit Institute.

The balance principle creates transparency for borrower and investors alike. The financing system becomes easier understandable to borrowers and investors through the issue of credit with standard conditions and standard securities. The 200 year long and secure history of the mortgage credit institutions, combined with a transparent property market and supportive infrastructure adds to the low risk environment to the benefit of all (Realkreditrådet, 2009).

Mortgage securities, also called covered bonds, are traded on the stock exchange, which ensures full transparency, and for many reasons (classical) Danish covered bonds are considered secure and liquid financial assets at the level of sovereign debt securities ('statsobligationer'). Due to the principles embedded in the system and the regulatory framework Danish mortgage bonds are standardized mass investment instruments, so that investors do not need to conduct a scrutiny of the issuers' economical status, or of the collateral of the bonds (Bjerre-Nielsen in Realkreditrådet, 1997).

Indeed, the low risk profile of the funding instruments of mortgage credit has benefitted the borrowers at large by providing long term financing to the housing sector (and other sectors) in Denmark at close to capital market interest rates.

It can be concluded that the construction of the Danish mortgage credit system peels off layers of financial risks from the mortgage credit institution, while also protecting the interest of the market participants. As a result the naked relation between mortgage credit and the security interest in the underlying real property (collateral) stands out as the key issue in Danish Mortgage Credit.

In consequence the focus of an analysis of credit risk, is on how the mortgage Credit Institutes depend on various aspects of collateral security as a protection against credit risks: Legal protection of property rights and mortgage pledges, assessment of economic value of collateral, procedural access to the collateral, property information, etc. (ref. to research question AB.2).

Security of collateral in mortgage credit is not only the special focus of the present study, but of central importance for the Danish mortgage finance system, since it forms the foundation of the mortgage system at large.

On Financial and Property Market Infrastructure in Denmark

Different sectors of the economy have benefitted from access to mortgage credit through the Danish Mortgage Banks /Institutions, and the total volume of mortgage market in Denmark is equivalent to the size of the GDP.

The residential credit market has grown to become dominant among the mortgage credit market segments to reach a level of about 70-80 % of all outstanding mortgage debt, while the remaining of the credit was issued for business properties.

The efficiency of the Danish mortgage market can also be accredited to the functioning of the legal and technical infrastructure supportive of the property market and mortgage pledging.

The financial system depends on the underlying financial infrastructure and the functioning of both the capital market and the real property market. In the financial sector an advanced technical infrastructure has long been in place to register mortgage assets, ownership to financial assets and to manage transactions in the capital market:

Financial assets are registered through the VP Securities A/S, which issue electronic bonds and secure transactions of financial assets (ownership, clearing of payments). Trading takes place on the stock exchange, but registration of assets and ownership takes place in the technical systems of VP-Securities A/S (www.vp.com).

Real assets are recorded and legal rights to the assets are recorded through the systems of cadastre and legal registry. Trading in the property market takes place through many channels, with wide access to information placed on the Internet.

Both systems are in worst case covered by extensive guarantees.

Bonds have in Denmark been traded through a digital trading system, since 1983 – the first in the world to do so. Later in 1988 followed digital trading of all stocks in a fully digital registration and transaction system of VP Securities A/S, founded in 1980 as a state agency, but in 2000 converted to a private shareholding company owned by the main actors in the Danish market (VP Securities A/S, Annual report 2000). As it can be seen from table A.11 below, mortgage bonds are dominating the Danish capital market.

Financial Assets in Denmark 2009	Billion DKK	%
Shares	1.016	20,9
Mortgage Bonds (Realkreditobligationer)	3.332	68,4
Sovereign Bonds (Statsobligationer)	522	10,7
In Total	4.870	100

Table A.11: Total registered financial assets at VP Securities A/S, Sept. 2009 (www.dst.dk)

4.2 Some observations on Structures, Factors and Events in the Development of Danish Mortgage Finance

Point of Departure of the Danish Mortgage Finance System

A presentation of the Danish Mortgage Finance system will always include a reference to its unique 200-year long history (ref. Realkreditraadet, 2010, http://www.realkreditraadet.dk/Branchen/Realkredittens_historie.aspx)

The Danish mortgage finance model originated from Germany, and was first applied in Denmark in 1797 for extending housing credit to property owners hit by a devastating fire in Copenhagen in 1795.

The first democratic constitution of 1849 included the freedom of association and protection of property rights against un-lawful expropriation. A fully functioning cadastre and land registration system was in place covering the whole country prior to passing the first mortgage credit act in 1850.

The first mortgage credit act was passed in 1850 opening for establishment of Mortgage Credit Associations across the country. Mortgage credit had for long been well established, but as personal credit arrangements secured by mortgage pledges. Legal provisions on mortgage pledging were rather advanced, and regulated the order of pledges.

At the time of introduction of the mortgage system in 1850 a good cycle of events had increased the demand for real credit in Denmark. Exogenous factors of housing credit at the particular time in history of a blend of economic recovery and growth in a dynamic political environment. Thus, by 1860 five regional mortgage credit associations had been founded and in operation to a degree that they had already impacted on the character of the credit market.

The society went through a transition from a largely subsistence based agrarian economy in the beginning of 19.th century towards specialization, urbanization and a money economy in the latter part of the century. A move towards a growth society was already set in motion as evidenced by developments such as e.g., railroad constructions and urbanization along railway lines and at nodes, specialization, emergence of new construction standards, etc.

The Danish mortgage credit associations grew out of widespread demand, not only from borrowers, but also from lenders at a time, when there was hardly any financial infrastructure or institutionalized credit. Institutional investors like insurance companies were essential to development of the mortgage bond market then as they are now.

These observations are in full accordance with current observations by financial experts on relative macroeconomic stability and economic growth trends as preconditions for initial development of mortgage finance. Renaud (2008) and other economists (Sheng, Hassler, etc.) underlines the importance of a positive economic growth trend for developing a mortgage credit market, as discussed in Part C. chapter C.6.3.

Accordingly, a basic prerequisite of mortgage credit is a macro-economic environment, which stimulates demand for long term credit, as described in the preconditions for development of mortgage finance by UNECE (2005), see chapter A.12.

Overview of Structures and Features of the Mortgage Finance System

The core of the Mortgage Finance System, securitization according to the balance principle, has stayed intact over more than a 200 year long history, until adjusted due to EU regulations in 2007.

Significant changes have taken place over time especially at the organizational level, just as the current high-tech infrastructure of the mortgage credit system have placed the mortgage securities at the front in the international capital market. Fundamental transformations of society have taken place over the 200 year long time span, but the mortgage financing model has proven adaptable to different stages of economic development.

Regulatory Framework

The mortgage financing system is fully market based, but is operating under a tight set of regulations. How legislation preceded mortgage finance development is illustrated by the sequence of events that unleashed the credit potential from the very beginning.

The first Danish Democratic Constitution was enacted in 1849. It provided protection of property rights against unlawful expropriation, and secured the freedom rights, including freedom of association. Immediately afterwards, the first mortgage credit act was passed in June, 1950.

The Mortgage Credit Act has been revised a number of times, but for over a century, the law provided for a financing through mortgage credit associations, which were democratically organized with joint and several liability among borrowers, who were also the members/owners of the credit associations (as described in further detail in chapter A.5.2).

The regulations included the core securitization and credit principles, incl. regulations on pledging, loans based on property value within maximum LTV's, conservative valuation standards, etc. Of importance for the competitive strength of the system was its provision on non-callability from the side of lenders, and borrowers' access to early redemption with a buy back option.

An essential element of the legal framework is effective foreclosure, which was in place from the beginning.

Legislation also asserts strong influence on the market behaviour in mature mortgage markets. However, the powerful engine of mortgage finance is difficult to steer and control, as was experienced during the amendments imposing credit rationing in the decades of the rapid urbanization and construction boom in Denmark from 1960-80'ies.

Another central element of the regulatory framework were the well-developed clauses on pledging priorities in the land registration system, which include sophisticated features of keeping a place in the priority of burdens, when remortgaging. These features were in place before the introduction of the first Mortgage Credit Act in 1850, and have ever since allowed a lively mortgage market in Denmark with conversions in response to market developments. This feature of remortgaging has allowed separation of credit risk and

interest rate risks with the latter entirely assigned to the market (Boyce, 2009). The open access to buy-back options and early redemption has served as a buffer in periods of crisis on the housing market.

New amendments pursuant to EU requirements have caused restructuring of the market, and the special mortgage banks have been much affected by new legal provisions on capital coverage not consistent with the Danish system.

Mortgage Credit Associations

The concept of the mortgage associations – akin to the cooperative movement at the time - was championed by leading and respected citizens, and spread fast across the country despite the limited means of communication available at the time, and without any prior distribution networks or banks.

Mortgage financing through mortgage credit associations grew steadily by the end of the 19th century to reach its highest level by around 1910 with an outstanding mortgage credit constituting about 75% of GDP, a level only reached again and exceeded by the 1970's.

The solidarity principle of joint and several liability on which the model was built was only came invoked at a few occasions, but was found to have had an indirect impact on the credit practice of mortgage credit associations. On the other hand solidarity principles took different forms, as e.g., levying of the same % administration fees for all borrowers, and democratic principles of organization and sharing of profit.

The Danish Mortgage finance system continued to be based on mortgage associations until financial sector reforms took place in the latter part of the 20th century with a consolidation of MCA's occurred in the 1970's when Denmark joined the European Community, and restructuring continued after 1989, as new legislation opened for a conversion of mortgage credit associations to shareholder companies.

Securitization Model, Institutional Investors and Market size

The core of the mortgage finance system is its securitization based on the balance principles and its alignment of risks and responsibilities in a vertically integrated structure. Each loan is funded by equivalent covered bonds sold in the capital market.

Initially a critical factor in introduction of the mortgage finance system was the provisions allowing protected State funds to invest in mortgage bonds. Institutional investors, like e.g., insurance companies, with matching long term profiles were essential for capitalizing the credit system and ensuring its growth, and remain critical to the mortgage finance system.

Danish mortgage bonds are secure and liquid assets, which constitute a major share of the Danish capital market. During the debate on Basel III, it is exactly the question of the mortgage bonds in the portfolio of financial institutions that is critical for ensuring the continued services of the Danish mortgage finance system.

The volume of trading is high thanks to institutional investors, which ensures that mortgage bonds are very liquid assets. The market interest rate is determined by the effective interest on standard mortgage bonds.

Comparative advantage

Initially, savings associations and credit associations were competing for market shares, but after a few decades the credit associations gained market dominance because of their capitalization model. Although cheaper in growth periods, credit from savings associations – which was callable by the lender - dried out during crisis periods, at a time when it was most needed. Mortgage credit obtained through mortgage credit associations was non-callable by the lender with allocation according to principles of value of 'bricks only' - both qualities of critical importance for borrowers. The first, difficult decades showed that borrowers were willing to pay a high premium for impersonal credit.

Low risk environment

Mortgage credit operates in a corruption free society and a low risk environment ensured through a complete and robust property registration system, giving open access to market information. The system was fully functioning prior to implementation of the mortgage finance system.

Orderly urban development was partly engendered by incentives of the mortgage credit system, by effective urban planning and functioning taxation systems.

Effective Foreclosure

Effective foreclosure contributed to disciplining the mortgage market from the start and has continued to do so. Legislation on foreclosure was in place when the first mortgage credit act was passed. Comparative studies show that the process in Denmark is effective and relatively short, about 6 months. Statistics also show a relatively low incidence of forced sales, even during periods of crisis.

Furthermore, no one can escape a creditor in Denmark, in the beginning due to the local community social structures, in modern times with complete registers, and personal responsibility for outstanding debt (access to recourse). Effective foreclosures are pivotal in creating investors' trusts, so therefore foreclosures can be seen as the price to be paid for a wider access to credit.

The Role of the State

The mortgage finance system was developed without direct state funding. The Danish mortgage system operates entirely on market conditions, but borrowers have enjoyed certain tax benefits; which have varied over time. The role of the state in the Danish mortgage credit system has traditionally been largely withdrawn to setting the legal framework and indirect policy measures, like e.g., taxation. The market based finance model is not blurred (polluted) with intervening forms of social underwriting criteria.

The market based finance model is supported by a strong tradition for public-private cooperation and negotiated solutions. In a relatively small country existed personal networks of many kinds, but in addition formal inter-organisational collaboration has blossomed over time (Public-private, professional networks, mixed commissions, etc.), and have strengthened the purely market based model.

State supervision

What is remarkable is that the mortgage finance system has in fact functioned with little state supervision through most of its existence, while providing a large portion of the liquidity to the national economy. There was virtually no state supervision before 1936, even if outstanding mortgage loans reached a level of 70% of GDP in 1910. It was only in the 1970's that state supervision started to intensify.

This is testimony of the fact that the system itself was structured and built on sound incentives, so that stakeholders have incentives to behave responsibly. The nature of "on balance sheet" credit enhances responsibility of MCI, in contrast to "off-balance sheet" securities.

The national Finance supervisory authority now controls fulfillment of the legislation ruling the mortgage credit institutes, including their lending portfolio and solidity requirements of Mortgage institutions in full accordance with best practices in the financial sector. The state acts in an enabling function – rather than as a party in mortgage credit in Denmark. The legal and public administrative framework contributed to building the trust in the system.

Mortgage Market Infrastructure

Due to the century old property registration system, there were from the start clean property titles, public records and transparency of the property market, factors facilitating mortgage pledging, e.g., by keeping down transaction costs and risks.

Well functioning information systems have been central to market transparency and the functioning of valuation systems.

A clever valuation system was built on a network of local assessors with both insight into the market and integrity. Management structures were adapted gradually, so as to reducing risks of impact on the loan allocation process.

Digital trading in the capital market and registration of financial assets has since the 1980's been secured through VP Securities A/S, initially a state enterprise, but since year 2000 a shareholder company owned by the major capital market players, including the National Bank.

4.3 Observations and Discussion of Issues of Economic Development

On Development Factors and Dynamics in the Mortgage Market in Denmark

Small holders and social aspects of credit

From the very start the mortgage system targeted holders of property with sufficient collateral value, not smallholders at the lowest subsistence levels.

The Danish case illustrates how a good cycle of events began by providing market based mortgage finance for properties of sufficient collateral value to serve as security for mortgage pledging. Democratisation of mortgage credit depends on volume and standardisation. In this way the upper market segments can open the way for widening access for smaller properties, as was shown in the 19th century history of mortgage credit in Denmark. Housing finance for small holders with little collateral value may have to rely on other forms of credit /tenure, or on state guarantees.

Therefore the Danish mortgage finance system cannot be seen as such a social housing finance scheme, but it has facilitated social mobility through its underwriting practices, and some observers attribute the finance system part of the honour for DK being a society with low inequality (Glud 1951).

In spite of the qualities of the mortgage finance system, the home ownership percentage is below the European average, which is here interpreted as an indication of a demand for a variety of tenure options in housing, but this has not been investigated.

Although some research suggests that the Danish mortgage finance system provides better access to homeownership for younger first-time buyers, that is highly dependent on the property market.

Observations on Relations between the Real Sector and the Financial Sector

The benefits of having indisputable and transparent property rights with effective enforcement have paid off in Denmark by reducing the risks, and thus by diminishing the cost of credit. The benefits have foremost been derived from the impeccable legal registry functions and effective foreclosure procedures. The cadastral functions are less visible, and mostly serve as an ordering tool, while the mechanisms of land supply for urban development have played a critical role for affordability and quality of housing in Denmark.

Moreover, the Danish example has shown that it is an astonishingly good investment to develop transparent and well functioning land institutions, as shown by direct and quantifiable revenues, even without accounting for the benefits accrued from better credit affordability, and wider benefits to society.

The reasoning above also supports the notion that in case of an underdeveloped mortgage finance market, the main constraints stem from malfunctioning institutions in the land sector—rather than in the financial sector.

On the other hand, there is a two-way causality between property markets and mortgage markets because of their interdependency. Formal credit facilities provide incentives for development of formal land markets.

When properties are traded in an official property market and transactions depend on mortgage credit, under-declaration of sales prices is avoided, and the true market prices can be captured in the official valuation systems. The parties have no incentives for under-or over-declaration of sales prices, when transactions are to be registered as a basis for mortgage pledging in the legal registry. Furthermore, mortgage credit institutions request formal building permits (and insurance) as a condition for loan allocation, which has contributed to strengthening public planning (Stubkjær, 2001).

This study has discussed how the two-way causality between property rights infrastructure and mortgage finance may generate triggering mechanisms of growth at different stages of economic development.

Just as changes in mortgage finance conditions may contribute to booms and busts in the housing market.

On Performance during Crisis

Economists consider the DMF to have important countercyclical qualities through the open access to early redemption and the buy-back option, which permit borrowers to convert 'up' or 'down', whereby the outstanding mortgage debt can be adjusted in a falling market, or interest rates reset.

The quality of financing systems is tested during crisis, and the Danish Mortgage financing system has endured through many difficult periods. Each severe crisis has given reason to re-examine the system, so that reforms have typically followed. This occurred most profoundly in the wake of the crisis in the 1930's resulting in a major legal reform, but can also be seen in the current efforts of revising the international financial system with special reference to mortgage securities.

Nevertheless, the robust nature of the securitization model is undisputed. Even when the financial crisis stopped the issue of real credit in many other countries during 2008-9, Danish Mortgage Banks continued issuing credit and bonds. Furthermore, Danish covered bonds were safe and liquid investments even during the most severe phase of the crisis. In this way the system continued to supply capital to the Danish Economy. It is also noteworthy that the levels of foreclosure were relatively low, especially compared to the US, even if Danish property owners have a high level of indebtedness.

The Mortgage Credit system escaped detrimental losses during periods of crisis, but during booms and bust in the property market it was apparent that 'valuation' is the Achilles heel of mortgage finance.

A market Based System at the Service of Society

In conclusion it can be observed that, it is remarkable, that a fully market based mortgage finance system has performed well in the overall economy both in respect to supplying capital to the economy, and to social aspects of providing wider access to affordable credit.

The history of the Danish Mortgage Finance System is an example of a market based mortgage finance developed from below with only a few incentives provided by the state, but the legal framework and infrastructure was in place from the beginning.

The low risk financing system also relies on external factors, which protect mortgage credit arrangements against risks. Secure property rights through a well-established cadastre and legal registry ensured from the very beginning a firm basis for mortgage pledging, and effective foreclosure procedures were in place.

Capitalization depended on a functioning capital market with major national investors, including the state leading the way by permitting special funds under state control to invest in mortgage bonds. Trust in the system was built over decades, at a time when also the financial infrastructure was in its nascent phases.

The fully market based system of the Danish Mortgage Finance System has shown how the market (given the right incentive structure) can efficiently provide affordable credit to all sectors of society - at no cost, or risk, to the taxpayers, partly due to the on-balance securitization model, partly because there has been no doubt for investors about the underlying security of collateral, with high trust in the intermediaries, since no mortgage credit institutes have ever defaulted during its more than 200 year history.

In this way the market may, ironically, have served the less affluent segments of society better than when artificial 'affordability' criteria of lending have been imposed by governments on the financial sector, as seen during sub-prime crisis in the US. The market based model of securitisation may even have contributed to lowering social inequality in Denmark, which has a low GINI-factor, as suggested by Glud (1951).

All Credit to the Balance Principle

At the core of the mortgage finance model, the balance principle with its in-built incentive structure, has protected the financing system during crises, and secured a huge flow of capital to the Danish society throughout its long history. Recent comparative studies provide evidence of the system's competitive advantages vis-à-vis other housing finance systems in developed economies.

The concept of balance has a deep meaning and pervades the Danish mortgage system in more than one way.

At first, the balance principle of securitisation creates a transparent, simple, and robust financing system. Mortgage bonds are on-balance securities, whereby credit risks are held by the issuer, and the financing system is vertically integrated.

A system based on this dual 'balance' principle creates a healthy incentive structure engendering a conservative, yet productive, credit culture. Indeed, during most of its history the mortgage finance system functioned without intensive state supervision, but under a strict regulatory regime combined with organisational checks and balances.

The mortgage finance system has the additional advantage of balancing the interests of investors and borrowers. Thrift and moderation has to be balanced, as mirrored in the definition of maximum LTVs over time: LTV limits have to be high enough to allow entry of new owners into the property market, while also conservative and cautious enough to protect the borrowers and the system against risks in low markets, as already observed at presentation of the first draft law in Parliament, in 1850 (Hein, 1888).

Development has progressed over the years with adaptation to framework conditions, but recent threats to the very core of the financing system, the balance principle, are coming from international financial market regulations, which do not consider the special robustness of the Danish mortgage finance system. On the other hand, there is also an increased interest in the Danish Mortgage finance system abroad, due to its good performance and standing.

A better understanding of the marginal dynamics of the combined factors of property rights security and mortgage finance could possibly be leading the way to a strategy for introducing mortgage credit into new markets and setting the grand locomotive of mortgage finance in motion to the benefit of society and all prospective home owners - and at no cost to the tax payers. This is further discussed in Part C.

4.4 Propositions on Prerequisites for Implementation of the Danish Mortgage Finance System in other Contexts

The first challenge is to extract propositions on criteria in general and more specifically what factors are of importance for introduction of DMF to a new market, either from explicit specifications, or by exploring what are the preconditions according to implicitly preconditions, as found in literature and reports on the DMF.

Factors determining readiness for mortgage credit are explicitly defined by financial experts, but in rather broad terms as e.g., macroeconomic stability, existence of financial infrastructure and security of collateral. The challenge is both one of identification of criteria, and one of finding ways of screening if these criteria are fulfilled in a given country at a given level of analysis.

What are the detailed requirements involved is often left open to interpretation, and a matter to be explored. For this purpose authoritative sources were analyzed in search of more details on factors of importance for decision makers in strategic decisions on housing finance. A kind of hierarchical structure of criteria according to their importance could potentially help structure a screening process.

Consequently the identification of criteria for introduction of the Danish Mortgage Finance system proceeded in steps

1. Collate factors of importance for introduction of a market based housing credit system from available authoritative texts;
 - From authoritative texts on housing finance derive a list of parameters of relevance when introduction of new models of market based housing finance systems in new contexts;
 - Elaborate and organize the list of parameters for better structure and logics;
2. Review the list for clues in respect to the development of the Danish Mortgage System
 - What were the contextual factors facilitating the development of mortgage credit system in Denmark?
 - What was the relative importance of these factors, and can any factor be classified as having been critical?
 - Were these factors specific to a historical period, or are any factors still relevant in modern context (technology, complex societies?)
 - Review the list for clues on the relative importance of parameters or time sequence;
3. Review the list compared to implementation difficulties
 - limitations in potential source data;
 - when applied in specific cases of development of mortgage credit as described in reports, etc. (Ref. to Case studies in Part D);
4. Propose an operational approach in the form of e.g., a checklist and suggested sources of data.

In this way the development of an assessment framework of criteria for screening went through iterations and feed-back mechanisms.

In addition the project has included a review of the topic from a European perspective. New requirements to national real property infrastructure in support of affordable housing credit and open credit markets, predominantly in an EU context. The latest developments on the mortgage market are discussed in view of the EU-White Paper on the Integration of EU Mortgage Credit Markets, 2007, i.e. the open market for housing finance.

Criteria and parameters: Ref. to **PART A**, Chapter A.12

Screening method: Ref. to **PART B**, Chapter B.9.

Structure of Prerequisites and Building Blocks of an Assessment Framework

A preliminary set of criteria for implementation of a mortgage system has been developed based on the document, (UN-ECE, 2005).

The Propositions on prerequisites for mortgage credit are partly derived from the UN-ECE document, while other criteria have been added with reference to the findings in Part A on the nature of the mortgage finance system. However, the criteria and their threshold levels will need to be considered in each particular case by housing finance experts.

Some of the criteria for introduction of mortgage finance systems (MFS) are financial factors derived for the present research from authoritative texts by financial experts, and taken as predefined parameters with due reference to sources.

A draft evaluation framework may approach assessment of the readiness for MFS from two sides: Partly by assessing the status of factors serving an enabling function; and partly from screening possible obstacles for mortgage market development.

In this way screening of, on one side, enabling factors and, on the other, obstacles describes the playing field: In a troublesome environment, it may suffice to check out barriers and constraints in the market.

It is suggested to consolidate the various concepts mentioned under different headings in UNECE 2005, while maintaining the distinctions as follows:

- Some preconditions have to be fulfilled in any case for the functioning of a market based housing financing. If not fulfilled, these factors become obstacles for introducing market based housing financing systems;
- A range of risks, which are to be managed before and after, when implementing any market based housing financing system.

Subset of Prerequisites for Danish Mortgage Finance Development

In consequence, a modified structure of the long list of preconditions of (UN-ECE; 2005) has been defined as a subset of topics with a slightly different emphasis adapted to the focus on the property market infrastructure needed as a foundation for a functioning mortgage credit system, in specific the Danish mortgage credit system, because credit risk is its main risk factor.

The prerequisites defined by UNECE (2005) were reorganized by consolidating housing market prerequisites into one group and splitting institutional prerequisites into two to emphasise the aspect of collateral security. Below, the criteria derived from UNECE (2005), and the review in Part A, have been systemised in the pursuit of a model for screening of the conditions for introduction of a marked based housing finance system. Five groups of prerequisites for market based housing finance were defined by UNECE as follows:

1. <i>Economic Prerequisites:</i>	Macroeconomic Stability
2. <i>Institutional Prerequisites:</i>	Working Legislation and Sound Institutions
3. <i>Collateral Prerequisites:</i>	Secure Property Transactions and Mortgage Pledging
4. <i>Housing Market Prerequisites:</i>	Enabling Housing Policy and Local Housing Markets
5. <i>Financial Sector-Specific Prerequisites</i>	

The fifth group of criteria, financial sector-specific prerequisites (UNECE, 2005, p. 55-57), are not covered here but mentioned in context, in so far as the issues are linked to other prerequisites and covered by financial experts in the underlying sources.

A checklist was prepared by VP- Securities A/S with factors of importance in the feasibility study covering point 5 Financial Sector-Specific Prerequisites, see Appendix 2.

The four types of prerequisites are further structured with emphasis on issues of property rights, land supply, and collateral security:

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)*

The above structure serves to systemise criteria and sub-criteria to be applied for screening, with emphasis on analysis of conditions for securing collateral, Table A.21. The list of prerequisites illustrates, that mortgage finance is heavily dependent on contextual macro-economic factors and on the housing market at large. For a more detailed discussion of criteria and indicators, see Part B, chapter B.10.

With a market based mortgage finance system, decisions on feasibility of mortgage finance development are eventually in the hands of investors.

5. Summary of Findings on Part B - On Monitoring of Property Rights Protection and Land Governance

5.1 Overview of Structure and Issues

Introduction

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 developing an approach to screening for readiness for mortgage finance.

Part B is central to the study, since it was aimed at responding to the requirements 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.

The analysis in part B is organized in two main components:

1. Inventory and analysis 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.

At first, it was explored what (re)resources are available on the status of property rights protection in cross-country studies and monitoring systems on property registration systems as well as in macro-economic indices. The inventory is rather bulky, due to the amount of sources reviewed.

In view of the findings on indicators and macro-economic 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.

An overall difficulty in methodology development stemmed at first from a lack of a conceptual model of property rights protection and mortgage pledging to allow assessment of the 'level of protection' of rights and 'security of collateral'. Secondly the review showed a general lack of data, indicators and monitoring systems on property registration, cadastres, etc. Inventories and overviews on these topics were also found to be in short supply.

The emphasis in the study is laid on explorative research and analytic reasoning, but model development was beyond reach in this study. Interwoven in the explorative part are made observations of a generalizing nature with some observations on research and development challenges ahead.

Structure of Part B

The structure of Part B follows a stepwise approach from inventory of information sources to analysis and development of proposals on screening strategies and methods.

At first are presented the findings of an inventory of potential information sources on property rights protection and on criteria for mortgage finance development (Chapters 2 to 8), 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

On that basis proposals are outlined on a strategy to screening and on feasibility studies or on preparation of structured information in support of the financial sector's effort of expanding mortgage finance to other markets, Chapters 9-10.

Chapter 10 adds a discussion of detailed indicators and 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.

PART B 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.

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 the two 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 for mortgage finance development, and supported the feasibility of using macro-economic indices in screening.

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 supported by detailed analysis of the legal system with a focus on real property and land governance.

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.22), which is not representative of the quality of protection offered in each case. It was also found that the distinction between deeds and title registration systems is linked to general typology of legal systems and to the level of legal formalism.

Part B focus on clarification of monitoring data and systems, while the justification of indicators and causality among factors are discussed in Part C in view of reform strategies in real property registration and development of necessary market infrastructure.

A review of available monitoring systems in cadaster and land registration showed that the available monitoring data at macro-level of property registration is scarce and fragmented. No readily available typology was found to classify property registration systems according to what protection and what quality services they provide for mortgage pledging and the mortgage market. Neither was it feasible to develop an assessment framework during the study, so more pragmatic approaches were taken.

Point of departure in research on land registration

The review in Part B showed that

- Extensive research has already provided a better conceptual understanding of the principles of cadastre and land registry both in advanced economies as in a development context;
- Development economists have linked the institutions of real property to economic development; and new contributions from the side of property economists discuss the theoretical basis for collateral;
- Many countries in emerging economies and the so-called developing world have implemented cadastre & land registration projects over the latest decades, where it is possible to explore the possible benefits of the real property infrastructure in the area of housing finance;
- A global surge in the monitoring culture is having an effect on the availability of data (disaggregated statistics);
- ICT- offers powerful access to information sources worldwide, as well as tools for analysis, Etc.

However, the literature review showed that the field of cadastre and land registration is still struggling with technical perceptions, which limit the understanding of the fundamental role of property institutions in a wider development context, Part C, Chapter 8.2. As a result the classical titling approaches may not form adequate responses to the complex challenges of malfunctioning land institutions and informal markets of real property in different countries.

During the latest decades many developing nations and development institutions have struggled with resolving the disorderly conditions of real property institutions caused by a break-down of previous social tenure systems combined with inadequacies of new regulatory institutions in controlling urban development, and securing good governance in land. It remains a challenge to diagnose the shortcomings of the real property market and infrastructure in countries with fractional administrative systems, and to develop strategies for how the property rights can best be protected in order to allow affordable mortgage finance systems to be developed in these countries.

At a general level, the review has brought about a sense of urgency for linking up the field of cadastre and land registration with stimulating developments in monitoring and rating of property rights on one side, and on the other side, connecting with new scientific discussions in economics. Moreover, the latest crisis in housing finance has demonstrated how the housing sector is sensitive to the developments in financial markets and associated risks in mortgage finance. The real sector is intimately connected with the macro-economy. In consequence it is of macro-economic importance to prioritize the interventions that may bring about more transparency, less risky property markets, and economics of scale in associated infrastructure and services.

Indicators on Property Rights Protection

Over the latest decades economists and other scientists have developed concepts and tools for describing and assessing complex socio-economic features at a macro level, such as e.g., the rule of law, good governance, economic development, all based on huge amount of research, statistics and data collated by international organizations (World Bank, OECD, WEFORUM, UN, etc.). Thus rating systems have emerged over time founded on national statistics and standard statistical surveys, which allow standardized cross-country comparisons to be performed.

Unfortunately, this is not the case in the area of property rights protection and assessment of the level of “security of collateral”, a central concept for introduction of DMF. In this area, no macro representations and ratings have been found, which can serve as input to the assessment process, ref to Part B, Chapter B.8.3.

So far reporting of cadastres and land registration systems appears to have been developed from an insider perspective of the sector, many for peer reporting or for developing ‘best practices’, but the formats seem unsuited to meeting the requirements of investors and other decision makers, (Chapter B.2).

There is an abundance of reports on cadastre, land registration systems, and other relevant analysis, but in unstructured formats. The amount of quantitative and qualitative data, however, appears to be scarce (ref. to the Cadastral Template, Eurocadastre, WPLA and others).

The review of available metadata and indicators of relevance for screening has shown, that even at a more detailed conceptual level, it seems difficult to get access to comparable statistics on cadastres, property registration and the property market in most countries. Work is in progress on establishing a set of indicators for cadastral systems and land governance, but there is a long way, before such work can be operationalized and developed into a global rating (monitoring) system of the protection of property rights, and security of collateral (Chapter B.4).

Rating of readiness for development of Mortgage Finance according to the Danish model calls for developing classifications of property registration systems with supportive infrastructure in order to overcome the obstacles of assessing the status of protection of mortgage pledges from a great number of details in the domain of cadastre and land registration. It is suggested that such classifications need to synthesis the status of land registration implementation and protection levels at a higher abstraction level according to: Level of completeness, maturity of implementation, efficiency and delivery of services, quality of information, level of guarantees, etc.

Setting out to feature “property rights protection” and “security of collateral” at a higher level of abstraction, yet operational, is a demanding task requiring modeling of the underlying phenomena, as commented in Part B, chapter 1.

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 statutory 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.

5.3 On Indicator Data and Information Sources on Cadastre and Property Registration

Type of Information Sources

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, and they are not updated.

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.

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.

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, others?)

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. An overview of selected information sources is provided in table B.2, and commented in further detail in Part B.

ORGANISATION	REFERENCE	Core Concepts	Data contents	Countries incl
<p>University PhD-work; (FIG) Source: National informants Updating: Voluntary, Possible, Ad hoc</p>	<p>FIG Cadastral Template http://www.cadastraltemplate.org/ A Worldwide Comparison of Cadastral Systems. Developed by D. Steudler in 2003-4 Ref. Steudler, D. I. P. Williamson, and A. Rajabifard. 2003. "The Development of a Cadastral Template." <i>Journal of Geospatial Engineering</i> 5 (1): 39–47. Voluntary reporting without resources for maintenance</p>	<p>Template for country report on the status of cadastre and land administration; National, descriptive with few quantitative data, non-spatial data;</p>	<p>Standard reporting format: - Country Context - Institutional Framework - Cadastral System - Cadastral Mapping - Reform Issues - Cadastral Principles - Cadastral Statistics (few data fields)</p>	<p>Status 2008: 42 countries worldwide Voluntary ad-hoc updating (if any)</p>
<p>Nordic Study</p>	<p>Nordic studies of Cadastres and Land registration systems Ad hoc</p>			<p><u>5 Nordic countries</u></p>
<p>UNECE Source: National informants</p>	<p>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 Updates: No</p>	<p>Standard questionnaire filled in by national agencies' representatives Rich information source with a good structure</p>	<p>Key features of Land registration system; Cadastral and Topographical Mapping Systems; Land Use Recording systems Organisation and government responsibility; Some quantitative data.</p>	<p><u>41 countries</u> in Europe and North America Report not maintained</p>
<p>EURO-CADASTER Source: National Agencies Updating: Ad hoc /static</p>	<p>http://www.eurocadaster.org/ 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</p>	<p>Country reports, predominantly descriptive Country data attempted, but scattered, and not consolidated into a table. Incomplete, but anyway informative information source.</p>	<p>Strength: descriptive. Include no. of parcels, rural-urban distribution, registered properties, etc. Some country information refer to IACS others not.</p>	<p>EU member countries (27) Information is not tagged with a date, but reports are dated Ad-hoc contributions</p>
<p>EUROGEOGRAPHICS: Source: National Agencies Updating: Unknown</p>	<p>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 http://eulis.eu/</p>	<p>Integration of previous efforts of the cadastral template and WPLA of UN-ECE Strength: structure and comparative format Data fields are still basic EULIS: Online access to query in some national systems</p>	<p>Basic country statistics Duration, process and costs of: Conveyance of property Registering a mortgage Subdivision of a parcel Performance indicators</p>	<p>EU member countries 2008 First basic version with comparable data; Expansion and maintenance expected</p>

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

The Cadastral template was developed for a possible global coverage, and the template also includes indicators on the estimated coverage of formal land registration systems, see chapter B.2.2. The template is an example of an emerging trend towards comparative studies in cadastre with the ultimate purpose of benchmarking, ref. to format in Appendix 3. 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.

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 detailed and well targeted country study.

On Transaction Cost Studies

The review included studies on transactions costs and conveyancing services, that 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.

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, a.), 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.”*

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.

(Definition according to (Djankov, 2008, p. 1112): Foreclosure is a procedure aimed at recovering money to secured creditors, and can be conducted through out of court procedures, or through courts.)

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 with input provided by in-country insolvency practitioners. Data was made comparable through definition of a standard case of default. The findings are summarized here, due to their centrality for country screening.

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).

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, GDP/capita, were shown to be determining factors for foreclosure efficiency, although with exceptions.

Japelli et al. (2002) document that the cost of enforcing contracts is a determinant of market performance, by studying the differences among 27 judicial districts in 95 Italian provinces and data set for years 1985-1995. 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’.

Concluding observations

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 the role of enforcement in economic development (Trebilcock and Leng, 2006).

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 inversely 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.

Below the characteristics of each reviewed source is summarized, 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	Incomplete by countries, not updated, rather summary information and lack of sufficient detail for screening of	Methodology improvements possible through use of statistical methods applied in generating composite indices,

features of property registration systems - Monitoring of progress of registration, service delivery, transactions, etc.	readiness for mortgage credit.	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; - Studies on legal efficiency and foreclosure document the economic impact of legal systems.	- 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. - Studies on foreclosure provide evidence of causality between legal systems, mortgage credit and economic development.

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

The qualities of the reviewed sources constitute at the same time limitations for use in screening. 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, inspiration for a possibly be a way forward can be found in applying composite indices and ranking systems. The ZERP-study and Lex Mundi studies demonstrate achievements in use of statistical methods on complex qualitative and quantitative data on property rights and collateral security.

5.4 A Review of Cross-Country Studies on Land Administration Systems/ Land Governance

Overview of Monitoring Activities in Land Administration

Selected monitoring activities and comparative studies in Land Administration were reviewed in search of possible information sources for screening of readiness for mortgage finance. The list of sources is likely to be incomplete, and other studies of relevance could possibly be found, especially in non-English language sources.

The comparative land administration studies reviewed cover general and abstract features of land administration and have less detail on cadastre and land registration systems let alone mortgage pledging. They are typically designed for wider purposes, not necessarily including mortgage finance development.

International institutions with continued access to resources are active in development of country studies on 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.

Two examples have been reviewed of an assessment framework developed by the World Bank and US-AID, where land policy and property rights issues have policy priority, and are backed by expertise and research activities.

At the global level, the World Bank has contributed to significant land policy research and dissemination of knowledge including country studies taking advantage of the WB operative experience. 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.

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 (chapter B.4.3). However, earlier land policy reports (Deininger, 2003) were dominated by rural issues of land reform.

Conceptual modeling of indicators in these reports does not embrace the dimensions of housing finance. Development of monitoring systems in land registration and land governance is gaining momentum, but comparative data is still scanty.

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	
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=47633&contentMDK=22309879&noSURL=Y&piPK=477636
2003	"Comparative Study of Land Administration Systems; Critical Issues and Future Challenges" (in support of Deininger, 2003)	Burns - reference?
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. Tony Burns, "Property Registration Indicators", Addis Ababa, Ethiopia, May 3-4, 2007	http://siteresources.worldbank.org/EXTARD/Resources/ARDDiscussionPaper37.pdf 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, http://siteresources.worldbank.org/INTARD/Resources/335807-1174581646324/InnovLandRightsRecog.pdf

Table B.5. Overview of World Bank monitoring initiatives in Land Administration. Sources are

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" (chapter B.4.3) seems more market oriented than the other studies reviewed, and thus remain of potential relevance for development of mortgage markets. Another study with a market focus is the regional study of 2004 (Childress et al.), on land markets and collateralized lending in the South-East Asian region. Neither constitutes updated sources of monitoring data.

The LARA 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)

Within these topics diagnostic sub-questions were part of the structured analysis and answers to sub-questions were designed to form a rating on a scale with 5 steps, supplemented with quantitative data and qualitative features. Deininger, et al. (2010), have later applied a similar methodology.

The framework Land Tenure Property Rights assessment developed by US-AID is taking the form of a rapid assessment of each country. 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 Land Governance Assessment Framework (LGAF) - 2010

Different proposals were developed by the World Bank on monitoring of land administration, ranging from a conceptual framework of principles of a monitoring system with quantitative and qualitative indicators (Burns, 2008) to an assessment system of land governance with indicators in the form of diagnostic questions to be rated.

The latest version of the World Bank Assessment Framework is described as a diagnostic tool. It draws on lessons learned from testing in five pilot countries (Ethiopia, Indonesia, Kyrgyz Republic, Perú and Tanzania). The LGAF framework adopts a combined use of hard data and expert assessments of rating.

The framework assesses five 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 and graded statements.

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

Indicators embrace issues of importance for housing finance, such as clarity and enforcement of property rights, access to land information, land delivery and building permits.

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 especially needed market related indicators on such issues, as e.g., volume of the market, mortgage pledging and foreclosure.

Concluding Observations on World Bank initiatives

The WB comparative study and monitoring frameworks stress 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 reflected in the monitoring system and indicators.

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 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 that the level of detail of the study seems insufficient for reflecting qualitative differences among registration systems, not to mention issues of relevance for mortgage pledging and foreclosure.

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. 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.

Much focus has lately been put on improving regulatory controls and transparency in 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 seemingly limited audit of the management of these assets.

5.5 On Macro-economic Indicators with Relevance for Screening of Readiness

Overview of Indices Reviewed

For the present review the following indices have been selected for further analysis, so analyse their potential use for screening of readiness for mortgage finance, both in respect to macro-economic factors as for monitoring of the status of “protection of property rights”:

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??

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_in_dices/cpi/2009 ; Sources: Own surveys

Table B.10. Overview of Macro-economic Indices with Relation to Property Rights Protection

*Uncertainty of dating input data; **Reference to chapter C, where it is discussed

The character and focus of each of the above indices differ greatly.

The Ease of Doing Business (EDB) 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 EDB -sub-indices on registering property featuring 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, the survey was found to have a number of limitations, related to its design and assumptions, such as the lack of representation of the quality of the institutions in the rating.

The EDB was shown to be resulting in misleading ratings e.g., in the case of Ghana, Chapter B.6.1 and Appendix 4.

The Worldwide Governance Indicators (WGI) is a composite index of governance quality. Thus, the WGIs are based on a model of governance defined by six dimensions of governance: Voice and accountability, Political stability, Government effectiveness, Regulatory quality, Rule of Law, and Control of corruption. Within this system comprehensive sets of indicators (WGI) have been developed and compiled covering practically all countries from 1998, since 2002 with yearly updates, see <http://info.worldbank.org/governance/wgi/index.asp>. Each indicator is devised as sets of carefully designed sub-indicators, so that each indicator may capture the studied phenomenon with a higher degree of finesse, but also be represented as a conglomerated indicator.

The WGI-indicator system represents state of the art in monitoring of governance. It relies on data from a large number of sources /surveys, and is well documented with underlying models and information on margins of error, and the weights assigned to each parameter and their contribution to the overall scores.

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.

The Global Competitiveness Index (GCI) 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.

The International Property Rights Index (IPRI), www.InternationalPropertyRightsIndex.org has been developed with the special purpose of rating the conditions of property rights, but is generated as new compositions of indicators extracted from other systems. The concepts were found to be deficient in respect

to the underlying standard questionnaires and assumptions, and the input data too weak to be representing the declared monitoring goals (chapter B.6.2).

Given the destructive effects of corruption on development of markets, the analysis included the rating of the Transparency International, **Corruption Perception Index (CPI)**.

An analysis of the above indices was made in the form of a correlation analysis of a limited data set (20 countries) including the case countries. The indices of ‘property rights protection’ were analyzed in relation to development indicators of governance and competitiveness within the limitations of the reviewed indices.

REGRESSION ANALYSIS MATRIX																
YEAR : 2007-2008 (note) SUBSET OF SELECTED 20 COUNTRIES	World Economic Forum Worldwide Governance Indicators					World Bank - Ease of Doing Business					Global Comp. Index			TI-CPI		
	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

The regression analysis showed correlation coefficients between 0,53 and 0,96 in the selected data set with highest coefficients between the corruption indices CPI and the governance indices of WGI. In the selected 20-country data set, the World Economic Forum indicator on Property rights was found to correlate convincingly (significance level to be inserted here) with CPI (0,88) and with WGI, the Worldwide Governance Indicators (0,90) and its sub-indices.

On this basis it was concluded that:

1. Macro-economic indices are also indicators at a generalized level for screening of the level of protection of property rights;
2. Both the WB-Worldwide Governance Index and the WEFORUM Global Competitive Index 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.

The analysis suggests that when information on property rights protection is unavailable, then the macro-economic ratings on Governance and Transparency may serve as proxies.

6. Extracts of Part B and D - Proposed Methodology on SCREENING OF READINESS FOR HOUSING FINANCE

6.1 Overall Ideas

The given challenges of the PhD is partly to provide a method or tool for classification of countries worldwide in respect to macro-economic and political stability, and to develop an approach to screening of readiness for introduction of the Danish Model of mortgage finance (DMF) with special focus on protection of property rights and mortgage pledging.

As documented in the previous chapters, there were found no readily available data to design a screening process possible entirely based on functioning monitoring systems and indicators. Instead an iterative approach has been taken.

Access to information on the property market, with supportive legal and information infrastructure, is a crucial parameter for the functioning of a mortgage market, as is public information services. Therefore availability of (meta-)data becomes a parameter of its own on assessing market transparency.

The proposed set of prerequisites for mortgage finance show that macro-economic factors are critically important at the market entry stage. The analysis in previous chapters showed that these indices may have significance in other functions of a screening process.

The underlying idea of an iterative approach is to differentiate the screening approach dependent on the character of each national market. Therefore a stepwise approach is outlined relying on a degree of standardization of formats in an effort to systemize the process and - as far as possible - facilitate access to information required by the financial sector:

1. Segmentation of Countries by use of Macro-economic ratings

In the first step collated macro-economic ratings are applied for classification into three country segments. The bottom ranks, represent unlikely candidates for mortgage market development, and the top performers the most mature markets, leaving a broad middle segment.

2. Differentiated Analysis by Country Segments

In the next step a differentiated approach can be taken by focusing on identification of constraints and possible barriers to mortgage finance development within a country or group of countries by rapid appraisals.

3. Country fact sheet – Learning from EMF fact sheet

Due to lack of suitable monitoring systems, it is proposed instead to develop standardized country fact sheets similar to the format of the fact sheets prepared by the European Mortgage Federation. In a developed market the fact sheets can be targeted at the sector of finance and property market, while in emerging countries a wider set of sectors need to be screened. In case of low Income countries, more emphasis is laid on critical basic conditions of macro-economic stability, governance, rule of law, etc. and on key market indicators such as housing stock, demand and housing affordability.

4. Detailed country feasibility studies

If the above steps still leaves open a potential of market development, it is proposed to conduct a detailed analysis of property rights and property institutions – expanded version – broad spectral.

5. Disaggregated Analysis of mortgage (housing) markets of major urban conglomerates

Finally a full screening process would include disaggregated market information to profile sub-markets within a given country. (NOTE: not conducted within the present study)

Steps 1-4 have been conducted as part of case studies. Suggestions on process and the propositions on indicators do not include definition of threshold values. The outlined screening process is conceived as a supportive tool, while it remains an open issue to be assessed by financial experts – given the information

available – what markets are considered ready for mortgage market development. Each step is further elaborated below.

6.2 PROPOSED ITERATIVE AND DIFFERENTIATED APPROACH TO SCREENING

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.

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).

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.

Ref. to Country Segment Analysis in Appendix 5

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.

Ref. to Case Study Nicaragua, Part D

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.

Reference to Prototype of Country Fact Sheet, Appendix 9

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.

Ref. to Ghana Case study in Part D

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 & Country Classification	Rapid Assessment-by country with focus on constraints & risks	Standard Country Fact Sheets	Detailed within-country analysis
	Information (Sources)	Information (Sources)	Information (Sources)	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				
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				
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	<i>B.Chapter 8-9: Macroeconomic classification</i>	<i>Case study Nicaragua and Ghana</i>	<i>Case study Ghana; Prototype only</i>	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.

6.3 Findings on Screening Method in Case Studies

Case studies were conducted in-country in selected countries, when invited to take part in VP-Securities A/S appraisal missions. At the time of writing one mission has been conducted for VP-Securities to **Nicaragua** in September 2008. Another desk study has been prepared concerning **Ghana** in March 2009. Statistics and macro-level indicators on governance and development have been (are being) compiled for 18 countries including Denmark, Nicaragua and Ghana to facility cross country comparisons, see Appendix 8.

The case studies functioned both as exploratory as part of the methodology development:

- Approach: qualitatively, descriptively based on documentation found by Internet searches and by in-country fact-finding. Problem areas elaborated more than less critical areas. OUTPUT: Desk study report
- Expand screening results with data, statistics and data analysis in pursuit of operational screening methods. Explore the integrated use of indicators and screening methods. OUTPUT: Country profile format

One of the uncertainties of the case study work is what data /information is available and accessible. Limitations in data availability are at the same time an indicator of transparency, and one of the factors to be coped with in designing an indicator system. Clever indicators are needed to overcome the information void.

Findings of case study – Nicaragua – in Brief

In Nicaragua the feasibility study resulted in a negative assessment by the potential investors of market readiness for mortgage finance according to the Danish model for reasons of the prevailing macroeconomic conditions (VP Securities A/S). Conditions in the property market and in property rights protection were also shown to be adversely affecting the readiness for mortgage market development.

The case study was supportive of the proposition that

- Macro-economic conditions are the first screening factors to be considered, before delving into detailed market assessments in accordance with the proposed screening framework;
- The use of macro-economic indicators for screening of mortgage markets, since all the macro-economic indices were placing Nicaragua in the lowest segment of potential mortgage markets developed in B;
- Poverty levels formed a serious constraint in the demand for credit;
- Uncertainty of property rights protection impact negatively on the housing market and on economic development.

In this way the case study of Nicaragua was instructive in developing the screening methodology, and in observing the role of property rights protection in economic development.

Main findings of case study - Ghana

The desk study was focused on the land sector with identification of the following difficulties for mortgage market development:

- The Legal basis for title registration is in place, but implementation is limited, so the formal sector is small;
- The land tenure system is highly complex due to a plural legal system of statutory law and traditional land tenure resulting in in-transparency and high levels of land conflicts;
- Land delivery for urbanization is dependent on the traditional sector, and there is a severe shortage of developed land for housing;
- State land agencies and land administration have been plagued with inefficiencies, lack of coordination and in-transparency, but are currently being reformed;
- Urban Planning is weak, provision of infrastructure for urbanization deficient, and delivery of construction permits is cumbersome;

- The shortage of housing in Ghana is monumental, prices on the housing market are driven up by shortage and external funds, so that housing affordability is limited to a few percent.

The desk study served to demonstrate the design of a 'Country Fact Sheet' to profile the conditions for housing and mortgage market development, see Part D, and Appendix 9. The Country Fact Sheet is inspired by the EMF Country fact Sheets on mortgage markets in Europe, but expanded with more information, since it is necessary to analyze a broader range of factors in new markets. The design is based on the idea of linking up to 'live' information sources, so as to ease maintaining the actuality of country information, as is the case with the EMF country fact sheets.

The case of Ghana was also instructive for illustrating the centrality of land supply for affordability of housing. Since other development trends in Ghana are positive with new discoveries of oil, and ongoing reforms in relevant branches of government, the constraints in the land sector stands out as obstructive to mortgage market development. The detailed desk study of conditions in the land sector served as an example of a detailed screening of the land sector focused on the requirements in mortgage finance development, ref. to Part D, and to appendix 2.

The Pilot study conducted by VP and its partners within the B-2-B programme of the Danish Foreign Ministry of Affairs explored the proposition of establishing a company in Ghana to act as a Mortgage Service Provider (MSP) based on the principles of the Danish Mortgage Model, initially through establishing a company in Ghana with shared ownership, and to build its capacity to become operational and doing business over a three year period. A costed plan was developed as part of the pilot phase.

The Pilot Study found that the current mortgage market in Ghana is quite small for several reasons. The biggest problem was found to be high inflation and high interest rates, so that mortgages are very expensive due to high inflation and lack of funding and competition. The capital market is also underdeveloped, since there is currently no liquid bond market in Ghana.

Given the housing requirements in Ghana over the next decade of estimated one million homes, the VP pilot study concluded that the business proposition of setting up a new mortgage finance facility in Ghana seems viable, but also refers to the critical risk factors identified. What is positive is that the mortgage industry seems willing to stretch itself, even if growth opportunities are expected on a longer term.

6.4 Screening Challenges in an Information Void on Property Rights

The Information Void

While the importance of real property institutions is widely acknowledged by a broad spectrum of development economists and in other research areas, *the role of the status of property rights protection and institutions is underrepresented in measures of economic development*, such as in various ratings systems applied by the financial world in their risk analysis at the macro level. Moreover, there is hardly any monitoring data available on cadastral systems and land registration, even in advanced economies, as documented in Part B.

At the micro level orderly land administration and transparent property registration systems are prerequisites for developing secure mortgage credit systems according to the Danish model (dansk realkredit) as argued in previous chapters. Despite the economic importance of information on the real sector, metadata and statistics was found to be scarce. Basic data on simple issues, such as coverage of formal systems, transaction statistics, etc. is sorely lacking in many countries

In mature markets the mezzo information level seems underserved. There is needed access to information at a level of detail between EULIS summary data and the current fractional, detailed information, including access to information on legal framework, processes (foreclosure, e.g.) and services in each country.

Information needs in the financial sector point to the importance of establishing better indicators on property markets and protection of property rights, including mortgage pledging and foreclosure. Sector specific macro-level information is needed on cadasters, land registration, property valuation, enforcement, etc. . In

addition more qualitative measures are required, e.g., on the quality of property rights protection and services.

Hereby, it is suggested that it is required to work on bridging the gap between technical data, and such indicators on property institutions as required for profiling the land sector/market and property institutions as required by the financial sector, and the status of property rights protection as components of macro-economic rating systems.

Property markets also need to be profiled at the sub-national level in order to assess potentials for mortgage finance development typically associated with leading urban conglomerates. To this end, disaggregated statistical analysis could help identify urban growth clusters, where the conditions of economic development are better, irrespective of country ratings.

In this way screening could review mortgage market potential in a spatial context: both in the form of growth regions (areas) and growth potential. An important component in monitoring is the supply of land for urban development and affordability factors, which are bound to vary at subnational level.

The study did not go deeper into discussion of the implementation challenge, but it appears that the task is to be lifted up at a higher level in order that it receives due attention. Monitoring based on ad-hoc voluntary contributions is unlikely to meet the need for continuous production of statistics and indicators in the field of cadasters, property registration, not to mention property rights protection.

On Application of Available Information for Screening of Readiness

The challenge of screening for readiness is making best possible use of available information.

At first it is recognized that a lack of information on cadasters, land registration, and the property market is per se an indicator of in-transparency in the land sector.

Without standardized information on the conditions of land registration across the world other information sources were explored, such as macroeconomic indicators, but more work is needed especially on the use of national statistics, which provide promising options for detailed studies of housing and mortgage markets.

Step One of the proposed screening process found strong patterns of segmentation of global markets from use of a few macro-economic indices alone.

By use of the long list of 209 countries and territories (World Bank) it was found that country classifications according to different macro-economic classification systems were largely consistent. There were found discrepancies especially in the case of oil rich countries.

The proposed criteria of segmentation resulted in identification of a top-segment of 48 countries, and a middle segment of 50 countries, while the group of lowest performers and small economies made up over half of the economies on the World Bank long list of countries and territories, Ref. to Appendix 5.

More work is required in order to apply the full potential of macro-economic classifications in combination with information on e.g., legal origin of administration systems, or cultural and regional characteristics.

7. Summary of Findings Mortgage Credit, Property Rights and Economic Development (Part C.)

7.1 On the Concept of Economic Development

Concepts and Definition

The interplay between mortgage finance, protection of property rights and economic development is essential to the performance of economies, as shown in Part B. Here, factors of economic development are analyzed in relation to each of the two main topic areas: Mortgage finance and property rights' protection.

Since development economics is a vast field of its own, only some findings have been extracted from selected literature, and these observations are discussed in view of the project questions. However, what has been uncovered during the review is how important both mortgage finance and property rights are to macro-economics.

Theoretical questions on economic development are important in view of 1.) Modeling and indicator development; and 2.) Analysis of dynamics and setting priorities in respect to engendering mortgage finance development.

Therefore, theories on economic development are predominantly discussed from an application oriented perspective. For this purpose the concepts on economic development applied by the World Economic Forum (WEFORUM) have served as a reference in an application oriented screening approach, as discussed in Part B, Chapter B.9.

The WEFORUM framework is built on a multifaceted understanding of economic development as pluralistic, and by the view that economic theories are non-exclusive: Two or more theories may in principle be true at the same time (WEFORUM, GCI-report, 2007-8, Sala-i-Martin, p. 4).

The WEFORUM concepts and profiling of competitiveness, captures the complexity of economic development through its various dimensions represented by 12 pillars of development /competitiveness, and by modeling different stages of economic development from basic requirements to innovative features. Each index (pillar) is generated from a number of indicators, comprising in total 113 variables, of which two thirds are generated from executive opinion surveys and the rest are public data, as described in the technical notes, <http://www.weforum.org/documents/GCR09/index.html>

The framework allows classification of economies into three overall groups: Factor driven, Efficiency Driven and Innovation driven economies with two transitional stages, in total five stages of development (World Economic Forum, GCI-2009-2010: Chapter 1.1, p. 8).

Figure 1: The 12 pillars of competitiveness

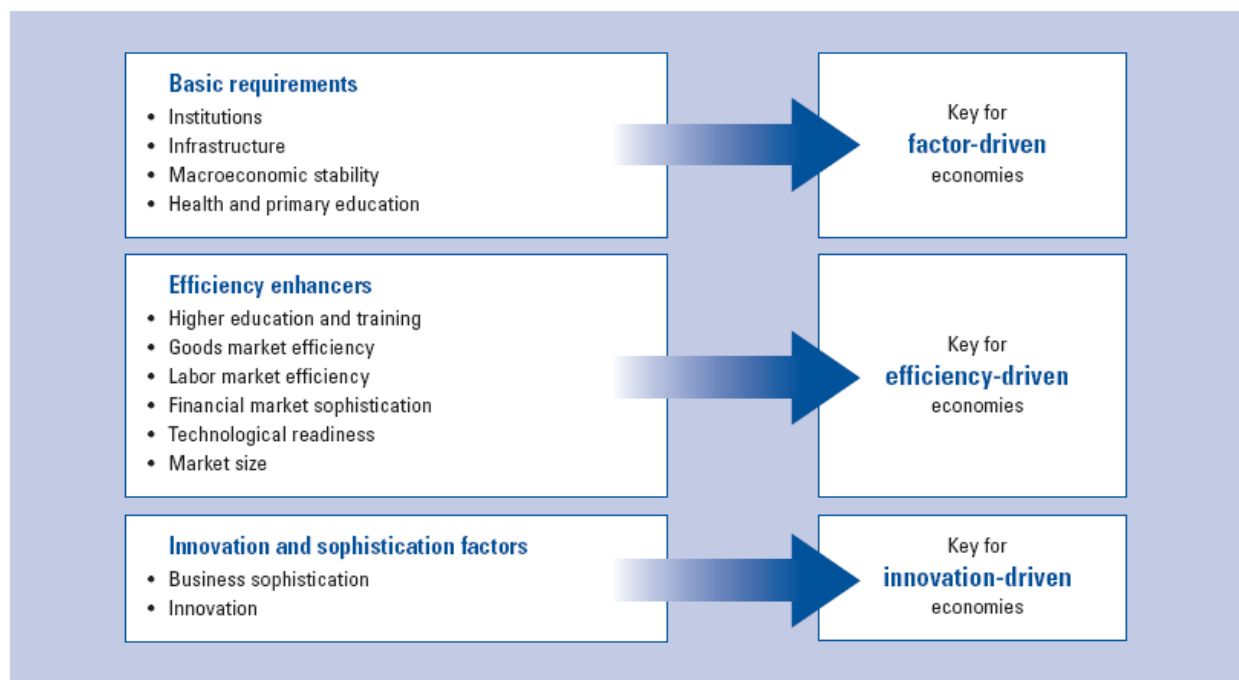


Fig. C.1. The 12 pillars of competitiveness of the World Economic Forum Monitoring System, Source: World Economic Forum, GCI-2009-2010: Chapter 1.1, p. 8

At the basic stage of development characterizing Factor Driven Economies, emphasis is laid on the Pillars One to Four, including Institutions, Infrastructure and human development factors of education and health. At the second stage, Efficiency Driven economies, different market factors feature prominently along with secondary and higher education.

Hereby, the model underlines the fundamental and prime importance of property rights in development. As can be seen the WEFORUM Global Competitive Index represent prominently different dimensions of property rights and property institutions: Pillar One. *'Institutions'*, features as component 1.01 *Property Rights*. Hereby the GCI is in accordance with institutional theories underlining Institutions as being of prime and fundamental importance to economic development, and among institutions property rights is being first in rank.

The WEFORUM index of GCI accounts as well for the role of financial markets through Pillar Eight, Financial market sophistication. Since Pillar VIII belongs to the factors emphasized at the second stage of economic development (Efficiency Driven Economies), a priority order of development is also suggested through the model of the World Economic Forum, with first priorities given to property rights protection and infrastructure.

In this way the WEFORUM GCI provides a comprehensive, but general, framework for analysis of the topics of property rights and mortgage credit in economic development.

7.2 Approach to Discussion of Economic Development

Structure of discussion

The point of departure for the study is mortgage finance, and how it depends on or links to property rights' protection and economic development. Causal relations are important, e.g., because they throw light on questions of prioritizing and sequencing of interventions.

The explorative part in A and B revealed relations between each topic with economic development, and there were shown forward and backward linkages to economic development.

In addition to the inherent relation between property rights and mortgage pledges it was shown in Part A and B that:

- Property registration serves as a lever for the mortgage market (Kruse, 1923), but registration alone is insufficient for development of a mortgage market, which depends on other conditions as well, especially income opportunities and a general positive trend in macro-economic development inducing confidence in the market (Part A, Chapter XX, ..). It was also discussed that affordability of housing and mortgage credit also depends on supply mechanisms, especially land supply, and that finance cannot fix problems in the real sector.
- With reference to the Danish property rights infrastructure (PRI), it was shown how mortgage finance with a volume of mortgage pledging can help boost existing land registration systems (revenues), and contribute to development of the PRI and services in accordance to user requirements of market participants.
- It was shown, how collateral security is key to mortgage finance, and different conditions have to be fulfilled to ensure collateral security: Legal protection of mortgage pledges, appropriate valuation of property, and access to effective foreclosure. As concern foreclosure comparative studies have shown how mortgage credit markets are negatively affected, if foreclosure regulations and procedures are not functioning swiftly and effectively (Japelli 2002 (Italy), (Gent, Kudlyak, 2009 (US))).

Thus the base in the triangular relationship (A-B-C) is strong, but this does not give direction to how strategies of developing a positive spiral of growth can best be designed.

The discussion in Part C is limited to highlighting of selected issues based on literature studies on

- ⇒ Relation A-B: Property and mortgage markets;
- ⇒ Relation B-C: Institutions, property rights protection and economic development;
- ⇒ Relation A-C: Money, credit and economic development;

The inter-woven character of the parameters of the real property market makes theoretical analysis of causes and effects difficult. Such interconnectivity may, on the other hand, facilitate development and selection of indicators, if it can be shown that some factors are correlating.

Security of Collateral - A Common Denominator

Evidently “security of collateral” is at the heart of the study, because a mortgage pledge is a legal commitment, whereby a property right is pledged as security for real credit according to the definition, Part C, Chapter A.1.1. With the added emphasis by economists on the role of collateral (coverage) at macro-economic level and in the financial sector (ref. Basel II, www.bis.org), it is clear that collateral security is not just one of many conditions, but a central one as underlined by its multiple links with property rights, mortgage credit and economic development established by different groups of economists.

Although economists use the term “Collateral” in a wider sense, namely as all types of assets (real or financial) used to secure credit, real property rights still form a central component of the general concept. Since economists link housing finance to economic development, and long term housing finance depends on collateral security, follows a logical and grand question of what role does formalization of real property play in economic development? Therefore such questions are eventually leading to a discussion of the benefits and justification of a formal property rights regime.

The soundness of the real property institutions, the real property market and application of market valuation principles are closely inter-twinned. The question of the value of the collateral is not only a question of securing the collateral value of the individual mortgage credit in case of default, but an issue of attracting investors as lenders in the first place, a precondition for the success of a mortgage securitization system (EMF, 2008).

Other factors of the property market have been shown to determine the size of the mortgage market and hence the feasibility of introducing DRK to a country at a given point in time. Such factors are for instance socio-demographics, affordability of housing and sufficiency of land supply for urbanization. These factors can also be seen as products of good governance of land as manifested through urban planning and the implementation of public land policies including the provision of infrastructure.

Thus it appears that the present topic spreads its tentacles through the whole urban universe of urban development, housing market, property institutions and finance. The resulting interconnectivity and complexity makes it difficult to devise a comprehensive model of criteria for introduction of the DRK system to a given country, since failures in a complex system may be caused by special factors overlooked in a general set of criteria.

7.3 Property Rights and Mortgage Pledging (A-B)

Observations on Credit Markets and Real Markets (A-B)

The link between mortgage finance and property rights is bidirectional: 1.) By definition mortgages are secured by a pledge of the property right, and 2.) since real estate markets depend heavily on borrowed funds, are credit conditions bound to have an impact on transfer and development of real property (Fisher, 1969, pp. 418-424). The transmission channels between the property markets and the mortgage credit markets are many and changes in credit conditions transmit to the property market (Fisher, 1969, p. 419).

Property market values fluctuate with conditions in the financial markets. It is evident that the real estate market becomes increasingly dependent on credit with higher property values, and that the mortgage finance market is closely integrated with the overall capital market.

Simple statistics show that the mortgage market makes up a large percentage of all private credit and of the national economy as illustrated of the outstanding mortgage credit to GDP ratios, Part A, chapter 1.3.

From the above follows an initial observation, that mortgage finance appears to have the upper hand *in a mature land market*. Renaud goes a step further by stating that ‘Cities are built the way they are financed’ (Renaud, 1996, 1999), although that observation seems more related to the overall differences in character stemming from housing built by incremental private financing, formal private credit and state financing, as visible in urban settlement patterns.

Any analysis of market forces will need to look at both demand and supply mechanisms, whether in the real or capital market.

Harvey and Jowsey (2004, p. 29) define ‘.. markets as any arrangement by which buyers and sellers are brought together to fix a price at which goods can be exchanged’, while considering the ‘real property market’ an abstract aggregate of many sub-markets.

In land economics there is left no doubt of the necessary legal foundation of the market: The real property market deals in ‘property rights’ or clearly defined legal interests. The market based on prices works efficiently, if rights are clearly defined and the costs of negotiating and enforcing contracts are small relative to the overall transaction. Inversely the efficiency of real property markets is reduced by:

- Imperfect knowledge
- Imperfect competition (monopoly interests) and
- Relatively high costs of dealing.

Land economists describe the required foundation of property rights for economic development in an equivocal manner, including the role of planning and infrastructure for urban quality, which is also about collateral quality. The real sector is also connected with economic development through the dynamics in the construction sector potentially acting as a locomotive of economic growth.

Another source of economic inefficiency is unequal distribution of resources. Land economists pay attention to the distribution problem concerned with an optimal distributions being a condition for economic efficiency (‘Pareto Optimality’*). Through an analysis of factors determining the market versus an optimal

distribution in an economic sense, it is concluded that the market economy is unlikely to be fully efficient in allocating of resources (Harvey, Jowsey, 2004, pp. 5-16). In other words: distributional reforms or interventions with re-distributional effects might be required to improve economic efficiency – and for other reasons.

*Footnote: Pareto optimality, *‘Welfare is maximized when no one can be made better off without somebody else being made worse off’*

7.4 Financial evolution and economic development (A-C)

Innovations and development

Having seen the strong interconnection between property rights and mortgage credit and their central role in the economy, is leading to the question of how is evolution of the property institutions and the credit market set in motion.

In Part C the case is made, that credit and bonds has formed the basis of the economy since early times. Economic development in Europe depended on innovations in the financial systems, and credit facilities are central to economic development historically and now. The public debt obligation (bonds) formed the financial basis for development of European states, and the private debt obligation (mortgage bonds) allowed mobilization of capital from wider sources to finance growth.

The bond market is now considered the basis of capital markets and the economy as a whole. The monumental size of mortgage markets worldwide impacts on the real economy, as has been demonstrated through the financial crisis (from 2007). Credit facilities depends on protection of property rights, so credit markets and economies can only grow if property rights are secured, although property rights are here taken as a broad term including all types of assets.

The fundamental interdependencies between ‘power’, ‘taxation’ and ‘credit’ were also discussed, showing that taxation is important both at the macro and local level. Local taxes are required for development of urban infrastructure and services, thus for generating urban quality. The value of sovereign bonds (‘statsobligationer’) depends the ability of the state to repay its debt, alias the future income stream of state taxes.

What are, or were, the critical components in financial (r)evolutions have been studied by prominent economists, who have found that there is no single, unique, financial evolutionary path. Different development paths emerge from having different institutions; and institutions differ because of e.g., different incentive structures (Fратиanni, Spinelli, 2006, p. 258).

North has listed the following innovations in his historic account of economic development (1990, pp. 125-126):

1. Techniques and methods evolved to evade usury law;
2. Evolution of the bill of exchange and particularly the development of techniques and instruments that allowed for its negotiability - discounting methods;
3. Innovations leading to lowered information costs, such as measuring standards, manuals, etc. facilitating a volume, thus economics of scale;
4. Transformation of uncertainty into risk, hereby making an actuarial determination of likelihood of events, and creating of various types of insurance.

The evasion of usury law played a role in the development of mortgage credit in Denmark in the 19th century, when the maximum interest rate was regulated at 4%. The nominal interest rate of mortgage bonds were set at 4%, but the yield through investment in mortgage bonds could be substantially higher, since the bonds were traded significantly below par, and were thus attractive to investors. In this way, the possibility of evading from usury law helped increasing the attractiveness of mortgage bonds on the capital market in the first phase of mortgage credit development in Denmark.

The third type of innovation, converting uncertainty into risk, is a highly actual topic given the effects of advanced hedging techniques in the financial crisis (Ferguson, 2009, pp. 224-230).

In the storm the foundation of the debt is tested, the values sustaining the debt, collateral values in case of mortgage debt, or income streams (from taxation etc.) in case of state debt. Shrinking property values are the outcome of a contracted economy with lower demand, and illustrate the bidirectional causality between mortgage credit and economic development.

Collateral Security and Commitment Mechanisms

The early development of mortgage credit market rested on a firm foundation of property rights and enforcement. This included an institutional mechanism to ensure ‘commitment to honour debt’, a mechanism also called “the North-Weingast commitment mechanism” (1989).

North-Weingast (1989) studied Britain’s financial development, and the relation between institutions, financial systems, and economic growth in the seventeenth century. North and Weingast analyzed, if there were institutional mechanism that underpins the commitment not to renege, and they linked institutional developments with lower credit risks. They found that the financial revolutions in Europe could be linked with the emergence of legitimate governments that could tax credibly, and therefore could commit to pay their debts.

The commitment mechanism, on which a mortgage credit system is founded, involves a range of social-cultural-legal administrative components. In some respects incentive structures are also built into the financing models itself, as illustrated by the differences between the Danish mortgage credit system and the funding mechanism of Mortgage Backed Securities (Chapter A.1.7).

Moreover, the role of the state is not only that of building legal framework and other framework conditions for the mortgage market, but also acting as a party in the credit market. Lack of credible behaviour of the state as a borrower is detrimental to the level of trust in the capital market, according to North-Weingast.

In short collateral security is a product of the institutional setting, but is treated here as a special topic, because it defines the particular institutional mechanism of pivotal importance for mortgage credit. Thereby, it is possible to analyze criteria associated with security of collateral at a specific level.

On the Role of Collateral and Controversies Surrounding It

Economists debate the role of mortgage credit and collateral in macroeconomics at a level transcending technicalities of housing finance and property rights. Through the link between credit and money, and the dependency of real credit on property rights, property is connected to “money” – alias macroeconomics. (Footnote: But in finance the concept of ‘collateral’ embraces all different assets held as security for debt)

Yet collateral security is also a specific matter to be considered in each single mortgage credit arrangement, when property rights are pledged as security for mortgage credit.

While ‘collateral’ is accredited a central role in economics, land tenure experts discuss the implications of land tenure reforms and the possible negative effects of ‘collateralization’ of property following formal registration of property rights.

One of the key objectives of many property formalization programmes (systematic land titling and land registration) have often been improving property owners’ access to credit in addition to increasing tenure security and reducing poverty. Land titling is a key determinant for getting access to formal credit, (Deininger 2003, p. 48), and formalization of land rights have been shown to increase the level of formal credit in a number of countries, e.g., Thailand, but most studies concern rural credit, which is distinctively different from mortgage credit for housing.

However, successive analysis of the outcome of the land titling programmes has shown a rather low incidence of using newly acquired property titles for mortgage pledging, (ref. to Payne et al., 2007, p. 14).

Controversies arise with formal registering of property, especially small holdings, if the properties are used as security for credit, but later lost through foreclosure. In such cases small holders do not only lose their real assets, but also the basis for their livelihoods, and it is held that the whole process of formalization of property rights with access to credit has caused more harm than good. This is particularly an objection against land titling in poor neighborhoods, where more sensitive tenure reforms are required to better serve a wider agenda of poverty alleviation.

For these reasons the discussion on the function of real assets as collateral for housing finance needs to be balanced with social issues of more general issues of secure tenure, as also stressed by housing economists.

Financial Experts' Views of Property Rights Protection for Financial Systems

Clear evidence of the role of property rights for mortgage finance development is provided by economists, who do not only link mortgage finance to mortgage pledging on a specific level, but sees the development of secure property rights at large and of primary mortgage market as a precondition for development of a mortgage securitization system (Renaud, 2008).

Warnock and Warnock analysed data from a sample of 61 countries including both developed countries and a wide range of emerging economies (Warnock and Warnock, 2007). They found across all countries, controlling for country size, that countries with stronger legal rights for borrowers and lenders (through collateral and bankruptcy laws), deeper credit information systems, and a more stable macroeconomic environment have deeper housing finance systems. In developed economies they found that variation in the strength of legal rights helped explain the extent of housing finance.

In this way there is statistical evidence of the prime importance for mortgage market development of developing the underlying legal system and the formal land registration systems.

Sheng et al. (2006) are even more explicit in their analysis of the mortgage markets in Hong Kong with recommendations for China. They argue that a well-functioning capital market requires clear delineation, efficient exchange, and effective enforcement of property rights, and that these functions rely heavily on supporting property rights infrastructure (PRI). Sheng describes PRI as systems that delineates, registers, transfers and protects property rights within a legal jurisdiction.

Chiquier, Hassler and Lea (2004, p. 33) reviewed mortgage securities in Emerging Markets and on the basis of a cross-country analysis of about 30 countries, conclude that a country must have a sufficient legal, regulatory and market infrastructure before mortgage securities can be developed, but add that a good framework is not a sufficient condition.

Renaud (2001) has placed property rights and urban laws at the top of the list, when describing the factors shaping housing finance, and elaborated on its components:

- Clarity of Property Rights and Urban Laws
- Clarity of ownership and enforceable property rights
- Economically sound, market sensitive urban planning
- Predictable land development codes & practices
- Sound national and local taxation of housing and real estate

In this way economists provide justification for the critical importance for economic development of formal property rights regime, effective urban laws and associated information infrastructure.

7.5 Property rights and Economic Development (B-C)

Selected Issues

The topic of property rights can be treated from many different angles in connection with economic development. Selected issues of property rights were discussed below through the following perspectives:

1. The institutional view
2. The Collateral View
3. The Market Perspective

4. Social Capital and Trust

Different variants of the discourses on land and property rights are overlapping and non-exclusive. Each theory seems to be supported by different professional groups or different schools of research nurtured by particular clusters of activities. Of common interest for all are the issues of good governance of land and affordable housing.

Re. 1: The institutional view is well established and the role of the institution of property for economic development well accounted for by the school of the New Institutional Economics (North, 1990). The definition of ‘institutions’, as applied by the institutionalists, is wide (rules, procedures and norms), and includes as a component ‘property institutions’ interpreted as organisations. ‘Institutions’ in its widest interpretation also embrace social norms (North, 1990). What conclusions can be drawn from NIE that help establish preconditions for mortgage credit development, or for development strategies?

Re. 2: Next follows a discussion of contributions from economists, who focus on the meaning of ‘collateral’ for economic development. A branch of economic development theories has been launched as “Property economics” by *Steiger and Heinsohn* (Steiger, 2008). They argue that property rights through the function of collateral for money creating contracts form the basis for the modern money economy.

Re. 3: Currently, a discussion of mortgage credit and the market forces, inevitably leads to questions following the so-called subprime crisis, serving as a gigantic illustration of how the capital market is affected by mortgage market, and how the real markets and capital markets are intimately connected. The analysis of the sub-prime crisis carries implications for development of mortgage markets in developing economies, where large parts of the markets can be characterized as sub-prime (Jaffee, 2008). For this purpose a selection of views and observations on the crisis are added in the final chapters, but given the scale and complexity of the whole matter, essay-like and fractional in both format and contents.

Re. 4: The topic of social capital and trust was only mentioned in brief in relation to the history of the Danish mortgage credit associations.

In conclusion it is demonstrated that Collateral security is a common denominator between property rights, mortgage credit and economic development. A new direction in economic theory put collateral at the centre of financial policy, rather than as previously emphasizing interest rates (Geanakoplos, 2010).

Besides looking at the theoretical basis, the ideas on collateralization of property rights as represented by De Soto (2000) are discussed in view of experience with formalization of property rights and the development of real credit.

Given the centrality of mortgage pledging in formal land registration systems for mortgage finance, it is clear that the analysis is focused on a formalized property rights regime, for which reason a discussion on land titling and property registration was included in Part C, Chapter 8.2.

The Challenge of Informal Land Tenure

Formalization is a major challenge in many developing economies, where land tenure is predominantly informal, just as the classical methods of formalization are disputed options of land tenure upgrading under many circumstances, as further discussed in (Deininger, 2003; Payne et al., 2007, etc.).

Countries having fully implemented land laws and a formal property rights’ regime do not suffer from severe shortcomings in the conceptual definition of property rights, nor in the right to pledge, so the definition discussion may seem largely academic. However, different terminology is not only a conceptual formulation problem, but is also indicative of different perceptions of the role of property rights.

In a largely informal context significant differences occur in definitions of property rights. This is especially clear when observing the general debate on property rights and collateral. As an example, definitions of key terms on land and property by UN agencies, FAO, and UN-Habitat, subdue the economic dimensions of

property rights pertaining to a formal legal regime, while they stress aspects of social tenure, use rights, and livelihoods, with recognition of various forms of common or communally held property arrangements.

In many organizations, professional associations and development networks, the term “property rights”, has nearly disappeared, while the terms land tenure and tenure security are dominating. The FIG does not include “property rights” as an entry in its glossary, <http://www.fig.net/pub/figpub/pub21/figpub21.htm#APPENDIX%20IV>, neither does the UN-ECE, but definitions of “collateral” are included.

Over the latest decades the prime influence on thinking in respect to property rights has come from the school of New Institutional Economics (NIE), prominently represented by Douglass C. North. The institutional perspective of the NIE is reflected in their definition of basic terms (North (2000, p. 33):

“Property rights are the rights individuals appropriate over their own labor and the goods and services they possess. Appropriation is a function of legal rules, organizational forms, enforcement, and norms of behavior – that is, the institutional framework.”

Thus this is a broad and holistic definition covering both movable and immovable property, ownership and possession, but without specific mention of the different dimensions of immovable property rights. Nevertheless, the focus of NIE on transactions and transaction costs strike at the heart of the functioning of the property market and the associated issue of mortgage financing. The role of transaction costs in mortgage market development has been substantiated in comparative studies of mortgage markets (Wyman, 2003).

Heinsohn and Steiger challenge the broader definitions of property rights as formulated by the New Institutional Economists, due to their lack of regard for collateral in economic development (Steiger 2006, 2008).

They claim that misunderstandings in economics arise from the lumping together of property and possession without touching upon the essence of property, its capacity to be burdened and encumbered, that is, to be collateralized. This has lead economists to overlook the importance of collateral and own capital, they claim. They argue that collateral and own capital is the missing link in the economic theory of the rate of interest and money, a statement underlined by their observations on the causes of the subprime crisis of the missing collateral and own capital (Steiger, 2008, p. 215), (ref also to discussion of Geanakoplos, 2010).

Mortgage markets depend on supportive services: a property market infrastructure, transparency, and information services. It is generally acknowledged that (low) transaction costs are critical to the functioning of the property markets in general (North, 1990) and mortgage markets in particular (Wyman, 2003; Sheng, 2006). Formal regimes of property registration are important for providing scale of economics, thus decreasing transaction costs.

Information on land registration needs to be supplemented with profiling of other land issues framing the property and mortgage market. Of importance for mortgage credit development is the existence of a functioning property market with land supply for urban development and infrastructure for housing.

While many studies on land tenure security in developing countries analyze various forms of tenure security based on social tenure in rural areas or in slums, the focus of the present study is on an building an enabling formal property rights regime, which allows wider segments of urban dwelling properties to be pledged as security for mortgage credit. Indeed, it is argued that the discussion on land titling in poor suburbs and slums has diverted attention away from land titling in other areas including government land, where conditions are mature for registration.

7.6 De Soto's Case for Formalization of Property

Basic Ideas

Famous for drawing wide attention to the topic of collateral is De Soto, whose works are all permeated by the issue of “collateral”, although he applies a different terminology in his analysis of the evolvement of property rights and of the informal sector in the developing world. His appealing messages have struck an

ore of energy by lifting issues of formal property rights up from their rather un-noticed existence to the debate in the upper political sphere.

De Soto has been successful in communication. Especially through his 1993-article in the Economist and later on through his book, “The Mystery of Capital”, he has managed to reach the ear of many top politicians and to raise the awareness of the role of widespread, secured and tradable property rights in combating poverty. He has toured the world and engaged world leaders. De Soto has been widely applauded among land professionals, (Onsrud, 2004, http://www.fig.net/pub/monthly_articles/september_2004/onsrud_september_2004.htm, Enemark, Clausen; 2004), and generated much critique from other sides.

De Soto’s agenda takes its point of departure in the necessity of establishing an all-inclusive standard legal system built upon the nature of social contracts governing the de-facto property rights (de Soto, 2000).

De Soto describes the reasons of legal failure (ibid., p. 154-5) and why the overwhelming majority of people in the poor countries remain outside the formal systems resulting in a gigantic amount of ‘dead capital’. He puts his finger on a number of misconceptions of why formal law has failed based on research of incredible amount of steps in legal procedures and costs of registering in a formal system in selected countries. He demonstrates the deterrent effect of insurmountable transaction costs in malfunctioning bureaucratic systems, and what determines whether you remain outside the formal sector (‘bell jar’) is the relative cost of being legal. In this respect De Soto confirms the importance of transaction costs for economic development in accordance with North (North, 1990).

Hereby de Soto illustrates that it is a general misunderstanding that informality is about avoiding paying taxes, and shows, that the extralegal sector is paying high costs for being informal, e.g. in the form of bribes (Soto, 2000, p. 155). Most people also remain in the informal sector because of the excessive time, cost and legal barriers for being formal due to bad legal and administrative systems (p. 156). Instead people rely on local social contracts as a logical choice under the given nature of the formal system.

De Sotos’s Proposed Reform Strategies

Within the area of formal law, de Soto makes the case for formalization of property rights with a focus on the property of the poor, who are not able to access the current formal systems, i.e. those outside the “bell jar” of the formal system. These huge sections of society hold assets in defective (legal) forms, since houses are built on land, whose ownership is inadequately recorded (ibid., p.5-6). It is argued that these assets need to be registered for two reasons mainly: to allow trading outside of narrow local circles and for use as collateral for a loan taken. De Soto also describe the use of property rights to serve as collateral for a loan as “production of capital”.

De Soto suggests a strategy illustrated by a bridge resting on three pillars leading from the extralegal sector with dead capital to the legal sector with live capital (Fig. 6.1, p. 160 through a transformation in three strategic phases:

- A. The discovery strategy
- B. The political and legal strategy and
- C. The operational strategy

Details on sub-processes of each strategic pillar illustrate the challenges involved. Many processes are desirable, e.g., “B.4 Build consensus between legal and extralegal sector”, but do not represent a recipe for reform. Rather, the illustration may remind everyone about the overwhelming challenges of full reform.

A strong point in the discourse is the case for economic scale of reform and the opportunity costs of none action. It is indisputable that informal housing development is a topsy-turvy world of first construction, then establishing infrastructure, like putting on your shoes first then your socks. Thereby the accrued cost of informal urban development is much higher than a systematic, rational urbanization process. For this reason de Soto argues that formalization will open the opportunity for low-cost housing programmes (De Soto, 2000, pp. 191-2).

This is important! One may add that a formal housing development will also open for formal housing credit, with the potential lowering of barriers for accessing housing for lower income segments of society- if other conditions are fulfilled - albeit not the poorest.

De Soto's "legal transformation" bridge represents a systemic view. Seen from the perspective of the individual household, other metaphors may illustrate an upgrading process, e.g., "climbing of the housing ladder", (Rust, 2007, p. 47). The ladder is illustrating the steps to go, when a household seeks to get lifted out of the second (informal) economy.

Climbing the housing ladder depends on a functioning secondary property market, which again is linked to a functioning legal system that allows property to be traded at low risk beyond the trusted circles of relatives and friends (ibid., p. 51).

In consequence one may conclude that the mechanism of improving household living conditions supports the case for formal property rights. Irrespectively, a focus on formalization property is inadequate for addressing the challenges of different development paths and complicated social structures. Tomlinson (2007, p. 18) argues, that De Soto is neglecting the role of different development paths and is oversimplifying the problem of economic empowerment by linking it only to the lack of titles. This is a call for a more refined and adopted reform process.

On this background, it is concluded that there is not much evidence that giving the poor title to their assets will unleash the mysterious power of capital, nor increase the rate of economic growth in the way suggested by De Soto, because property titles of the poor will rarely be used as collateral for mortgage credit. What counts for the poorest segments of society, particularly the slums, is the use value of their living space, and provision of adequate infrastructure (water, sanitation, etc.), but it is assumed that a formal secondary market and access to real credit is a longer term goal.

Irrespectively, collateral remains an important issue, but not initially for the poorest housing segments.

In conclusion it is suggested, that the shortcoming of De Soto's works is not so much in his analysis, although it is over-simplistic, as in his proposed solutions.

He suggests that "the poor are not the problem but the solution", and that what the poor are missing are the legally integrated property systems, that can convert their work and savings into capital (pp. 226-5). Hereby De Soto mixes the meta, mezzo and micro levels of society: the poor countries, the poorer segments of society and the poorest households. The poor informal sector is the result of dys-functioning urban systems. Therefore, combatting the problem is about establishing better urban systems in the first place.

Through this focus de Soto disregards the fact that it is not only the poor in informal economies, who are outside the formal system, and that lots of informal land transactions conducted by the well to do may also lack legitimacy or be outright illegal. Therefore it is suggested that poor countries need formalization through adjudication and registration of property rights, but in another sequence than suggested by de Soto, namely by starting with public land and more regular areas than the slums.

It was suggested in Part C. that these factors need urgent attention by integration, both for building volume and economy of scale in the formal sector, and for generating public revenues and stopping misappropriation of national or common resources, which rightly should benefit all, ref. to C.8.3.

7.7 Comments on Reform Strategies and Formalization of Property Rights

On Diversified and Sequenced Reform Strategies in the Land Sector based on Market Analysis

It is suggested that a differentiation and segmentation of markets may help aligning policy goals and interventions in land formalization and registration of real property in support of economic development in general and mortgage financing in specific.

From an economical perspective, I would like to suggest that the case for formalization of property may be built on two main arguments:

1. *Infrastructure and taxation argument*: Formalization of property rights for establishing property tax registers and levying of basic taxes, to control speculation, and for establishing proper urban infrastructure and thereby improve urban quality and living quality for all sectors of society, including the poor;
2. *Market and collateral argument*: Formalization of property rights for creation of the foundation for operations of the property market with higher volume, lower transaction costs and risks, and secure mortgage pledging, starting with the middle and upper market segments;

The weighty justification for formal land registration in respect to orderly land management is a long-term commitment with massive impact on land economy in general.

In consequence it is proposed that interventions in the land sector need to be differentiated depending on market segments and area types so as best to support the development of mortgage finance without jeopardizing other reform goals, e.g., social goals or alternative approaches needed for special areas or land tenure upgrading for reasons of the nature of the traditional tenure system.

Good examples of alternatives of socially sensitive upgrading of land tenure, does not exclude the feasibility of land titling elsewhere. The FIG policy statement of 2010 (FIG publication no 45), provides strong recommendations on pro-poor and policies and securing social tenure for the poorest, but does not address the critical issue of sequencing of reforms, so as to create sustainability.

Titling of property rights in the middle and upper housing segments will allow expanding the tax base, and increase the volume in the formal property market and mortgage markets, both with the potential of increasing revenues and decreasing the costs of transactions and credit, not to mention improving urban infrastructure and quality.

Improving conditions for mortgage credit in the middle market segment carries a development potential. In Denmark, the mortgage finance system was at first expanded and consolidated in the middle segment, while later expanded to the lower segments of the prime sector, Part A, Chapter A.5.4. The confidence built in the system and the scale of economics established helped democratize credit.

Housing markets vary also by geographic regions (sub-areas). The leading areas could potentially be serving as a driver of development vis á vis the lagging areas also in respect to mortgage finance.

For these reasons a fundamental and important task awaits in differentiating strategies to the sub-national level through an iterative approach, taking into account sub-markets, market segments and geographic clusters in support of feasibility studies and interventions. A disaggregated socio-demographic analysis could help sequence reforms, so that they may contribute to growth and development in a sensitive and sensible way – and in a self-financing manner. It is suggested that this is an important issue for future analysis.

Potential Benefits, and Potential Resistance

The analysis in Part A showed that a functioning land registry is an incredibly good investment for both market participants and society at large, but there were not found cases, where a full cost-benefit analysis had been performed in connection with international assistance projects supporting institutional reform in the land sector.

When also considering the overwhelming theoretical evidence of the benefits of property rights protection and property institutions to economic development, it is suggested that the case for upgrading of land institutions could possibly be strengthened by preparation of full scale cost benefit analysis with inclusion of benefits derived from impact on the overall market, not the least the financial sector.

Scale and volume impact on the cost of credit, thus providing another weighty justification for systematic reforms in the land sector. There is not necessarily a contradiction between formalization and an equitable land policy. On the contrary, the review has indicated the high opportunity costs, especially for the poor, of

not developing appropriate land institutions and formal land arrangements. However, benefits of reforms depend on strategies and sequencing of interventions, which could be supported by economic analysis including a broader range of factors than the direct project costs and revenues.

In the end, the case for a formal legal system with formalized property rights seems strong, but while the theoretical calculations of the potential cost-benefits of a formal system are likely to be convincing, they may be in vain, as long as there are vested interests in the economic and political elite, who benefit from the disorder (Sonin, 2003; Onoma, 2009).

7.8 Comments to the US-“Sub-Prime” Crisis

Some Observations on the US Mortgage Market

Observations on the nature and causes of the US- sub-prime crisis are of relevance, when reviewing the performance of different mortgage finance systems, including the Danish mortgage securitization system, and when considering introducing mortgage finance systems in emerging markets. Many questions raised and lessons learned in the US-sub-prime crisis might apply to the high risk loan markets in developing countries, as argued by Jaffee (2008).

The causes of the subprime crisis are being scrutinized and discussed by leading scholars and in forums like the ‘Financial Crisis Inquiry Commission’ (<http://www.fcic.gov>) with the purpose of diagnosing the crisis for being better prepared to prevent another one to occur. The jury is still out.

Ref: <http://blogs.wsj.com/economics/2010/02/27/academics-on-what-caused-the-financial-crisis/>

For this and numerous reasons, it was infeasible to prepare an overview of the crisis. Instead, a few issues of the sub-prime crisis were selected for discussion, because of their connection with other questions of this study, in particular matters of collateral security.

Of special interest for mortgage market development in emerging markets, are issues of e.g.,

- Structure of the mortgage industry and design of the securitization process;
- Incentive structures and commitment mechanisms not to renege on debt, incl. access to legal recourse;
- The social agenda versus sound lending principles;

Despite the indisputable good purposes of affordable housing policies, the sub-prime crisis showed how an artificial ‘affordability’ concept can damage the mortgage market, and hereby result in exactly the opposite of contributing to building wealth, by exposing the most vulnerable to defaults and to losing out at first. Moreover, a financial crisis is characterized by sharp loss of wealth and a collapse of asset values (Sheng, 1998), whereby the question is how the losses are distributed.

Eroding underwriting practices was contributing to overheating of the property market. In case subsidies and substandard credit standards have pushed up housing prices and contributed to the price bobble and market bust, then the net-effect of the affordable housing policy is questionable.

In this way, the mortgage market in the US can be viewed through the analytical model of Jensen and Næss (2002) by the structures, mechanisms, and events that brought down the market.

Structure of Securitization Process and Structure of Mortgage Market

As the events have unrolled, the complex mortgage credit securitization process in the US market has been exposed to the results of a dis-alignment of incentives, whereby it contributed to dys-functioning of the mortgage finance system. Intermediaries profited from the fee structure, while passing on risks along the chain in the securitization process.

The dis-alignment of incentives in the construct of Mortgage Backed Securities was one of the detrimental factors in the structure of the financing system, as was an erosion of underwriting standards with lack of strict regulations on Loan to Value maximums (ref. Part C.). Contributing to the damages was also the lack of legal recourse (in some states), which has been shown to increase the level of strategic defaults.

Other factors like the lack of regulations on e.g., maximum LTV's and lack of access to recourse have also contributed to excessive lending and borrowing, a large share of which was used not for investments in housing but for refinancing and equity withdrawal.

A major share of the Mortgage Backed Securities of the US issued by the Government Sponsored Enterprises, GSEs, (Fannie Mae, Freddie Mac, etc.), but the GSEs were not under normal financial institution regulations, and their capital coverage was so low, that investors depended on the government backing. Furthermore, they were operating under a socially defined agenda of providing 'affordable credit' beyond the prime segment (sub-prime), e.g., to previously redlined communities.

The GSEs are described by some as gigantic "Frankenstein" monsters that grew out of control. They were essentially providing credit with public subsidies, but the institution was a shareholder company with a privatization of profit. To make things worse the GSEs suffered from mismanagement and conducted heavy lobbying of influential politicians. The construction of Mortgage Backed Securities, and other advanced securities depended on Credit Rating Agencies, criticized for underestimating correlated risks in falling property markets (Geanakoplos, Ferguson).

In contrast to the complex financial instruments in the US mortgage market, the simple, transparent and robust securitization model of the Danish system has withstood the crisis, even if there have been excesses in the Danish property and mortgage markets. Therefore the mortgage financing model can be seen to impact on performance of the mortgage – and on the real markets.

Incentive Structures and Commitment Mechanisms

The importance of the commitment mechanism (North-Weingast commitment mechanism), for functional mortgage credit systems has been demonstrated in the US, where lack of equity and of legal recourse in some states (that borrowers can walk away from debt) has been shown to lead to higher delinquency ratios.

Wallison (2009) argues that borrowers must have equity at stake to ensure their commitment to honour debt. In this way conservative LTVs are serving a dual function of preventing defaults in the first place, and in case of foreclosure, increase the probability that lenders' outstanding debt will be covered.

The history of the Danish mortgage finance system is illustrative of the virtues of classical lending practices. For this reason collateral security and conservative LTV's are critical for a stable mortgage and housing market.

However, the calculation of LTVs depends on prudent assessments of market values and good professional practices, because property valuation is the Achilles heel of mortgage financing.

The Powerful Working of Property Submarkets

The mortgage credit crisis revealed how the property market works, and the importance of the geographic factor. Credit risks are related to fluctuations in house prices, which again are geographically determined, because of differences in employment opportunities, or other local factors affecting demand and supply.

This is pointing towards the importance of using disaggregated data and spatial analysis in analysis of mortgage markets, as a natural consequence of the determinants of property values and principles of valuation. Inversely, a geographic analysis may also enable identification of areas suitable for mortgage market development despite market constraints elsewhere.

Market Events and Destruction of Value through the Foreclosure Process

Negative events in the economy may trigger a wave of foreclosures. Obviously, it is a critical factor for investors to be able to recover the asset value of their outstanding debt. Effectiveness of foreclosure procedures is not only a question of time and direct costs of the process, it is also about conserving the value of the assets.

An inefficient foreclosure process burns up the value of assets (Djankov 2008). Geanakoplos (2010) has described how the process of foreclosure in the US may leave only 25% of the asset value at the end of the process, and how foreclosed properties impact negatively on the value of properties in their neighbourhood. For these reasons, it serves all parties – and the overall economy – best to ensure effective and swift foreclosure practices.

New Collateral Theories and the Financial Crisis

The financial crisis has brought to the front economists with alternative explanations of financial policies and the capital market. John Geanakoplos, James Tobin Professor of Yale University, has identified the high leverage as the root problem of the bobble and bust cycle, (<http://cowles.econ.yale.edu/faculty/geanakoplos.htm>) He has long worked on explaining markets influenced by innovative financial techniques and to understand pricing mechanisms (Whitehouse, 2009, citation below), <http://online.wsj.com/article/SB125720159912223873.html>.

Geanakoplos has shown how demand and supply are determining for both interest rates and collateral rates, and in times of crisis collateral rates are far more important than interest rates in the economy.

(G. defines collateral rates as follows: When the value of a property is 100, a mortgage is taken for 80, then the LTV is 80% and the collateral rate is $100/80 = 125\%$. The leverage is defined as the ratio of the asset value to the cash needed to buy, in this case $100/20 = 5$, (Geanakoplos, 2010, p. 102)).

Geanakoplos describes how scarce collateral is an important limiting factor, and how the economy will gradually devise ways of stretching the collateral through innovative financing techniques, which in fact means that the same collateral is backing more loans in a kind of pyramiding financial construction. The main implication of the theory developed by Geanakoplos is that when leverage goes up, asset prices go up, and when leverage goes down, asset prices go down.

Hereby, the role of collateral is put at the center of economic theory, and although the term ‘collateral’ covers all types of assets, it is clear that since mortgage credit makes up a substantial share of all credit, mortgage finance is related directly to the overall economy.

Collateral theory and property economics are in concordance on positioning collateral in a central role. Hereby, there is left little doubt that collateral security in mortgage finance depends on property registration and valuation. When combining these findings with the recognition by economists of the importance for economic development of property rights protection, rule of law, efficiency of enforcement, etc., strong interconnections are established between formal property regimes and economic development.

In this way the urgent need for property rights formalization calls for a revival of the land titling debate after burying oversimplifications stemming from the ‘dead capital’ debate.

8. Implications for Screening of Readiness

8.1 Factors and Indicators of Particular Importance for Screening

On the Interface between Real Markets and Mortgage Finance

Economists have described mechanisms of interaction between the real and the capital markets, and how the property market and the overall economy interact in bidirectional ways.

The discussion on economic development in Part C on the interface between property rights, mortgage credit and economic development showed the special importance of some indicators, that were already part of the prerequisites defined in A and the detailed criteria of the screening framework elaborated in Part B, in transmitting mechanisms of change, or constituting forces of dynamics. Economists show that some of these factors have a deeper meaning and are central to profiling the real markets and the conditions for mortgage market development, especially

1. *Affordability of housing*, and how it depends on performance of the land sector and
2. *Inequality of land distribution*, and how it impacts on economic development.

A closer study of each of these factors confirms the importance and benefits of creating clear property rights and functioning land institutions, but also shows the complex workings of land supply through the informal sector in developing economies (Baróss, van Linden; 1990).

On Affordability

The topic of affordability is central to development of mortgage credit, but it is important to note that affordability of housing is a ratio between borrower's income and housing costs incl. credit costs, thus affected by a number of factors to be included in screening and monitoring, both on demand and supply side (including land supply), ref. to Part B, chapter 10. Notably 'affordability' is a factor price ratio, for which reason changes in affordability is indicative of institutional change according to North (1990).

Housing economists (Renaud, 2008), consider low affordability an outcome of poorly functioning institutions, for which reason it cannot be remedied solely by introducing better financing options. It follows that affordability can both been seen as a component of the incentive structure in financing and as a measure of the outcome of the market and of institutional quality.

Affordability is a mis-used term, since it has in various contexts been applied as a political term, rather as a technical term. "Affordability" is a legitimate and noble social goal, but its application as a political term may blur what are the essential requirements for lowering the costs of housing. The impact of so-called 'affordable housing policies' on the US mortgage market was discussed in relation to how it might have impacted on lowering underwriting standards, and thus indirectly been a contributing factor to the financial crisis (Part C, chapter C.7).

Since affordability of housing is technically a ratio between housing costs and household income, both factors are of importance. Moreover housing costs are defined by various parameters, including financing costs. Cheap mortgage credit alone cannot make housing affordable, if e.g., there is insufficient capacity to repay the mortgage credit, or if housing supply is constrained, so that market prices are pushed up. Financing and market prices are not neutral to each other.

It was noted that e.g., UN-Habitat (2009; p. 17, p. 34), has defined affordability without including the cost of the house, (<http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2642>). In this way essential features of affordability are neglected. For this reason, it is suggested that 'affordability' needs to be stringently defined in monitoring of mortgage markets, a separate and complex issue (see discussion by Ndubueze, 2007), which however was not covered in the present study.

Limited affordability was found to be a central obstacle to developing mortgage finance both in Nicaragua and Ghana, both due to supply and demand (income) factors, ref. to Part D.

Economists segment interest rates in various components, representing various types of risks (ref.).

In Ghana affordability was negatively affected by generally high interest rates, which were partially explained by high inflation rates. It was observed that North connects market interest rates with investors' assessment of institutional quality (North, 1990).

In the case of Denmark, the cost of mortgage credit was shown to be associated with high market volume and standardization in a low risk environment.

On Affordability and Land Supply

Since bottlenecks in supply can distort the land market with negative spill-over effect on affordability, monitoring of land supply for urbanization is important, whether provided through the private or public sector.

The size of the informal housing sector in developing economies by far exceeds the formal sector for complex reasons of inefficiency, costs, survival strategies, political interests, etc., (Baross et al., 1990). Land supply for urbanization is therefore a gigantic challenge.

Baross et al. (1990) provided valuable insights into the informal land supply in development cities around the world illustrating the inverse sequencing in informal developments starting with occupation, building, servicing and finally planning. Hereby a cheaper entry was provided, and low-income families phased their expenses for housing (ibid., p.7). Formal credit does the same thing of spreading housing expenses over a long time span, but with the benefits of enjoying better security and housing quality throughout the period.

Baróss et al. asked the question whether low standard urban development is sustained because of prevailing demand for cheaply priced plots or because property agents lack access to capital, which is needed to pre-finance infrastructure. This is an open question, and mortgage credit does not directly provide a solution to that issue. However, if the market for housing is expanded, and the demand enhanced by formal credit, then it is supposed, that developers may also achieve easier access to intermediate finance through the banks.

In the case of Ghana it was found, that land supply for urbanization was seriously contracted for reasons of the practices in customary land administration and the lack of public interventions in land development (Arko-Adjei et al, 2010), combined with a high purchasing power of in the top end of the market (Case study, Part D). Finance cannot overcome such shortcomings, but may on the contrary exacerbate the price gap by bidding up prices on the limited supply.

In both case studies (in both NI and GH) officials or executives were identifying financing as a bottleneck in meeting their housing demand, but it is suggested here that the root causes of the problem might have to be sought in the malfunctioning land institutions.

On Inequality, Employment Opportunities and Mortgage Finance Development

Economists regard inequality as a source of risk (Gradstein, 2007), and a barrier to growth (Galor, 2004), or as a cause of underdevelopment (Easterly, 2007), for which reason the property rights indicators and monitoring systems need to be treating the topic of inequality in distribution of land and real assets at depth.

The outlined connections between distributional issues (inequality), risks and economic development suggests a stronger role for distributional data in property indicators, just as the government or communally held land (real) assets need to be represented in support of increasing transparency in the market and preventing land grabbing. Therefore inequality may have close links with the issue of accountability.

Property rights distribution and inequality shape and impact on the market in various ways. In the Danish case of mortgage credit associations, collateral security substituted underwriting of borrowers' ability to repay debt from the beginning, a practice continued well into modern times (Part A). In this way credit was

initially accessible to larger sections of the population, who were not bankable (for one reason that there were hardly any banks at introduction of the credit system). Observers of the history of the Danish mortgage finance system (Glud, 1951) suggest that the early introduction of the mortgage credit associations during the 19th century and their following development, contributed to lowering inequality in Denmark. The dynamics of expanding access to mortgage credit in Denmark depended on capitalization of real assets in the hands of the broad majority, which again had as its precondition a functioning formal property registration system, and a parallel growth of institutional investors, such as pension and insurance funds with a long term investment perspective.

In other cases, it has been found that formal credit (dependent on other underwriting principles) contributed to increasing the wealth gap between the upper and lower market segments (MacGee, 2006).

The case studies (Part D) showed that unequal income contributions shape the property (and mortgage) markets both in Nicaragua and in Ghana, also formed by high levels of remittances (NI: about 15% of GDP, 2010; GH: about 12% of GDP). Inequality is high and poverty levels stark: In Nicaragua only 4% of the households have a monthly income above 1000 USD and only 12% of the households a monthly income above 500 USD (year 2005). Therefore, it is obvious that mortgage market development is severely limited by demand constraints.

Widespread unemployment lowers expectations to future income and may impact on potential borrowers' attitudes of engaging in long term credit commitments.

Improvements in understanding of the property market and potential for mortgage credit development could potentially be enhanced by having more detailed market data, including asset distributions both in respect to market segments of assets and to geographically segmented markets. On the one side better credit facilities (like the Danish system) may contribute to expanding the access to real credit, on the other side, an initial obstacle to mortgage market development is lack of employment opportunities and very low household incomes.

In this way multiple examples show the importance of monitoring affordability and inequality in the real sector, and the potential two-way linkages between mortgage finance development, affordability and inequality.

On Monitoring and Land Registration

Given an understanding of the workings of the interface between the real market and the credit market, it is necessary to explore how reforms in the land sector may help provide a stronger basis for mortgage finance and for economic development at large.

The criteria defined in Part A, were in the first instance intended for application as a framework for screening of readiness for mortgage credit in a given country context, as outlined in Part B. However, the review showed that little data is available for screening and rating as required in this regard. The lack of data and information is indicative of the state of affairs in the land institutions and their shortcomings in implementing formal property regimes, protection of rights, land management and information systems.

In consequence, indicators cannot be expected to be operationalized until reforms take place in implementing reforms and production of property related data.

In the meantime, it is proposed that the indicators, developed as a framework for monitoring of readiness for mortgage finance development, may also serve as a reference framework for designing reforms in the real sector. The framework offers a broader perspective, yet a clear structure, for defining objectives of urban reforms and prioritizing interventions. In this way it is envisioned that the framework could be helpful in developing multifaceted interventions in the urban land sector to form a stronger foundation under the real credit market and hereby potentially contribute to economic development.

The precondition of land registration does not stand alone, as underlined by the issues of infrastructure, land supply and urban development being intertwined. The link between land institutions and physical infrastructure development is weak, when seen only from the perspective of land registration.

Rather formalization of the land sector is seen in conjunction with necessary activities in building urban infrastructure and improving (funding) of urban quality, as represented by the broad concepts of urban land governance (Enemark, et al. 2010).

In case of deficient property rights infrastructure, the risks of pledging properties with contested rights and dormant conflicts form obstacles to mortgage pledging beyond the legal process of registration. Risks of double or plural titling - as found in the case of Nicaragua - constitute poison for mortgage pledging, which leaves adjudication of property rights as the prime challenge.

To conclude, development of a healthy housing market is dependent on a functioning urban property market as concerns both land supply and infrastructure development, which requires due public facilitation. Management of public land resources is a critical factor in this regard. Therefore, it is proposed that accounting for land and real property under public ownership or custody, is essential for development of the property market, as also reflected in the World Bank monitoring framework (Razzaz et al., 2004), (Deininger et al., 2010).

Bottlenecks in formalization of land rights and in land delivery for urbanization need to be overcome, in order that a positive tendency can be initiated with increasing affordability, lowering risks and increasing economics of scale in mortgage finance, resulting in stimulation of the construction industry, which can potentially function as a locomotive for growth. The construction sector constitutes a large but varying size in the economy, and is strongly related to economic growth (Renaud, 1996, 1997).

While global policy statements (WB-FIG 2010) have been formulated to broadly address the overall challenges of rapid urbanization, they do not suggest strategies on how to meeting the challenge of formalization of property and provision of property rights protection through appropriately formal systems, so critical to mortgage pledging, and thus for development of mortgage finance in any country.

The statements (FIG.45, 2010, p. 8) could be rendered contradictory or meaningless, if not clarified or substantiated. It is suggested here that the pro-poor agenda in some ways could be counterproductive, if it overshadows the need to formalize the prime sectors to expand the middle sector, and to account for state assets, which may in the end be serving the poor, as argued here. Therefore, the present study is supportive of the description by Reinert (2007) of the UN Millennium Development Goals as 'palliative economics'.

8.3 On Transparency, Accountability and the Real Market

Financial assets are (well) accounted for in consequence of the nature of capital markets, and pricing of capital assets are continuously set in the capital market. Real assets, on the contrary, are difficult to track in most countries, despite the assets making up the largest part of a country's assets. In many countries the state or the public is the largest land owner, but often the state does not have (complete) records of its land and immovable property, or information may be inaccessible (ref. to the cases of Ghana and Nicaragua, Part D). In many cases public property valuation is long behind the real market, or deficient in coverage and contents, as illustrated by the shortage of general statistics, as discussed in Part B.

The link between the financial and real assets is growing stronger with deepening of the mortgage market and with international requirements of continuous monitoring of capital coverage (Basel II-III, see Part A, Chapter A.7). When mortgage markets make up substantial parts of the capital market, the implication is a need to continuously (frequently) monitoring property values. Hereby, the real sector is put in a central position at a high level in the economy previously unfamiliar to the land sector, which has typically been focused on provision of micro-level services or rather low profile infrastructure functions. In developed economies, property registration services are generally well functioning, but that does not necessarily include delivering monitoring data needed in the financial sector.

On this background it is suggested, that the new international regulations on supervision of collateral security are challenging the real property sector in developed economies by its demand for other types of services and information than were previously delivered.

In connection with mortgage finance, property rights and registration services have been discussed with a focus on the private land sector. However, in case of a lack of accounting for public or state land assets, it is suggested that the whole sector is exposed to moral hazards.

Lack of effective land administration, in particular lack of land management outside the private domain, exposes these assets to illegal activities or erosion of assets, as can be evidenced by land grabbing, illegal land settlements or simply eroding of common resources. A lack of management of public land may also be linked with deficient land delivery for urbanization.

In many countries, where land is held informally, or the systems are not well functioning, the lack of accounting for real assets result in gigantic misappropriation of common resources (robbery) at the cost of all citizens, but having relatively higher detrimental effects on the poor and powerless.

Moral hazards of the state in land management extend beyond management of the state owned resources by affecting the credibility of land institutions. An incapacity to supply land for urban development, not only to the upper market segments, arrests economic development by distorting affordability through deficient supply in the market, thus leaving the only option for low income households of informal development with deprived housing standards (Baróss et al., 1990).

Having seen that dysfunctional land institutions are barring for the basic stages of economic development, responsibility for the misery needs to be sought in multiple factors at various levels in the administrative and political system.

Inefficiencies have natural explanations of a technical nature and by lack of capacity and resources available, but I would like to suggest an analysis of malfunctioning institutions also of a more ethical kind. Land professionals deal with case-by-case ethics standards, but there is little focus on macro level ethics of land institutions, and the damages to the economy incurred by malfunctioning and misdirected land institutions, despite high awareness of the destructive effects of corruption.

Professional organizations have lately progressed on defining codes of conduct (FIG, CLGE), which are essential and form the basis of all activities. However, the larger issue of moral hazards at institutional level, where the real disasters occur, e.g., through non-action or misdirected priorities, escapes attention through an individual approach. If parallels are drawn to financial institutions, credibility of the institutions can be questioned, if a lack of accountability for assets is casting a deep shadow over the public system as a whole, whether in property registration or planning.

On the issue of checks and balances in the financial system, Sheng et al. sees three components as applied to corporate governance (Sheng et al., 2006, pp. 2-4), but these components might as well apply to land institutions:

1. Self Discipline through Ethics,
2. Regulatory Discipline through Processes, and
3. Market Discipline through Structures, which involves developing internal and external institutional structures that influence the behavior of corporations.

If applied in the real sector, professional work ethics is a mandatory component (1.), but other components are required for hindering the gigantic scale of losses caused by systemic moral hazards of land institutions. It is suggested here that transparency and information systems could be examples of processes, that enhance regulatory discipline, and that the Danish mortgage finance system is an example of a structure having a positive impact on market discipline in accordance with the above.

In emerging economies emphasis on accountability of real assets reaches beyond the question of mortgage pledging and security of collateral on individual transactions, and strikes at the core of essentials of

distribution of wealth, rule of law, and governance. Hereby these factors constitute components of the macro-level requirements defined (Part A).

In conclusion, the land and immovable property sector are behind the financial sector in accounting for assets and is faced with a huge challenges of meeting the financial sector information requirements, whether in established or new mortgage market (for different reasons). A review of the needs of the financial sector might constitute a chance for revising priorities in the land sector. It is suggested that a top-down and iterative approach might be needed for improving accountability of real assets and for developing of monitoring functions.

Such efforts, though, can be expected to meeting resistance from political interest groups who benefit from the disorder or in-transparency (Sonin, 2003, Onoma, 2009).

8.4 Closing the Gap between Macro-Economics and Property Rights Protection

Having discussed selected extracts from economics literature, it becomes clear that 1.) Modern economies are credit based, and 2.) Property rights are of central importance in economics. Property rights are understood in economics as a broad concept including all types of assets, physical (movable and immovable), intellectual and financial assets. Nevertheless, real assets constitute an essential part thereof. A market economy relies on clear property rights as a precondition of exchange, and it has been shown how economists connect economic growth with access to credit, which is based on security of collateral.

But economists are also sharp in describing the relation between the capital and the real market:

“Finance is a derivative of the real sector.” (Sheng, 1999)

Therefore economic theory and methods are of high relevance to analysis of the real property sector.

In a similar way as in economics understanding property rights branch out in different directions, as illustrated by the extremes of macro and micro level analysis.

At the macro-level future challenges in understanding the area of property rights, mortgage and housing markets are found in the domain of macro-economics, as has been shown with the monstrous forces at play in the mortgage and property markets. For this reason it does not suffice to work in the professional sphere of property rights, when studying the interface between property markets, housing and financing. The need for bridging from property rights to economics calls for multidisciplinary efforts and application of methodologies of macro-economics, which was beyond the scope of the present study.

Economists have developed models that describe the role of property rights and institutions in economic development, and have defined composite indices and monitoring systems including property rights indices. As an example, the World Economic Forum Global Competitiveness Index includes a number of dimensions of property rights and institutions, but depends entirely on perception based surveys for populating the indices on property rights presumably for lack of hard data or indicators in that domain. A review showed that the land sector produces virtually no statistics or indicators of use for such macro-economic analysis, ref. to Part B.

Use of economic methods for analysis of the land institutions and immovable property markets has long been included in development of theory in the area as described by Stubkjær (2009) and has also been applied in cost studies as related to performance studies as exemplified by the COST- studies (Zevenbergen, Frank, Stubkjær, 2007).

Still production of monitoring data on (transaction) costs in the land sector is lagging behind the demand for populating monitoring systems, just as the debate on land registration and cadastres in an operational context does not seem to be fully involving economic analysis.

Information Strategies in Support of Mortgage Finance Development

A great potential for future analysis of local housing and markets arises with the quantitative revolution as represented with access to statistical micro-data in time series across the world (McCaa, Ruggles, 2001). Regional analysis may not need to be performed as a geographic analysis using GIS, but disaggregated statistics alone allows segmented and differentiated analysis of local housing, demands, demographics, markets, etc. In so far as micro-statistics is available, the interplay between financing, the real market and development can be studied at depth, and findings applied for indicator development. Micro-data will also permit targeting of interventions and markets in more detailed and meaningful ways.

Other benefits can be achieved, when adding geo-statistical analysis and using land information in a Geographic Information System. In this way institutions and development can be studied from below as proposed by Pande and Udry (2005). Disaggregated statistical analysis is expected to be capable of capturing within country *institutional* variations, describing institutional qualities and contributing to a better understanding of the dynamics of demographic pressures, land and economic development.

While economists are unequivocal on the role of property rights for development, and have defined the role of property rights protection in development models (WEFORUM), there is needed clarity of concepts and models of property rights protection at the macro-economic level.

Methodologically, inspiration can be found on how macro-economists develop indicators using scarce data, and how statistical methods and micro-data can be applied to segment markets and analyze dynamics. Rather than keeping focus on single parcel data and working from details to aggregation, a change towards use of disaggregated data can provide more intelligent data, and raise the working perspective so as to match applications, e.g., in market analysis and preparation of reforms (Haldrup, 2008).

Attention to what information is required to bridge different abstraction levels might also serve well in developed economies, where availability of disaggregated statistics on real properties is limited.

In Denmark with fully protected and registered property rights, the available national statistics leaves open the question of the share of owner-occupied housing (Chapter A.9.5), gendered data on property ownership, and GINI-factors of land ownership.

ICT can facilitate such changes if applied in smart ways, or technology can constitute a barrier, if applied inappropriately and imposing unsuited standards in developing economies.

Concluding Discussion of Strategies

The above has left no doubt of the need to have formal property rights for mortgage pledging, but has left open questions on strategies. Since lack of clear titles form a limitation in economic in general and constitutes a constraint for introduction of the Danish Mortgage Finance system in particular, it can be asked if it is viable to develop mortgage finance based on ad hoc registration of property titles. Will the need for mortgage finance trigger an increase in the volume of ad-hoc registration of property, provided legislation is in place, and registration functions have been established?

The question is relevant e.g., in the case of Ghana where the title registry covers a relatively small section of urban properties, but the registration services are fully functioning. Perhaps an indication can be found in the analysis provided by housing economists (Hassler, Lea, Sheng, Renaud), who regard a functioning land supply and a primary mortgage market as conditions for mortgage securitization. Since the housing market in Ghana is largely informal and distorted by contracted supply, the market can hardly be said to be functioning at this stage. It was also suggested that ad-hoc solutions of property registration are costlier for society and the individual land holder, thus resulting in lower affordability.

Volume allows economy of scale both in titling and in derived services, e.g. in finance. For many reasons a situation with a small initial volume of registered properties and a limited formal sector of the property market forms a constraint for mortgage financing, and it is suggested that a critical mass might be needed to trigger mortgage market development, although the size of such a critical mass is an open question.

In response to critique that clear titles do not lead to more financing, it is proposed that a clearer distinction is to be made between rural situations and different urban segments. In a rural context real property rights are about livelihoods and rural credit is distinctively different than housing finance in an urban context.

The proposition outlined here is that formal property rights is a necessary but inadequate condition for mortgage finance development (Chapter A.12.5), that systematic formalization strategies are necessary to create economies of scale, but they need to be sequenced and targeted in order to generate positive development dynamics and generate revenues. In addition there is a need to look at the housing market in a wider context with due consideration of land supply mechanisms for housing.

The Danish case has shown that land registration in an active formal property market can potentially generate abundant state revenues, even when the fee level is relatively low. But since the suitability of land titling in developing economies depends on the character of the area, it is proposed that registration strategies have to be diversified and sequenced in due regard of both aspects. Based on the above rationale, cost recovery could potentially be optimized, at the same time as the mortgage credit market is served, if reforms were to be planned and sequenced so as to take market profiles and potential revenues into consideration.

9 Outlook and Closing Remarks on Collateral Security or Collateral Damage

9.1 The Central Concept of Collateral for Credit

The case has been argued of the pivotal role of collateral security for mortgage finance in particular, and in economic development in general.

The tight connection between the money economy and credit markets connects collateral in a broad sense with economic development to the extent that severe problems in the mortgage market transmit to the overall economy. This was demonstrated through the spreading of the so-called sub-prime crisis to the global economy. Inversely, lack of a functioning prime market of real property arrests financial development.

Property markets are trading in property *rights* and mortgage markets depend on mortgage pledging as a legal act. Development of mortgage markets is thus depending on a secure formal property regime. At specific level a mortgage pledge relies on collateral security both from a legal and value perspective, and the value of real assets depend on functioning markets.

With clear property rights intimately connected to housing and mortgage development provides an impetus to renewing the debate on land titling, which has suffered from oversimplification in the debate over 'dead capital' of the poor (de Soto, 2000), and has tilted towards vague representations of property rights and governance issues, and has been influenced by anti-collateralisation arguments related to slum areas.

The debate on the property market and security of collateral has distinct features whether in the context of advanced economies with formal property rights regimes or in developing economies with widespread informality.

In developed economies the colossal power of mortgage markets is demonstrated both in growth periods and during decline.

The US-subprime crisis has illustrated the pitfalls of an artificial 'affordable' housing and credit market boosted through lowering of underwriting standards. Ironically, the classical Danish mortgage finance system, which is fully market based system, has served an affordability and equity agenda better than affordability programmes in the US, where incentive structures in housing finance and lowering of underwriting standards have pushed the system over the brink, as argued in Chapters A.1.8, and C.7.

A possible explanation of the severity of the housing bobble and bust, which has caused collateral damage to the world economy, is to be found in excesses in financial markets in constructing complex securities and of high leveraging in the mortgage market, while neglecting the cyclical nature of housing markets according to (Geanakoplos, 2009, 2010).

Since the land and property markets are intimately connected to the capital market, the land sector could contribute to the monitoring of collateral security in respect to property asset values and property pledges by providing better, disaggregated statistics. In monitoring of the market and the economy at large indicators on equity at stake, land and housing supply and on affordability (North, 1990) have been shown to be important factors in detecting market imbalances and institutional change.

In developing economies the lack of secure property rights, the informality of property regimes, and inadequate urban land delivery systems have been seen to hold back economic development through various mechanisms of wasted growth opportunities with negative consequences for living and housing standards.

Loss of financing opportunities

The opportunity costs of not having a functional formal property regime, includes lack of access to real credit and not benefitting from the value appreciation associated with protected property rights and title

registration, not to mention lost public revenues for financing of urban development, services and infrastructure.

The controversy of collateralizing property and the debate on ‘dead capital’ has oversimplified the informality challenge by focusing land titling on the poorest sections in the market, for which it might be unsuited. When there have been mis-matching goals, strategies and intervention areas, the discussion on increasing access to real credit can easily be derailed, and attention diverted away from the market segments, where formalization is urgently required for engendering the mortgage market in support of both the primary and secondary housing market.

The collateral damage of a lack of orderly property rights and security collateral in developing economies is dramatic.

Loss of real resources and of social capital

In the first instance lack of transparent and secure property rights registration systems may result in a gigantic misappropriation of real assets, whether in the form of land grabbing or degrading of resources. Shady land deals and public land mismanagement is the breeding bed of land conflict at an even wider scale. Lack of trust in land institutions has devastating effect on behavior, when eroding respect for the law. Accountability at macro-level is therefore a precondition for the functioning of the formal land systems at more specific levels.

Loss of urban quality and housing standards

Informal housing is an insufficient and costly topsy-turvy process of urban development, resulting in low urban quality and deprived housing standards. Lack of basic infrastructure and the squandering of common resources and open space are other effects. In this way dysfunctional land institutions are a cause of miserable urban living conditions, all at the detriment of the poorest segment of the population who are least able to fend for themselves. Seen from another perspective, informal developments are providing low-income opportunities to entering the housing market, but at the price of deprived standards.

Loss of economic growth opportunities

A significant shortage of urban land supply has serious implications for the economy and society at large by decreasing affordability of housing. In Ghana the limited supply of land from the customary sector to housing shall be seen in combination with a large in-flow of remittances, which may be bidding up the price of housing, whereby housing affordability is further contracted according to Hassler (2007). In this manner the lack of an active land supply is seen to be increasing the gap between rich and poor.

When combining the above, it is clear that the lack of land supply, clear property rights and sufficient collateral causes collateral damage to the economy and to living and housing standards in developing economies.

Inversely, a focused effort on adjudicating rights and expanding the formal property sector in support of mortgage finance development may set the powerful engine of the housing sector in motion, which carries promises for economic growth. While doing so parallel action is needed to address needs for different upgrading strategies of tenure security in other sectors, so that strategies are socially balanced and takes special tenure situations into account. When the formal sector and markets are expanded, revenues can be collected for investments in urban infrastructure to the benefit of all.

In this way well targeted strategies on regularizing the real property sector, may contribute to triggering the development mechanisms between the basic factors of economic development constituted by property rights and mortgage finance, but results cannot be expected to come quickly. Progress in housing finance development has been slow around the world, as documented by Chiquier, Hassler, and Lea (2004), because the prerequisites are demanding.

In this process economists say ‘You can’t skip the basics’, and the basics includes effective property rights (Chiquier et al., 2004, p. 33).

9.2 A Few Observations on Research Methodology

The study did not treat research methodology at depth, and a number of questions on scientific methodology in the project domain remain open.

Some observations can be made on different components on methodology development in the complex domain of mortgage finance, property rights and economic development.

On Application of a Modeling Approach:

The use of a modeling approach of the phenomena is attractive, because it would generate a full representation and facilitate answering of hypothetical questions or making predictions if parameters were changed. A modeling approach is also required in order to construct composite indices and measuring of performance accordingly, as argued in Part B.

However, it was found that basic concepts are vaguely defined, and there were found no comprehensive models of property rights protection uniting the different abstraction levels from detailed technical cadastre to macro-level perceptions of property rights protection. Furthermore, measurement problems abound.

Quantitative modeling and quantitative methods in general suffer from lack of data. The combined lack of clarity of concepts of property rights etc. combined with the global information void on the status of property rights protection, not to mention property rights infrastructure, made the approach of modeling infeasible in the present study, but underlines the importance of future progress in that area.

On the Role of Spatial Techniques

Included in modeling challenges is the fact that urban property is a spatial phenomenon, and that property markets are dynamic in space and time. Spatial correlation or spatial generalization is essential to understanding dynamics of property rights and markets, so that empirical models need to be representing space. Therefore, the advances of new quantitative tools and spatial techniques open new avenues of studying such urban phenomena as property markets that unroll in space and time.

On Application of an Institutional Approach

The study has viewed the project domain through an institutional approach especially in Part A on the study of the Danish Mortgage Finance system, and analyzed the development of property rights and mortgage credit from the perspective of the peculiarities of development path in each case.

In this area, a lot of factors need further attention, for example the questions on behavior of agents in markets, and cultural perceptions and preferences. However, more precise modeling of the quality of land institutions are also required, so as to underpin modeling of property rights protection and land governance.

On Generalization and Employment of Universal Laws

It was observed that the historical school in economics stressed that historical specificity in socioeconomic reality precluded the employment of universal covering laws of deductive reasoning (McMaster, Watkins, 2006). Although the studies of Denmark, Nicaragua, and Ghana, respectively, illustrated variety, and despite the demonstrated peculiarities of each national development path, I would like to argue that there is considerable scope for detecting universal laws in the topic domain.

The topic of transaction costs has been established as universal and as impacting on economic development, as manifested through “Institutions, Institutional Change and Economic Performance” (North, 1990).

I believe that there are other topics of similar importance related to property rights protection and economic development, but the study was too limited to cope with the huge challenge of developing this discussion at any detail. I have suggested the role of collateral security through the propositions set up, and I do hint to the position of the concept of collateral security in property economics through the title of Part C: “Collateral security or collateral damage”. But this issue is to be studied in further detail.

Normative Features of Land Governance and Property Economics

The review of monitoring systems in land administration (governance) showed that leading contributions from e.g., the World Bank (Burns et al., 2006, 2007, 2008, 2009) were explicitly normative by measuring performance against principles of good governance of land.

Along similar lines FIG and other professional associations are developing principles of codes of conduct aimed at improving professional standards and ethics. In general many development projects in the area of land administration are built on concepts of 'good governance' and presuming a consensus on the matter. In contrast Onoma (2009) questions the assumption among policy makers and academics that public land institutions securing land rights are in the interests of all, and that where they do not exist, it is because leaders do not know of their benefits or lack the capacity to put them in place (with reference to analysis of e.g., the Land Administration Project in Ghana). It has been shown (Onoma, 2010, Sonin, 2003) that absence of transparency and good governance may be in the interest of influential interests groups, who benefit from the disorder in land matters. In this way, the assumption of ethics and 'good governance' as being a shared goal can be questioned, even in countries where the governments pay lip-service to such policies.

The roles of norms and ethics are highly relevant both in mortgage finance, in property rights protection and distributional issues of land and wealth. Ethical questions are raised in retrospect with the debate on the so-called sub-prime crisis in the US and in financing systems in general, when observing the excesses and the damage caused by the mortgage system on a broad scale from individuals and to the overall economy. Ethic issues also emerge in questions e.g. on transparency and land governance with misappropriation of resources, and on access to housing and finance.

In respect to theories it was observed that Ely believed that economics was highly normative, and was seeing economics as having an intimate relationship with Christian ethics, in accordance with Weber (1904). In the particular case of the Danish development path of property rights registration, Stubkjær (2008) explains the peculiarities of the cadastre through the particular blend of philosophy permeating Danish culture in the 19th century. The historical school in general considered ethics, law and economics to be entwined (McMaster, Watkins; 2006, p. 915).

How to study and work with ethic issues is another methodological challenge. It was suggested in Part C, chapter C.8.1, that land professions may learn from the structuring of ethic issues by Sheng et al. (2006, pp. 2-4) into three levels: 1. Ethics for self-discipline, 2. Process for regulatory discipline and 3. Structure for market discipline.

The role of the structure of mortgage finance on market discipline was discussed both in Part A in relation to the Danish system and in review of the US subprime crisis in Part C.

On this background, it is suggested that a clearer conceptual framework may help strengthening further development of theoretical methods of studying land governance and property rights protection, including ethical questions.

To conclude, it can be seen that the challenges abound in the theoretical basis of the study for future development.

9.3 Avenues for Future Research

In conclusion the methodologies applied in the study do not provide conclusive evidence on the questions of the study, but have served for drafting propositions based on evidence found in numerous studies. The broad approach taken to mapping out the project domain has left innumerable questions open for future analysis and development, including open questions on research methodology.

Among the many open issues touched upon in the study shall be mentioned:

1. Modeling of property rights protection and collateral security as a basis for indicator development, reference to Chapters B.1.3:

In accordance with the definitions of indicators and composite indices by OECD (2008), indicators need to be based on a model of the phenomena to be represented by the indicators. Previous modeling exercises have been conducted on a technical and detailed level. In order to match urgent monitoring requirements alternative approaches are called for. Inspiration can possibly be found in the design of macro-economic composite indices on e.g., rule of law. The suggested avenue of research needs to be founded on appropriate theory, but application oriented.

2. Quality profiling of cadasters and land registration systems with respect to capturing the quality differences between different types of registration systems:

The current distinction between deed registration and title registration systems is crude and does not permit a rating of the protection of property rights provided by a specific system. Instead a more refined descriptive system is required, which partly captures de jure variants of the registration systems (different types of deeds' and title registration systems) and also captures implementation differences, (this is an extension of the task 1 above).

3. Research on the dynamics between factors in the real and financial sectors, so as to better understand the drivers of virtuous spirals of development through proper sequencing of interventions:

The study has argued that given a good incentive structure mortgage markets may potentially enhance growth trends, and that there are feed-back processes between mortgage market developments and real property infrastructure, ref. to discussions in Part C, Chapter 8.

Sequencing and targeting of reforms in the real sector is of utmost importance so as to build on positive trends, and strive at optimizing the effects of interventions in respect to sustainability and cost-benefits. There is needed focus on the questions of prioritizing interventions so as to trigger positive spirals of growth without entirely depending on external funds.

4. Disaggregated market analysis in support of screening for readiness, ref. to Chapters B.9.5..

As sketched in the research matrix, Appendix 1, the level of disaggregated analysis was not covered in the present study.

Type of research: Application oriented - development of methodology and analysis tools

It was stressed in Part C that the issues of accountability of real assets, land supply and affordability are central to mortgage finance in specific and to economic development in general. More work is required to develop these questions further in a strategic perspective.

Other important advances could potentially be made in provision of better services to the financial sector, including e.g., provision of different types of statistics and SDI, ref. to Chapter A.11.2, which have the prospects of generating revenues for the benefit of building property rights infrastructure, as was seen in the Danish case.