Working Party No. 2 on Competition and Regulation

FINANCIAL MARKET REGULATORY INDICATORS: A PROJECT PROPOSAL

20 October 2008

The attached document is submitted to Working Party No. 2 of the Competition Committee FOR DISCUSSION under item VII of the agenda at its meeting on 20 October 2008.

It has been prepared by the Economics Department.

Please contact Mr. Sean Ennis if you have any questions regarding this document [phone number: +33 1 45 24 96 55 - E-mail address: sean.ennis@oecd.org].

JT03254196

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format
**TABLE OF CONTENTS**

Financial Market Regulatory Indicators: A Project Proposal ............................................................... 3
1. Introduction ............................................................................................................................................. 3
2. Motivation for the present proposal ........................................................................................................ 5
   2.1 Financial market policies and GDP per capita: the linkages ............................................................. 5
   2.2 Shortcomings of existing data on financial sector policies ................................................................. 8
3. The Secretariat’s proposal in a nutshell ................................................................................................. 8
   3.1 Construction of indicators of financial market regulation ................................................................. 8
      3.1.1 Competition indicators ................................................................................................................ 9
      3.1.2 Prudential indicators ................................................................................................................. 10
      3.1.3 Indicators of legal infrastructure for financial transactions ...................................................... 10
3.2 The questionnaire ............................................................................................................................ 11
      3.2.1 Characteristics of the questionnaire .......................................................................................... 11
      3.2.2 Scope of the questionnaire ........................................................................................................ 11
3.3 The process going forward .................................................................................................................. 13

Bibliography ................................................................................................................................................. 15

Appendix 1 - Existing Data On Financial Market Policies: An Overview .............................................. 18

**Boxes**

Box 1. Evolution of the project ................................................................................................................... 4
Box 2. Econometric evidence on linkages between financial markets and economic growth ........... 6
Box 3. Coding, aggregation and weighting ............................................................................................... 13

**Figures**

1. General Structure of Financial Market Regulatory Indicators
2. Structure of Competition Indicators for a Given Financial Market Segment
3. Structure of Prudential Indicators
4. Segment Based Regulation: Main Segments Covered
5. Structure of Legal Infrastructure Indicator
1. Introduction

1. OECD surveillance of structural policies is based in part on an international benchmarking of both economic performance and policies. Such a benchmarking exercise underlies the identification of policy priorities to increase GDP per capita that is reported in the annual *Going for Growth* publication. So far, the set of quantitative policy indicators employed in this surveillance essentially covers product markets and the market for one factor of production – labour. In contrast, policies affecting financial markets have been absent from the benchmarking exercise. This seems like a significant omission, considering the crucial role of financial markets in allocating another factor of production – capital.

2. Several member states have expressed the view that the financial sector is an important missing area in the structural surveillance exercise and have encouraged the Secretariat to enlarge the set of policy indicators to cover financial market policies. Growth-enhancing policies in financial markets would include policies that remove existing barriers to competition and enhance investor and creditor protection. The strengthening of market forces in the financial sector would, in turn, be expected to result in an improved allocation of resources, particularly capital, in the economy. This view is supported by earlier OECD work which shows a significant negative impact on value-added and productivity growth from both regulatory barriers to competition in banking, as well as weak regulatory requirements with respect to investor and creditor protection. ¹

3. Policies aimed at maintaining financial stability are of critical importance for macroeconomic performance. In particular, such policies are extremely important for avoiding serious slumps in activity which may not just be an extreme manifestation of the business cycle, but whose effects could linger with negative influence on long-term GDP per capita. However, the conceptual framework linking prudential regulations and long-term economic performance has yet to be developed and it has proved difficult for the profession to establish such a link empirically. Hence, given the long-term orientation of *Going for Growth*, and its emphasis on proven empirical links between policies and growth, reforms of prudential regulations are not appropriate policy priorities in the exercise.

4. Extending OECD structural surveillance to the financial sector would require a set of reliable financial market regulatory indicators based on a comprehensive database of underlying laws and regulations that affect competition and efficiency in the financial sector. The first objective of the financial sector indicators project is to build such a database. For regulations on entry, exit and operations that may influence the intensity of competition in the various segments of the financial sector and regulations affecting efficiency, the basic data would come from answers to a questionnaire prepared by the Secretariat (see Annex). The Secretariat would translate qualitative basic data into quantitative indicators, and combine lower-level indicators into synthetic indicators at an aggregate level. These indicators would not be used mechanically to formulate policy recommendations, but would help in identifying regulatory settings that have an adverse effect on GDP per capita, and would therefore enhance the benchmarking regularly undertaken in the *Going for Growth* framework.

---

5. The proposed extension of the *Going for Growth* exercise would allow a systematic assessment for each OECD country of whether reforms in the financial sector are a priority, and if so, in which areas. Such reforms would be a potential policy priority if weaknesses in policy settings based on international benchmarking were accompanied by weaknesses in economic performance. Obviously, any policy priorities in the financial market area would have to take into account the risk that policies designed to encourage stronger competition could have adverse effects on financial stability in the absence of adequate prudential regulations. To avoid misguided policy advice, the effects of competition-enhancing policies on stability would be considered. For this purpose, the Secretariat would assemble existing data on prudential and stability-oriented regulations from the World Bank, IMF, OECD, and other bodies, and integrate them in the database.

6. The financial market regulatory indicators, particularly the prudential indicators, would also be important for the regular monitoring of financial markets that takes place in the Committee of Financial Markets, the importance of such monitoring being highlighted by the current financial crisis. Both for this purpose, and the inclusion into the *Going for Growth* process, indicators would have to be updated at regular intervals, and data collection via electronic means would be designed so as to reduce the cost of future updating of the indicators. The financial market regulatory indicators would also contribute to the surveillance by the EDRC, where country reviews are increasingly giving attention to structural policy challenges in the financial sector.

7. Finally, the database of financial market regulatory indicators would be used for conducting further quantitative analysis into the impact of financial sector regulations on various aspects of economic performance, in order to provide additional underpinning for the *Going for Growth* benchmarking process in the financial sector. In this respect, it would also be explored whether lower level, more disaggregated financial regulatory indicators could explain more specific performance outcomes in financial markets.

### Box 1. Evolution of the project

In 2005, a paper on financial market policies and economic growth was discussed at Working Party No. 1 of the Economic Policy Committee, and presented to the Committee on Financial Markets. The analysis, using the Rajan-Zingales empirical framework, was based on regulatory data from the World Bank (both the Bank Regulation Database and the Doing Business database), and concluded that there was a negative link from competition-constraining regulations and weak regulatory requirements as regards investor and creditor protection to economic growth. As a result, there was a strong case for including financial market policies in the *Going for Growth* exercise. Delegates agreed with the thrust of the analysis, but found the regulatory data to be too crude and incomplete to be used for structural surveillance.

In 2006, in response to the concern of delegates, an experts' meeting discussed a proposal from the Secretariat (Economics Department and Directorate for Financial and Enterprise Affairs jointly) to build up a database on competition-influencing regulations in the financial sector. A revised proposal was discussed in an electronic discussion group consisting of delegates to the Working Party No. 1 and the Committee on Financial Markets. There was no consensus on going ahead with the project at the time, with some countries asking for more information about the project before a decision could be taken.

In March 2008, the Working Party No. 1 asked the Economics Department to develop a complete draft questionnaire and present it at the October meeting for approval.

---


8. The remainder of this note is organised as follows: Section 2 motivates the proposal by the Secretariat to collect data on financial market policies. Section 3 presents the proposal in detail, including

2. Whether or not such reforms would be selected as one of the three final indicator-based policy priorities would depend on the assessed importance of these reforms on GDP per capita relative to other potential policy priorities related to labour and product markets.
the indicators that would be derived, and the nature and structure of the questionnaire on which they would be based. An Appendix describes existing databases on financial sector variables, assessing their exploitability for the purposes of the financial sector indicators project. Finally, the questionnaire is presented in an Annex.

2. Motivation for the present proposal

9. This section motivates the Secretariat’s proposal by first documenting available evidence on the link between financial market policies and economic performance, before examining the usefulness of available databases for a regular surveillance of financial market policies that can have an impact on long-term growth.

2.1 Financial market policies and GDP per capita: the linkages

10. Theory identifies two main channels through which financial markets can affect the growth of GDP per capita: through its impact on the accumulation of both physical and human capital, and through its impact on the allocation of capital across the economy, which has important implications for productivity. Well-developed financial markets may influence capital accumulation and productivity through the essential intermediation role that they play in any economy: they optimise the allocation of capital across alternative uses, mobilise savings and allow the financing of long-term investment with short-term saving funds, allow the trading and pooling of risk, provide essential information about investment opportunities, fulfil a monitoring function for investors, and ease the exchange of goods and services by providing the mechanisms to make and receive payments.3

11. As the experience of other markets suggests, financial markets are likely to develop and perform better where competitive forces ensure an efficient allocation of resources across the production of different financial services, and across different forms of financing. Competition is needed to create the right incentives for financial innovation and operational efficiency, enhance product variety, and avoid undue economic rents stemming from excessive market power in the financial sector. A basic precondition for the benefits of competition, however, is that the stability of the financial system is ensured through an adequate framework of prudential regulations.

---

3. See Levine (1997 and 2004) for a full description of the theoretical channels that could link financial development and economic growth. The link between financial markets and capital accumulation would be expected to be weaker than the link to the allocation of capital, since well-developed financial markets might in some circumstances reduce savings, e.g. by limiting the need for cautionary savings to overcome credit market imperfections.
12. Previous OECD work (see e.g. de Serres et al. 2006), based on a set of simple indicators of regulation created mainly from World Bank databases, finds that regulation that is more conducive to competitive and efficient financial systems enhances financial development and has a significant positive impact on output and productivity growth in a sample of 25 OECD countries. Given the right framework conditions, financial openness has also usually been found to be growth-enhancing. The importance of domestic and international financial markets for growth has been confirmed by a considerable body of empirical studies (see Box 2).

Box 2. Econometric evidence on linkages between financial markets and economic growth

The importance of financial markets for economic growth is the subject of a considerable body of empirical research, employing different econometric approaches and data at different levels of aggregation. The overwhelming majority of this literature focuses on the relationship between the development of the financial sector and economic growth, with few studies analysing financial sector policy or regulation. The literature was initiated by an early cross-country study based on macroeconomic data by Goldsmith (1969), who documented a positive correlation between financial development and growth, a correlation which has been confirmed by King and Levine (1993a, b, c). Al-Jeff and Jovanovic (1993) show a positive correlation between stock market trading as a ratio of GDP and growth, and similar conclusions were found by Levine and Zervos (1998). Leahy et al. (2001) suggest a significant link between investment and financial development, and between financial development and growth — over and above the links via investment. They also show that well designed legal and regulatory framework conditions for financial systems support innovation and investment in new enterprises. One important caveat is that these studies often find it difficult to detect more than a correlation between two variables, while the question of interest for policy design would be whether there is indeed a causal relationship running from financial development to growth.

Some authors have tried to tackle the causality question using instrumental variable techniques and more sophisticated econometric methods, including Generalised Method of Moments (GMM) techniques (Rousseau and Wachtel, 2000, Beck and Levine, 2002). Levine (1998, 1999) and Levine et al. (2000) use a country’s legal origin as an instrument for financial development and establish a causal link between finance and growth. Aghion et al. (2005), however, question this link on the basis of empirical analysis using the same data as Levine et al. (2000). They suggest the alternative interpretation that financial development can influence the speed of growth convergence rather than steady state growth.

Country-specific differences other than financial development can be more effectively controlled for when repeated observations of countries are available, and several studies have exploited panel data sets to test for a link between financial development and growth. Benhabib and Spiegel (2000) decompose the impact of financial development on economic growth between total factor productivity growth and growth in national factor stocks (such as labour, physical and human capital). Their results suggest that indicators of financial development are correlated with both total factor productivity growth and the accumulation of physical and human capital. However, the indicators that are most strongly correlated with total factor productivity growth differ from those boosting investment. In addition, they find that many of the results are sensitive to the inclusion of country fixed effects, which may indicate that the financial development indicators are capturing broader country characteristics.

Based on similar estimation techniques, some authors have examined possible non-linearities in the relationship between financial development and growth. Riajo and Valev (2004a, b) argue that the impact of financial development on growth may vary with the level of financial development and of income. Riajo and Valev (2004a) use the same data as Levine et al. (2000) and find that financial development has a strong positive influence on total factor productivity growth primarily in rich economies. In less developed economies, the effect of financial development on output growth occurs mainly through capital accumulation. In a related paper, Riajo and Valev (2004b) find that countries with a low initial level of financial development experience little growth acceleration from a marginal increase in financial development while the effect is larger in countries with well-developed financial markets, and is particularly large for countries with an intermediate level of financial development. Loayza and Ranciere (2005) extend this literature by differentiating between long-run and short-run effects. The study attempts to reconcile the apparent contradiction between two strands of literature: the empirical growth literature finds a positive relationship between financial development and growth, while the banking and currency crisis literature finds that monetary aggregates are among the best predictors of crises and economic downturns. The main result is that a positive long-run relationship between financial intermediation and output growth can co-exist with a negative short-run relationship.

The impact of international financial integration on economic growth has been investigated by Edison et al. (2002,
stability of the banking sector, and improve firms’ access to finance. Similar conclusions are obtained by Beck and
show that lower entry barriers and fewer regulatory restrictions on bank activities enhance both the efficiency and the
experience stronger competition, with foreign entry particularly enhancing competition in banking. Berger
in banking to entry and activity restrictions. The results suggest that banking systems where such restrictions are lower
that the cash flow sensitivity of investment is lower in countries with better-developed financial markets.
Sivadasan (2006) provide evidence that financial development may mitigate financial constraints of firms and enhance
significant positive impact on output and productivity growth in a sample of 25 OECD countries. Finally, Becker and
financial development by a set of simple indicators of banking regulation and investor protection created from World
removes growth constraints on small-firm industries. De Serres (2004) use panel regressions and GMM estimators to control for endogeneity of
openness and unobserved country differences. They find a positive effect of financial openness on growth across all
levels of development, although countries in the middle-income range seem to reap the strongest benefits. They also
find that financial openness makes countries less vulnerable to external financial shocks. Calderón and Schmidt-Hebbel (2008) look at the link between financial openness and the volatility of growth. While a number of country characteristics are found to matter for this link, as long as debt-equity ratios are sufficiently low (in the sense of external liabilities consisting largely of equity rather than debt) financial openness reduces the volatility of growth. In addition, deeper domestic financial markets tend to mitigate any volatility-enhancing effect of financial openness.

A number of studies have addressed the difficulties of obtaining convincing answers on the direction of causality by using more disaggregated data at the level of industries, which contain considerably more variation, provided an appropriate identification hypothesis can be found. In an influential paper, Rajan and Zingales (1998) exploit differences in the dependence on external finance of firms in different industries and argue that if financial development plays a role for growth, then those sectors that rely more strongly on financing from outside the firm should be affected more strongly by financial development. They estimate measures of the financial dependence of industries and interact these with measures of financial development. The main conclusion from their paper is that there is a significant and sizeable causal effect from the development of financial markets on economic growth. Claessens and Laeven (2005) use the Rajan-Zingales method to analyse the effects of competition in banking systems, and find that stronger competition in banking enhances industrial growth, particularly in sectors that are more dependent on external finance.

Several other studies have chosen to use disaggregated data at the level of either industries or firms: Demirgüç-Kunt and Maksimovic (1998) find that, in countries with higher financial development, relatively more firms grow faster than the growth rate they could obtain in the absence of long-term external financing, as predicted by a financial planning model. Beck et al. (2004) examine whether financial development boosts growth of small firms more than that of large firms. In order to do so, they extend Rajan and Zingales’ work by looking specifically at industries that by the nature of their technology and production are more conducive to the development of small firms. Their results indicate that small-firm industries grow disproportionately faster in economies with a well-developed financial system, suggesting that financial development exerts a particularly positive growth effect on industries that by the nature of their technology and production are more conducive to the development of small firms, and that financial development removes growth constraints on small-firm industries. De Serres et al. (2006) use this methodology and, replacing financial development by a set of simple indicators of banking regulation and investor protection created from World Bank databases, find that regulation which is more conducive to competitive and efficient financial systems has a significant positive impact on output and productivity growth in a sample of 25 OECD countries. Finally, Becker and Sivadasan (2006) provide evidence that financial development may mitigate financial constraints of firms and enhance investment. They analyse firm-level data from a number of European countries and find confirmation for the hypothesis that the cash flow sensitivity of investment is lower in countries with better-developed financial markets.

Turning to studies that examine policy measures, Claessens and Laeven (2004) relate the degree of competition in banking to entry and activity restrictions. The results suggest that banking systems where such restrictions are lower experience stronger competition, with foreign entry particularly enhancing competition in banking. Berger et al. (2004) show that lower entry barriers and fewer regulatory restrictions on bank activities enhance both the efficiency and the stability of the banking sector, and improve firms’ access to finance. Similar conclusions are obtained by Beck et al. (2004), Beck et al. (2008a) and Demirgüç-Kunt et al. (2008). In a country-specific study of France, Bertrand et al. (2004) provide firm-level evidence that a deregulation which eliminated government intervention in bank lending decisions enhanced the competition in the credit market, and improved allocative efficiency across firms. Detragiache et al. (2005) find that where financial institutions have better access to information and speedy contract enforcement, financial systems tend to be deeper. This result holds for both high- and low-income countries.

13. While prudential regulation can be competition-enhancing, there may also be situations of regulatory trade-off: regulations that promote systemic stability or increase consumer protection may in certain cases restrain competitive pressure. Such trade-offs may necessitate arbitrage, though in many situations it may also be possible to achieve one policy goal without sacrificing another by employing more targeted regulatory levers. While intuitively it could be expected that a regulatory trade-off between
prudential and competition policy goals for individual regulations would also be reflected at the aggregate level, this remains contested. Indeed, most of the empirical cross-country evidence seems to suggest that competition may not pose a threat to financial stability.\(^4\) Notwithstanding this evidence, the possibility remains that increased competition in the financial sector may lead to adverse effects,\(^5\) especially if there are weaknesses with prudential regulation. This suggests that a proper accounting of the prudential dimension is \textit{de rigueur} for accurately analysing the effects of competition-relevant regulations.

2.2 Shortcomings of existing data on financial sector policies

14. When, in previous OECD analysis (de Serres \textit{et al.} 2006),\(^6\) existing databases were used for the construction of financial sector regulatory indicators, WP1 delegates found the use of these indicators acceptable for empirical studies. However, they judged the underlying data to be not sufficiently detailed to allow identifying weaknesses in policy setting in OECD countries’ financial markets, with information on issues of competition and efficiency being particularly wanting.

15. In response to those concerns, the Secretariat has undertaken a more systematic survey of data availability which is presented in the Appendix. This survey confirms that, while existing databases provide information on selected aspects of the regulation of financial markets, particularly prudential regulation, they provide very little information on competition or efficiency-relevant regulations in the financial sector, and hence do not constitute a sufficient basis for the regular surveillance of financial market policies that can have an impact on long-term growth.

3. The Secretariat’s proposal in a nutshell

16. Against the background of the potential importance of financial market policies for growth and the lack of information on the stance of policies in this area, the Secretariat proposes to collect information on member countries’ financial market policies that are likely to influence growth. This information would allow constructing financial market regulatory indicators to be used in the surveillance of financial market policies. This section introduces the indicators planned to be constructed, describes the questionnaire which could be used to collect the necessary underlying data, and briefly touches on procedural aspects of the project.

3.1 Construction of indicators of financial market regulation

17. To allow for an incorporation of financial markets into the structural surveillance exercise reported in \textit{Going for Growth}, the information contained in the indicators would primarily cover

---

4. Schaek \textit{et al.} (2006) find a positive relationship between bank competition and banking system stability. Looking into the possible channels of this correlation, Schaek and Cihak (2007) document that bank capitalisation of European banks is higher in more competitive environments. Beck \textit{et al.} (2006a, b) present preliminary evidence that banking systems with more restrictions on entry and conduct are more vulnerable to systemic banking distress. Surveying the existing empirical evidence, Beck (2008) argues that, even though theoretically the link between competition in financial markets and stability is ambiguous, and in spite of some conflicting empirical evidence, the literature would mostly point to a positive relationship between competition and stability in the banking system. In particular, measures that reduce contestability, such as entry restrictions, would seem to undermine rather than to strengthen the stability of the banking sector.

5. More fundamentally, it remains open whether a trade-off between limiting the risk of financial instability and long-term economic growth exists. If such a trade-off exists, measures that limit risk could actually also be growth enhancing.

6. This analysis was discussed by WP1 under reference ECO/CPE/WP1(2005)11.
competition-relevant regulation, complemented by information on prudential regulation and “legal infrastructure” (see sub-section 3.1.3 for further explanation on legal infrastructure). These three pillars of the proposed indicators are illustrated in Figure 1.

**Figure 1. General Structure of Financial Market Regulatory Indicators**

![Diagram](image1)

18. In order to avoid a duplication of data collection costs, notably with the IMF and the World Bank which collect data on regulations relevant for the stability of the financial system, the Secretariat proposes to rely on available information for the construction of prudential indicators, and to concentrate new data gathering efforts on regulations that primarily affect competition and efficiency. Construction of the legal infrastructure indicators would draw both on existing databases and newly collected information. A draft of a questionnaire that could be used to collect the relevant information is provided in the annex. The following paragraphs give a summary of the indicators that the Secretariat aims to construct and the questionnaire.

### 3.1.1 Competition indicators

19. Competition indicators would consider the competition framework and its application, as well as structural features that might distort competition. With respect to the competition framework and its application, the sub-indicators would cover competition legislation and enforcement, as well as conduct regulation (see Figure 2). The sub-indicators on structural features would be based on information about control structures and access to network components. As competition is not necessarily limited to national boundaries, an effort would be made to take the international dimension of financial sector competition into account. Examples include EU regulations applicable to all member countries, or restrictions on international trade in financial services.

**Figure 2. Structure of Competition Indicators for a Given Financial Market Segment**

![Diagram](image2)

---

7. An example of an index of regulation aimed at stability in banking is provided in Figure 3 of de Serres *et al.* (2006).
20. The basic information required to construct the indicators of barriers to competition in each segment of the financial sector would, for the most part, be based on the Secretariat’s questionnaire (more detailed information on the questionnaire is provided in sub-section 3.3). In setting up the proposed questionnaire, attention has been devoted not to ask for information that is already available from other sources for a large majority of OECD countries. For example, information about restrictions on portfolio and other investments, as well as ownership concentration limits in pension funds and insurance will be mainly taken from the OECD Survey of Investment Regulations. The OECD database on FDI restrictions will also serve as a source of data for limits on foreign ownership and operations in the banking and insurance sectors, while some aspects of barriers to entry in banking will be drawn from the World Bank’s Bank Regulation and Supervision Database (updated in 2007).

21. For regulations that influence competition, an attempt would be made to develop a supplementary indicator structure, aiming at separating regulations that have no or only minor side effects on the stability of the financial system and those that might have significant spill-over effects. Given that it would be partly based on judgment, such a classification could only be approximative at best, but would help to identify the potential for countries to strengthen competition without risking adverse side effects.

3.1.2 Prudential indicators

22. The prudential indicators would cover the regulations aimed at guaranteeing banking sector stability, the solidity of payment and settlement systems, institutional investors’ soundness, and the steady functioning of securities markets. The indicators would essentially be based on data from the Bank Regulation and Supervision Database, and IMF country reports from the Financial Sector Assessment Programme, as well as OECD data on insurance regulation and information from the IOPS-ISSA-OECD Complementary/Private Pensions Database. Intermediary indicators measuring aspects of prudential regulation in different segments of the financial sector would be constructed, and aggregated into a final indicator which would reflect the strength of the prudential framework for the financial sector as a whole (Figure 3).

![Figure 3. Structure of Prudential Indicators](image)

3.1.3 Indicators of legal infrastructure for financial transactions

23. Elements of the general “legal infrastructure” for private contracts would be expected to play a role for financial sector efficiency and development. For example, stock markets may develop better where minority shareholders’ rights enjoy strong legal protection, and the size of loan markets may depend on the legal provisions governing the repossession of collateral by lenders in the case of default. Legal infrastructure indicators for the financial sector would cover property law, creditor rights and investor protection, with particular emphasis on the treatment of collateral, insolvency procedures and disclosure rules. As mentioned, these indicators would be based both on data from the Secretariat’s questionnaire and
on data available from other sources, especially the OECD Corporate Governance and Company Law Database.8

3.2 The questionnaire

24. A draft of the questionnaire designed to gather information about regulations affecting competition and the legal infrastructure in the financial sector is presented in Annex 1. The following summarises the characteristics and scope of the questionnaire.

3.2.1 Characteristics of the questionnaire

25. The questionnaire consists of roughly three hundred main questions (some of which requiring answers to several detailed questions). It is split in two parts. The first, and by far largest, part of the questionnaire contains roughly 250 questions that deal with the competition-related regulatory framework in the different segments of the financial sector. The second, much shorter, part explores the legal infrastructure underlying the efficient functioning of financial markets. The space given to the different segments of the financial sector in the questionnaire depends in part on the degree to which information is available from other sources, but also reflects the perceived importance of potential competition problems in a particular area. It should be noted that for some parts of the financial sector, the principal concern may not be competition in the segment itself, but rather the indirect impact on competition in other, connected parts of the financial sector.

26. Questions are overwhelmingly multiple choice (mostly a yes/no format), so as to ensure that the different sections of the questionnaire can be answered relatively quickly and easily by individuals with the relevant expertise. It should be noted that transforming questions into multiple choice form often comes at the cost of substantially inflating the questionnaire, and hence is an important factor contributing to the length of the questionnaire (measured in pages). While for some relatively technical questions the specific link to competition may not always be obvious, all questions in the first part of the questionnaire are designed with their relevance for competition in mind, and generally with a view on which type of regulation is more prone to fostering financial sector competition.9 Questions in the second part are designed to collect information about how conducive the legal environment is for financial contracting. Legal infrastructure, while of particular relevance for securities markets, is important for all segments of the financial sector covered in the first part.

3.2.2 Scope of the questionnaire

27. As mentioned, the questionnaire consists of two parts, the first dealing with regulation in different parts of the financial sectors, and the second with legal infrastructure. Both are briefly presented in the following paragraphs.

3.2.2.1 Coverage of regulation by segment of the financial sector

28. The first part of the questionnaire would focus on the regulation of key institutions involved in banking, long-term saving and collective investment services, as well as securities trading and post-trading services. These include essentially deposit-taking institutions, insurance companies, collective investment

8. Beyond statutory rules, procedural efficiency may also play a role for legal infrastructure. However, given the focus of the OECD Going for Growth benchmarking exercise on statutory rules, it is not planned to include data on procedural efficiency in the regulatory indicators project. Such information on procedural efficiency, collected by the World Bank with the help of private sector agencies, is available from the Doing Business database.

9. The exception are a few questions where the exact interpretation of results will need further exploratory work by the Secretariat, but which seem of such potential importance as to warrant their inclusion.
schemes (e.g. mutual funds and unit investment trust), pension funds, broker-dealers and stock exchanges, as well as systems for clearing and settlement (Figure 4). There is no specific section on investment banking included in the questionnaire, as there do not seem to be any particular problems with competition in this area. However, many questions on legal infrastructure would be particularly relevant for investment banking and similar types of activities, and investment banks would be covered with respect to prudential regulations.

29. The indicator system, for each set of institutions, will cover a number of common regulatory areas having an impact on competition, such as the general and sector-specific competition frameworks and their application to specific segments of the financial market, legal barriers to entry of new entities or products, ownership structures and control issues, and, where relevant, the set of rules governing the access to network components (see Figure 2). Based on various sub-indices, an indicator of sector-specific, competition-relevant regulation would be constructed for each set of institutions. These indicators would finally be aggregated to form an index of competition-restraining regulation for the financial system as a whole.

3.2.2.2 Coverage of legal infrastructure

30. The second part of the questionnaire, dealing with the legal infrastructure, is intended to reflect the statutory codes and arrangements relevant for the efficiency and reliability of financial contracting, whether in the form of privately negotiated and highly personalised agreements or more standardised contracts (e.g. securities). As mentioned above, adequate legal arrangements, procedures and rules may not only influence on stability, but also on competition in financial systems e.g. by conditioning the development of securities markets, or the scope for financial intermediaries to expand the range of innovative products and services. The aggregate indicator will be based on three sub-indicators related to i) general contractual arrangements, ii) debt (or credit) arrangements and iii) equity arrangements (Figure 5).
3.3 The process going forward

31. Provided the questionnaire is approved, an electronic version would be sent to a designated contact person in each country. This contact person would distribute the questions to the right authorities, collect the replies and send them to the Secretariat. The Secretariat would cross-check the responses, translate qualitative answers into quantitative ones, and construct synthetic indicators at different levels of aggregation (see Box 3). As concerns the aggregation of the collected data into indicators, different weighting procedures which are currently examined in the context of the product-market regulation exercise (ECO/CPE/WP1(2008)12) could be used, and the sensitivity of the synthetic indicators to different weights on their components would be assessed with the random-weight or other techniques.10

Box 3. Coding, aggregation and weighting

Converting the regulatory data into sectoral indicators of financial market regulation will involve coding, weighting and aggregation along the pyramidal structure of the indicator system (the pyramidal structure is sketched in Figures 3-5). In carrying out these tasks, the Secretariat will seek to adopt procedures that would allow an empirical assessment of the suitability of the coding and weighting strategy. This box sketches possible procedures in general terms and highlights some of the issues arising in this context.

Coding

The qualitative answers to individual questions (such as YES/NO answers) will be coded by assigning a numerical value to each of the possible replies to a given question. Quantitative information will be subdivided into classes using a system of thresholds. All the coded information will be normalised over a scale (for example, for the PMR indicators this range is from 0 to 6). The choice of a range is arbitrary, but has no implications for country rankings or empirical results obtained using the indicators. It is important to note that scores will be relative to potential best or worst practice, and do not necessarily reflect the extreme situations found in the sample of countries that are examined. Hence, the rankings are not sensitive to changes in country coverage.

Aggregation

Scores on the individual regulatory items will be aggregated into low-level indicators which, in turn, will be aggregated into intermediate-level indicators by financial market sectors (deposit taking institutions, insurance activities, private pension systems, etc. – see figure 4). In addition to those intermediate indicators that measure either the competition or prudential stance, an intermediate indicator for legal infrastructure will be calculated. Finally, the intermediate-level indicators will be aggregated into broader financial market regulation aggregates. It will also be possible to aggregate the low-level indicators by area of regulation in order to obtain, for instance, indicators of competition legislation and enforcement, conduct regulations, etc. (see Figure 2). In all cases, the scores obtained by each country at each aggregation step can be easily related to their scores on lower-level indicators and to their scores on individual regulatory items.

Weighting

To allow for aggregation, a set of weights for individual items and low-level indicators will have to be chosen. For the product market regulation indicators, data are aggregated into low-level indicators by assigning subjective weights to the various regulatory provisions, which generally means that specific regulatory provisions are grouped by area, and equal weights are assigned to them within each of these areas. At each step up the indicator tree, higher-level (composite) indicators are then calculated as averages of their lower-level indicators. This is in contrast to the 1998 and 2003 rounds of the PMR indicator construction, when the weights used for aggregation of low-level indicators into intermediate indicators were based on principal component analysis. For an in depth discussion of the two approaches, see, for example, the paper on product market regulation prepared for the current meeting (ECO/CPE/WP1(2008)12) and Nicoletti et al. 1999.

Because the weighting stage inevitably involves some discretion (assigning equal weights also is a discrete choice), it is important to verify the sensitivity of the intermediate indicator values to changes in the system of weights used in aggregation. For this purpose, sensitivity analysis (as for example random weights and other procedures) will be applied to make sure that resulting indicator values are relatively robust to the chosen weighting. Great care will also be taken to ensure that, if countries are differentiated according to their regulatory stance, observed differences are indeed statistically significant. Statistical tests, as well as the country-product-dummy approach, can be employed for this purpose.

10. The random-weight technique, for example, uses a large number of sets of randomly-generated weights to calculate values of synthetic indicators. The random weights are drawn from a uniform distribution and normalised to sum to one. The resulting distribution of indicators reflects the possible range of values given no à priori information on the most appropriate value for each of the weights, and can serve to assess the sensitivity of indicators to different weights. For further details, see Freudenberg (2003).
32. The financial market regulatory indicators would then be presented to Working Party No. 1 of the Economic Policy Committee and the Committee on Financial Markets for verification. In particular, all data underlying the indicators (both collected via the questionnaire and from other sources) would be submitted to the Working Party No. 1 and the Committee on Financial Markets in the autumn of 2009. Subsequently, the indicators would be used to conduct further quantitative analysis into the relation between financial market regulatory indicators and measures of economic performance at an aggregate level (e.g. productivity), exploring also to what degree more disaggregated, lower-level financial regulatory indicators can be matched to more specific outcomes.

33. Provided that a link is confirmed, the indicators would be used in the Going for Growth exercise, with financial market reforms being identified as a potential policy priority if weaknesses in policy settings in this area coincide with associated performance weaknesses. Also, a special Going for Growth chapter documenting the competitive stance of regulations and the strength of the legal financial infrastructure across OECD countries would be developed jointly by the Economics Department and the Directorate for Financial and Enterprise Affairs. In addition, in analogy with a chapter on innovation reported in the 2006 edition of Going for Growth, 11 the two directorates could jointly identify for each OECD country a fixed number of policy priorities in the area of financial markets to strengthen economic growth and report the results in a second special chapter in Going for Growth. Drafts of both chapters would be presented to Working Party No. 1 and the Committee on Financial Markets prior to publication.

---

BIBLIOGRAPHY


APPENDIX 1 - EXISTING DATA ON FINANCIAL MARKET POLICIES: AN OVERVIEW

34. A number of existing databases provide information on selected aspects of regulation in different parts of the financial sector. This appendix briefly reviews these databases and discusses their exploitability for the purposes of the financial market indicators project.

OECD databases

35. The main existing OECD databases on financial system regulation are the following:

36. The IOPS-ISSA-OECD Complementary/Private Pensions Database contains information on all aspects of the regulatory framework of private pension systems in OECD and selected non-OECD countries. Two main types of private systems are covered: mandatory, funded plans and voluntary occupational arrangements. The information is updated every two years. Each country profile contains information on the type of plan and fund that can be established, coverage rules, sources of funds, method of financing, benefit provisions (waiting periods, vesting rules, preservation and portability rules) and prudential regulatory requirements (funding rules, investment rules), protection arrangements (insolvency guarantee arrangements, bankruptcy), and tax treatment. The Survey of Investment Regulations of Pension Funds focuses on all forms of quantitative portfolio restrictions applied to autonomous pension funds at different legal levels (e.g. law, regulation and industry norms). In recent years, the survey has been updated annually.

37. An earlier database on various aspects of insurance regulation (e.g. investment of life insurance companies, licensing, reinsurance, solvency, etc.) for OECD and a number of non-member countries is currently available in the form of comparative reports and tables on the OECD website. Information on the insurance sector in the OECD can also be found in the regularly published Insurance Statistics Yearbook, although this publication does not specifically focus on regulatory aspects.

38. The FDI Regulatory Restrictiveness Index aims primarily to measure deviations of foreign investment from “national treatment”, i.e. discrimination against foreign investment rather than the institutional environment in general. The index was first built in 2003 covering the years 1998-2000 and an update is available for 2006. It covers 29 OECD countries (plus 13 non-OECD countries for the 2006 update) and is based on regulations in nine sectors, including banking and insurance.

39. The OECD corporate governance and company law database provides a source of comparable information concerning corporate governance related laws and regulatory provisions in OECD countries. The database is expected to be expanded to also include information on underlying factors, such as ownership structure in terms of concentration and the distribution of ownership among different categories of owners. It provides standardised overview tables and short summary reports on specific aspects.

12 The database can be accessed through
http://www.oecd.org/document/19/0,3343,en_2649_34851_37506643_1_1_1_1,00.html
Databases from non-OECD sources

The World Bank

40. The World Bank’s data base on Bank Regulation and Supervision is a survey-based database on the regulation and supervision of banks.\textsuperscript{13} Information is available for three points in time, 1998, 2003, and 2007, and for 143 countries, including all OECD countries. The database has an extensive coverage of prudential aspects of banking regulation, on which this project will draw, but only few questions deal with competition. Moreover, given the database’s focus on banking, other financial sectors that may well be important for economic growth are either sparsely covered or not covered at all. As a result, many essential questions cannot be addressed with the data: for example, the database provides little or no information about regulations related to activities most likely to involve competition concerns, such as some retail payment systems or some post-trading activities.

41. The World Bank’s Doing Business Database is now available in its sixth annual edition, and provides comparable cross-country information on business regulations and their enforcement for 181 countries. While this database is not directly focused on the financial sector, it contains some relevant information about financial sector performance and about the legal infrastructure relevant for financial transactions. However, as these data are collected with the help of private sector agencies and are not vetted by the respective governments, they are not suitable for use in the OECD Going for Growth benchmarking exercise.

International Monetary Fund

42. The International Monetary Fund collects information on financial sector regulatory standards within the framework of the Financial Sector Assessment Programme (FSAP) launched in 1999, assessing \textit{inter alia} the observance of various internationally accepted financial sector regulatory standards. These regulatory standards comprise a set of core principles and the implementation of these principles is assessed by ranking the observance of each country into four groups: compliant, largely compliant, materially non-compliant and noncompliant. Many industrialised countries have participated in the FSAP and a majority of OECD countries have agreed to publish the country-specific assessments on the IMF’s web-page. However, the information provided by FSAP reports is somewhat heterogeneous, and no indicators or database measuring cross-country differences in the regulatory stance have been published.

Bank for International Settlements

43. The BIS-hosted Committee on Payment and Settlement Systems (CPSS) publishes \textit{Statistics on Payment and Settlement Systems in Selected Countries} on a yearly basis. This database, however, is limited to the G10 countries plus Singapore and Hong Kong.

European Central Bank

44. The ECB regularly publishes extensive information on payment and securities settlement systems in the European Union in its \textit{Blue Book}.

Industry organisations

45. The Institute of International Bankers publishes annually the Global Survey on Regulatory and Market developments covering banking, insurance and securities markets. This publication covers 36

\textsuperscript{13} The data base is available at http://go.worldbank.org/SNUSW978P0.
countries and the EU, including more than 20 OECD countries. The survey includes information on permissible securities, insurance and real estate activities of banking institutions. In addition, the recent survey incorporates information on some other aspects of regulations, such as the approach each country takes to funding the activities of bank supervisory authorities, the implementation of the Basel II standards and market risk capital requirements. One qualification of the survey is that it is produced in cooperation with private banking institutions and is thus partly based on subjective assessment by these institutions.

**Overall assessment of existing databases**

46. While existing databases provide important information on the regulation of selected aspects of financial markets, they do not constitute a sufficient basis for the regular surveillance of financial market policies that have an impact on long-term growth. Firstly, apart from the OECD databases, the frequency of updates is not under the control of the OECD and some of the databases are not regularly updated. Secondly, some of the information on regulation, such as that contained in the World Bank’s *Bank regulation and supervision* database, is – by definition – restricted to the banking sector, and hence lacks the scope to provide an adequate picture of regulations of the financial sector. Thirdly, some databases (as those published by the ECB or the BIS) cover only a sub-sample of OECD countries, which greatly reduces their usefulness for the purpose of OECD-wide surveillance. The information can, however, be used as a supplement. Fourthly, in most cases, as for example the IMF’s FSAP assessments of observance of international codes, the focus is set overwhelmingly on prudential regulations, with relatively little attention given to competition and efficiency-related regulations. Finally, datasets collected by industry organisations are too partial, though they could be useful as a part of a more comprehensive dataset on regulations in financial markets.