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Pension Supervision: Key Policy Issues from International Experience

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Abstract

Creating and maintaining effective pension regulatory and supervisory structures that secure the interests of the participants and beneficiaries is crucial for systemic stability and economic growth. This paper focuses on the supervision of privately managed, defined contribution pension systems and attempts to clarify key factors that determine the setting and operational activity of pension supervisory structures. Intensity of supervision is measured and compared across a sample of eight countries, using a scoring system that factors in elements that are common to the operational activities of supervision. The results of the exercise show consistent patterns of intensity of supervision activities in relation to the level of economic development, the depth of financial markets, the legal traditions, and the administrative settings of the pension systems in the countries observed. As of yet, there are no best practice models for pension supervision. Nevertheless, consistent supervisory practices can be derived from matching context with supervisory methods to guide policymakers in their decisions.

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Over the past two decades, privately managed, defined contribution pension systems have expanded greatly to play a central role in the provision of retirement income worldwide. The design and operation of these systems vary extensively, but the basic reason for their adoption remains unique across the board: countries need to provide affordable and sustainable income for their retired citizens. Achieving this objective becomes a challenging task in the context of aging populations, uncertainties created by globalization, and rapid integration of financial markets.

Starting with common generic goals and challenges, policymakers make use of regulation and supervision to adjust the retirement income provision mechanisms to the specific conditions of the labor market and the economic and financial environment in their countries. Success in creating and maintaining effective pension regulatory and supervisory structures that secure the interests of the participants and beneficiaries is crucial for systemic stability and economic growth.

The academic literature recognizes the need for efficiency in the general context of supervision and regulation of financial markets. Comprehensive economic analysis is available to detail the underlying reasons for financial regulation and supervision (Llewellyn, 1999; Mishkin, 2001), the impact of aging on financial stability (Davis, 2001), the relationship between financial systems and the success of pension reform (Blake, 1999), and the relationships between the level of economic and financial development and economic growth (Beck et al, 2000).

This debate has brought many valuable insights for the banking and insurance world and it is, to a great extent, very relevant to pension provision as well. Nevertheless, very little attention has been paid to the specific challenges of regulating and supervising pension schemes and their effect on pension system stability and welfare in retirement. Answers are still pending for basic questions regarding actual structures and tools put in place by countries to supervise and regulate pension schemes.

This paper focuses on the supervision of privately managed, defined contribution pension systems and discusses some key decisions that policymakers face when they are considering measures to either construct supervisory institutions following implementation of pension reform or implement measures that would make their current arrangements more efficient.

More specifically, the analysis in this paper attempts to clarify some of the key factors that determine the structure and operational activity of pension supervisory structures and to ascertain the extent to which these structures can be made more efficient. The discussion focuses on two categories of factors that influence the practical application of supervisory methods: factors that are pertinent to the structure and administrative pattern of pension systems and supervisory institutions, and factors that describe the economic and legal environment in which the targeted activities are carried out.

We start by looking at some of the most important issues that come out of the existing literature and experience in the banking and insurance fields to reveal some overarching concerns and point out recent trends. Then we move on to investigate relationships that can be discerned between the practical application of supervisory methods and characteristics of the legal and economic environment in eight countries: Argentina, Australia, Chile, Hong Kong, Hungary, Ireland, Mexico, and the United States.

Useful Perspectives from the Banking and Insurance Literature

The existing literature on financial systems and recent evolutions in the banking and insurance sector discusses in detail some overarching issues that are pertinent to pension regulation and supervision as well as generic trends. As they enter the pension policy arena, these issues deserve careful investigation. Because very little attention is being paid to specific issues related to pension regulation and supervision, an attempt to gain insights from the related fields is an appropriate first step toward revealing hypotheses on key determinants of supervisory institutional structures and operational activities and the way that they relate to characteristics of the retirement income provision system and to the legal and economic environment.

In practice, supervisory activities are difficult to separate from regulation, even though they are theoretically distinct actions. It is therefore important to highlight some major distinctions that make the separation easier to apply for the purpose of the analysis.

Regulation is generally viewed as the establishment of specific rules of behavior. It includes the legislative and statutory process that sets the environment for the operation of pension systems. Supervision is the exercise of observing whether the rules are obeyed and ensuring enforcement in instances of non-compliance. The activities are limited to monitoring compliance but do not exclude initiating and implementing rules that preclude continuation or aggravation of non-compliance. Very frequently, the two functions are exercised within the same institution and for all sectors of the financial market. The reasons and benefits of using this distinction are discussed extensively in the literature (Llewellyn, 1999).

Structural Factors Affecting Supervisory Institutions

Since this paper focuses specifically on supervisory activities, it is important to first examine potential relationships among structural issues relevant to supervision like the level of integration of supervisory activities across the financial sector, the organization of the retirement savings provision (mandatory versus voluntary), the size of the market, and the existing synergies with the regulatory function.

A detail pertinent to the discussion of the supervision of privately managed, defined contribution pension schemes is the variation of mandatory versus voluntary arrangements that exists across countries. The very nature of mandating savings to individual accounts, where the risk of return is borne by participants, even in the presence of public guarantees, entails increased protection for the interests of participants and beneficiaries. It is therefore expected for mandatory systems to require a more pro-active, intense supervision.

Research applied to the banking sector examined whether banking supervision can be separated from the central banks and integrated with the supervision of other financial services. Goodhard concludes that such an approach can be beneficial, with the exception of developing economies where the skilled labor force is scarce.

Overall, there seems to be very little understanding of the specific motivations and implications for the stability of pension systems of the recent trend of OECD countries, which reformed their supervisory framework to create a unified supervisory authority for the entire financial sector. These countries have consolidated their previously specialized agencies in order to accommodate financial conglomerates delivering banking, insurance, and pension services and products. A reasonable expectation would be that economies of scope and scale would be realized if supervision is done by an integrated institution. The intensity of supervisory activities should consequently vary with the degree of integration of the administrative structure in place.

Economic Conditions and Legal Traditions

Another set of issues that play an important role in shaping the way supervisory activities are organized and performed is the ties that develop with the economic environment, the level of governance, and the underlying legal traditions. Recent evolutions in the banking and insurance sectors made both the members of the academia and practitioners investigate these issues in depth.

The most important of their findings, relevant to supervision, were addressed in the New Basel Accord (Basel II), which sets uniform standards for capital adequacy rules, supervision, and market discipline for the entire banking world. The alarm for pension provision comes from the fact that in the banking sector, even after continuous attention and despite the presence of a unifying framework for standards of financial adequacy and performance, difficulties remain, especially for developing countries to find the right balance between regulation, supervision, and reliance on market discipline (Chami et al, 2003).

Further evidence from the banking sector shows that bank regulations cannot be viewed in isolation because they reflect broad, national approaches to private property and competition. In addition, empirical evidence proves that tighter regulations on bank entry and bank activities can boost the cost of financial intermediation (Levine et al, 2003) and can be detrimental to greater banking sector stability (Barth et al, 2002).

Financial sector supervisors have struggled for a long time to find appropriate tools for measuring the performance of the supervised entities. Financial analysis using ratios used to be the standard until the results of a major study undertaken by the National Association of Insurance Commissioners in the United States proved that only around 20 indicators were good predictors of the financial performance of insurance companies. Further insight in this matter was brought by Lopez et al (1998), who showed that using financial ratios is not an effective tool for preventing financial failure. This lesson from the insurance sector is important for pension supervisors because it points to the fact that under current economic circumstances, it is crucial to find alternative ways to measure the financial performance of supervised entities and not rely on financial ratio analysis. In the light of these findings, contemplating the implementation of risk-management systems becomes important.

A hypothesis that emerges is that there are consistent patterns and relationships that characterize the overall intensity of pension supervision activities. Previous insights on pension regulation and supervision delimit a continuum of styles of supervision (Demarco et al, 1998; Rocha et al, 2000; and Vittas, 1998).

The work on comparing financial systems carried out by Franklin Allen and Steven Gale points to a relationship between the stage of a country's economic development and its ability to rely on market mechanisms for financial sector supervision. It is expected that the intensity of supervisory activities would be consistent with the stage of economic development based on the assumption that more developed economies would be able to rely more on their markets and afford to have a more re-active approach to supervision. The same logic applies to countries where markets are open and many participants enter to provide advice or products to the consumers of pension services. In these markets, the intensity of the efforts of the supervisors is likely to face a capacity constraint and lead the supervisors to rely on other methods to facilitate voluntary compliance with regulation.

The debate on the link between the stage of economic development and the structure of financial systems is frequently connected in the scholarly dialogue with discussions about legal traditions and the typology of legal systems. Levine (1998, 1999) and Levine et al (1999) empirically trace the chain of connections from legal origins to financial development to economic growth. Specifically, they find that the legal origins importantly account for cross-country differences in the financial development of banks and stock markets and that these differences explain the international differences in long-run rates of economic growth. Assuming this perspective, it is important to establish how different types of legal systems and traditions relate to the intensity of pension supervision.

The role of strong governance for financial system stability has been recognized and explored in great detail by various authors, and statistical measures of governance have been developed by Kaufmann and Kraay (Kaufmann et al, 2003). A hypothesis derived from their work is that governance, measured as "rule of law" strength, is an important determinant of the degree to which countries can rely on the market to carry out supervisory activities.

The evolutions and debates in the other parts of the financial sector do not provide answers that are specifically tailored to retirement income provision, despite the very close similarities in the case of privately managed, defined contribution arrangements. They are only suggestive of certain relationships between the economic environment and the actual structures and tools used to supervise pension systems. Based on these motivations and insights from the existing financial sector literature presented above, we went in depth with our analysis to clarify some of the hypotheses outlined above.

Basic Functional Elements of Supervision of Funded Pension Systems

This subsection offers short descriptions for each of the functional elements of supervision with emphasis on the elements that differentiate among them. It is important to also note that each of these primary categories encompasses a range of potential elements and is considered against slightly different criteria, as outlined below.

Monitoring. Monitoring activities consist of information collection that enables the supervisor to track the status and actions of the pension funds within their jurisdiction. Supervised entities are often required to submit periodic reports to the supervisor. The underlying function of monitoring activities is the provision of information to the supervisor that will either provide the basis for judgments and actions or make the activities of the pension funds more transparent. Typical users of information submitted for monitoring include supervisors as well as the members of funds.

Common types of information collected include financial statements, schedules of transactions, information on individuals responsible for important aspects of fund operations (trustees, administrators, Boards of Directors), actuarial analyses, and information on the sponsors of pension funds or owners of pension companies. Monitoring is very commonly a passive activity on the part of the supervisor, but it may also occur as a pro-active function where the supervisors go on site periodically to collect specific or supplementary information. Monitoring varies in terms of the type, scope, and depth of information sought, the parties who provide the information, and the periodicity of the collection of information.

Licensing. Licensing activities restrict and control entry to the pension market. They are typically established in the form of procedures and criteria that must be fulfilled by funds and administrators to enter the pension market. Licensing is applied to pension funds or to the entities that are permitted to operate funds, but it can also be extended to individuals who perform important functions in the pension system (e.g., trustees) or to firms and individuals to become qualified to provide services (e.g., the qualification of actuaries to evaluate defined benefit plans). The modalities in which this function is exercised differ widely across the spectrum of systems; in essence, however, they all make use of a set of pre-determined criteria to establish an entry barrier or to select a limited number of entrants.

Licensing is differentiated among pension systems by restrictiveness, depth, and periodicity. Some systems have virtually no entry barriers while others have very complex and strict standards applied by the supervisor. Licensing can be incident to all participants before they enter the market, to only some participants as depending on their size or the structure of their assets, or to none of the participants. Also, in cases where licenses are issued, they can be issued once for the life of the supervised entity or they can follow a process of renewal with a yearly or potentially even greater frequency.

Communication. Supervisors engage in a full range of activities to communicate with pension funds. These are essentially the complement to monitoring activities in which the flow of information is from the supervisor to the funds, making it very difficult to cleanly separate the two in many instances. Supervisors may communicate with the funds through the provision of regular reports on the industry, by announcing their priorities and compliance strategy, or by publicizing compliance actions. They may also engage in interactive communication by placing inspectors on site and engaging in daily communication, by meeting regularly with the funds to discuss issues of mutual interest, or through more formal processes in which changes in the activities of the funds are suggested and issues resolved through negotiation. Supervisors may also undertake programs of outreach, education, and training to enhance the knowledge of the legal requirements or operation of pension systems. They usually communicate with a range of third parties including fund managers, service providers, members, and the public.

The communication activities of supervisors have a wide range of goals and objectives. Some communication programs may have the purpose of informing pension funds about the intent and nature of the supervisor's activities to maximize the capacity for cooperation and to make the interactions with funds more efficient. Others are intended to advance the understanding of the regulatory structure as well as the rights and responsibilities of funds and their members to facilitate compliance with the rules or to advance the exercise of individual rights of action by members as an adjunct to actions by the supervisor. Communication may also be intended to leverage resources and establish a climate of deterrence among funds by publicizing the enforcement actions of the supervisor.

Analysis. The manner and extent to which supervisors analyze and evaluate the information they receive from pension funds is usually closely linked with the basic legal and regulatory approach of the system. Legal frameworks that are based on quantitative standards lead supervisors to extensive measurement efforts to compare the financial status of funds against benchmarks and normative standards. This often involves complex data processing that is received from individual funds and that may be carried out as frequently as daily. Pension systems based on the Anglo Saxon tradition of trust law tend to be more oriented toward comparative analysis and the far less frequent process of evaluating funds over longer periods against experience-based benchmarks or behavior benchmarks for the entire industry. The analysis in these systems may also be less focused on the outcome of financial decisions and more applied to the process of decision-making.

Measurement and analysis elements of supervision can therefore be evaluated on the basis of the purpose, frequency, and intensity of the activity. At the alternative end of the spectrum are systems that are more oriented toward keeping funds within a more loosely defined set of standards. These operations are less frequent and therefore less intensive. Under this approach there is more reliance on external or market forces, or in some circumstances on the presence of extensive regulation and oversight of other aspects of financial market operation.

Intervention. All supervisory programs are continually faced with decisions about whether and how to intervene in the operation of pension funds. There is considerable overlap and it is often difficult to separate this element of supervision from some of the key aspects of the communication with the funds. Interventions may take the form of explicit requirements for the fund to take or desist from engaging in certain activities that carry the force of law and require immediate compliance. In other systems interventions may appear as findings presented to funds for response. The process of intervening in these circumstances is likely to be in the nature of negotiations in which issues are resolved or in a process of litigation through the civil courts where a resolution is reached through the judicial process.

A key issue that defines the nature of interventions is the force of authority that is given to the supervisor and the nature of the process through which interventions occur. In some countries the supervisor simply has the authority to intervene at his/her discretion when a finding is made that a fund is or may be approaching non-compliance while the fund is provided with very little if any recourse to negotiate or appeal. In other countries the supervisor has little capacity to unilaterally impose sanctions and instead intervenes through a far less direct process in which changes are proposed to the fund by issuing a form of notification of compliance. This aspect of intervention generally receives the most attention and engenders the greatest controversy.

The manner in which intervention is carried out and the nature of the process that follows, whether it is completely directive or a form of negotiated settlement, is perhaps the aspect of the supervisor's activities that most defines the nature and style of supervision. Another key variation is the involvement of third parties in interventions. Some systems require that all actions be passed through the courts. Others establish a formal process of appeal to a specially constituted group that imposes a formal, although similar, type of check on the authority of the supervisor.

Correction. As is the case with any form of compliance enforcement, one of the most important elements of pension supervision is the capacity of the supervisor to take corrective actions. Three basic types of corrective action can be delimited: punitive, remedial, and compensatory. Supervisory programs may engage in all three types or may be limited exclusively in their authority to only one.

Punitive actions are designed to impose penalties on the funds for actions deemed to be adverse to the interests of members. They are distinguished by both form and intent. Penalties are usually fines that are paid to the supervisory and may be retained by the authority or become part of public revenues. Their intent is to establish deterrence and punish behavior outside of the standards.

Remedial actions are those taken by a supervisory authority to remedy the consequences of failure to comply with the law. These are essentially a way reverse the outcome of the non-compliance. Remedial sanctions may simply require the fund to return to a prior status or to cease in certain actions. In some cases this may involve financial sanctions that are limited to any direct result of negligence or malfeasance by responsible parties.

Compensatory corrective actions go beyond the remedial outcomes and seek to compensate aggrieved parties for both the direct and indirect effects of violations. These types of actions have a strong deterrent intent but also have the purpose of ensuring that harm is minimized. Corrective activities of the supervisory are distinguished by the degree to which they are solely focused on remedial outcomes, correcting problems as they occur, or whether they extend into the arena of compensation and punitive provisions that attempt to establish a more self-enforcing regime of deterrence.

Governance and Risk Management Tools Used in Pension Supervision

As pension systems grow larger, with participants increasingly exposed to market risk, finding the appropriate government mechanisms and risk-management tools becomes essential. Given the variety of pension system parameters, legal traditions, and administrative arrangements across different countries, it is important to identify common denominators for governance systems and risk-management practices used for supervisory activities. The prudent person rules and the value-at-risk (VaR) models gain increasing importance in the exercise of pension supervision, as they came to replace more intensive, traditional governance principles with more behavior-driven, prevention-oriented mechanisms. The following two subsections discuss each of these tools in the context of pension supervision.

Prudent Person Rule: definition, origins, and basic considerations. The prudent person rule is used increasingly as a behavior-oriented standard for participants in financial markets as a building block for governance systems. An acceptable definition of this rule is, “a fiduciary must discharge his or her duties with the care, skill, prudence, and diligence that a prudent person acting in a like capacity would use in the conduct of an enterprise of like character and aims.” The prudent person rule originates in trust law where the institution of “trust,” which is usually a mass of assets, is managed by the “trustee” for the benefit of another person. The prudent person rule designates responsibilities focused on general conduct in administering these assets and not on the results of the administrative process.

The prudent person rule generates legal duties and responsibilities that establish fiduciary obligations that seek to minimize potential divergences of interest in relationships where one party is particularly vulnerable to another (principal-agent problem). Effective enforcement of the legal liability of this rule is essential to ensure successful implementation.

The “prudent person rule” is a good model of governance because it combines obligation and duty with accountability without necessarily invoking the state or its regulatory agencies. It is a simple rule that is general enough to avoid conflicts and inefficiencies generated by jurisdictional overlaps. It also gives formal status to entities to which it is applied, allowing independence from competing interests and a minimum of intervention in the administrative process.

In the context of pension provision, this rule is applied in various ways. In countries that share a trust-based law system, the rule applies to fiduciaries with very little additional quantitative or qualitative restrictions set forth in laws and regulations. In other countries, this rule is accompanied by quantitative rules limiting self-investments or investments in risky assets or by limitations on the use of custodians.

Since, by definition, the prudent person rule assigns very general standards of conduct, proper interpretation is required to ensure ongoing compliance and to sanction misbehavior. The role of the regulatory agencies in interpreting and implementing this rule becomes crucial to its successful implementation, especially in countries with that have little experience with this concept (code-based law systems).

Value-at-Risk Model: Risk Management and Capital Regulation Tool for Defined Contribution Systems. As privately managed, defined contribution pension provision arrangements expand across countries, the final retirement income becomes increasingly exposed to market risk, inherent for financial investment transactions. While considering investment choices to secure the long-term goals of retirement welfare, the administrators, managers, and supervisors of pension funds have to mitigate a variety of risk categories: credit risk, market risk, liquidity risk, and legal and operational risk.

Value-at-risk models have been accepted by banking and insurance regulators as a standard tool to quantify risk and control exposure to market risk. Value-at-risk is defined as the maximum potential change in value of a portfolio of financial instruments, with a given probability over a certain time horizon. This estimation starts by marking to market all of the assets in the portfolio and then, based on the probability distribution of the market returns, over a defined period of time, it estimates potential losses. The motivation for this particular approach is that an improper estimation of risk, at the underlying asset level, leads to sub-optimal capital allocation with severe consequences for profitability and financial stability.

Risk management techniques based on the VaR approach are widespread in the banking and insurance sector. They are starting to become popular in the pension arena in countries that have established solid, privately managed, defined contribution pillars for the provision of retirement income. Value-at-risk can have many applications, and it is used both for risk management and for regulatory purposes. The Basel Committee on Banking Supervision and the Bank for International Settlements call for financial institutions such as banks and investment funds to meet capital requirements based on VaR estimates.

The main purpose of introducing a VaR approach to risk management and capital regulation is to tie capital requirements more closely to the underlying risk of the assets in the portfolio. For pension funds and insurance companies this exercise is especially important since they operate on a mandate which stipulates that their capital be sufficient to cover future liabilities and claims, usually on a long-term time horizon.

Among the countries that have introduced risk management tools based on VaR principles, Mexico is a prominent example. Portfolio composition and asset value are reported daily, at market value, allowing for close estimation of probability distributions for returns. Risk exposure is also managed with investment rules that restrict asset categories, counterpart exposure limits, and benchmarking of liquidity indicators. This approach replaced an older system that measured risk using average weighted maturity calculations. As VaR tools are introduced, the weight of these quantitative restrictions in the risk-management-tools portfolio is decreasing, allowing for a more market-linked and modern regulatory regime. Another country that is currently considering implementing a similar risk-management approach is Hungary.

Analytical Framework

The approach chosen for identifying key factors that determine the structure and operational activity of pension supervisory structures is based on the following assumption: regardless of the actual form of the administrative structures, size, or particularities of the retirement income provision system that can be observed across countries, nearly all supervisory systems are trying to secure similar goals. To accomplish these goals countries perform a number of basic functions with a different degree of intensity and depth. For the scope of this analysis, the activities of pension supervisors are divided into six basic elements: *(1) monitoring, (2) licensing, (3) communication, (4) measurement,*
(5) intervention, and (6) correction.

Each of these fundamental elements is scored on a scale of one to five (where five marks the highest intensity) to measure the intensity of the supervisory activities in eight countries. The basic motivation behind this approach was to examine the actual activities that supervisors in different countries are undertaking and compare their intensity from a common perspective, independent of the inherent differences in the organization of the pension provision systems, the structures of the supervisory institution, or the level of economic development.

The underlying hypothesis is that countries exercise supervision of their pension systems in consistent patterns, according to their level of economic development, legal traditions, and pension system design.

The last step of the analysis matches the results of the above-described intensity score with elements from each of the two categories of determinants considered in the opening hypotheses: factors that are pertinent to the structure and administration pattern of pension systems and supervisory institutions, and factors that describe the economic and legal environment in which the targeted activities are carried out.

In order to assign the scores, the practical details of performing each of the six functions were examined. The following elements were considered in the analysis:

- the frequency of reporting mechanisms;
- the amount and type of information reported to the supervisor;
- the amount of analysis that underlies supervisory decisions and interventions;
- the intensity and direction of communication activities; and,
- the general regime for sanction application.

The results displayed in the following section integrate the two steps of the analysis for all eight countries examined. This analysis highlights important distinctions of supervisory activity among countries and begins to expose some very intricate relationships between supervision and level of economic development.

Discussion

The final scope of this review of practices of pension supervision assesses whether supervisory styles appear to be responding to the legal and economic environment and, if so, what types of relationships are evident. Potential explanatory variables include the overall level of development of the country, the degree of development in capital markets, the capacity for reliance on legal procedures and private actions, and the legal traditions of the country. The pathways of causality among these factors are potentially complex. It would be very difficult to distinguish clearly between *effects* that may be the result of the influence of these factors on the overall pension system that in turn defines the supervision and *constraints and imperatives* that directly dictate the nature of supervision. Nevertheless, a preliminary evaluation of these relationships provides useful insights on the alignment of approaches to supervision and the environment in which they operate.

Structural Factors Affecting Intensity of Supervision. The results of the analysis are displayed for each of the functional elements of supervision that were defined above for the selected sample of eight countries. Figure 1 displays a consistent pattern of variation of intensity for the eight counties for the first four functions: licensing, analysis, intervention, and correction.

In Argentina, Chile, Hungary, and Mexico, the supervisory institutions are specialized and have regulatory responsibilities for the privately managed, defined contribution components of the retirement income provision systems. All of these countries are consistent in enforcing very strict licensing procedures for both the funds and the fund managers before they are entitled to handle the assets collected as contributions from their members. Argentina, Chile, and Mexico have a pro-active approach to supervision, with intense efforts to prevent non-compliance by conducting detailed analysis and monitoring of financial and behavioral status of supervised entities. They control entry by comprehensive licensing procedures and apply punitive sanctions. The same is true for the analysis activities undertaken by the supervisory institutions. In all of these countries, supervisors process in-house a large amount of information that is reported frequently by the funds and the find managers. In order to asses whether the supervised entities are complying with the regulations, supervisors intervene in a pro-active manner to either collect additional information or to further investigate instances of non-compliance.

Australia, Ireland, and the United States lie at the other end of the spectrum of supervision intensity. In these countries, the barriers to enter the privately managed, defined contribution pension market are very low, and supervisors intervene only on an exception basis. Funds and fund managers can start their activity without obtaining a license, so no special criteria are observed in terms of the size of the fund or the performance or experience of the manager.

These findings confirm our starting hypothesis that supervisory systems are, at least by these measures, relatively consistent in their approach. It is also important to note that the countries in our selected sample appear to fit within the full range of generic “styles” of supervision, rather than clustering at the two extremes. Australia and the United States can be characterized as essentially re-active systems, while Chile and Mexico are strongly interventionist and pro-active in character. Hong Kong and Hungary occupy the middle ground with elements from both sides (See Figure 1).

The element that is negatively correlated with the others is communication (See Figure 1). The prevalence of communication activities apparently increases in proportion to the degree to which other activities are re-active or exception-based. This is intuitively logical because education and technical assistance are a likely adjunct to programs that rely on external actors and markets forces to induce compliance with regulations and are perhaps best perceived as a form of agency costs by the regulator.

In countries like Australia and the United States where the intensity of the other supervisory functions is very low, we observed a very dense activity of communication between the supervisor and the pension fund managers, trustees, and beneficiaries as well as members of the public. Decisions are made following a negotiated process between the supervisor and the trustees. In this process, emphasis on disclosure and information sharing is high.

An explanation that supports these findings is that in countries where we found low supervisory intensity, the supervisor relies on third parties to carry out some of the basic functions of supervision. That way, supervision is in fact decentralized to the other participants in the market. This is where accountability and responsibility become important. Reliance on markets and third parties for delegating supervisory activities requires good communication on all the relevant issues, which explains the high levels of intensity of communication that persist in re-active regimes.

Figure 2 displays the variation in intensity of supervision activities across the selected sample of countries, in relation with the structure of the pension system. The results show the same consistent pattern of supervisory intensity observed in the absence of such context factors. The mandatory nature of the funded retirement savings is associated with greater intensity of supervision methods. In countries like Argentina, Chile, and Mexico where the funded component of the pension systems is primarily delivered through mandatory personal accounts, the degree of intervention and supervisory control is even more intense and the stile of communication is primarily directive. A supportive argument for this finding is that the mandatory nature of the retirement saving systems, in the context of defined contribution schemes, exposes the retirement savings of individuals to market risk and therefore augments the need to protect members’ interests.

Variation of Supervision Intensity with Economic Conditions and Legal Traditions. This analysis indicates a strong relationship between the overall level of economic development and the approach to private pension supervision (See Figure 3). Countries with the highest income levels are associated with supervisory approaches that impose fewer entry barriers and qualifications for pension funds and are less intensive and intervention-oriented. Those with a lower per capita GDP are associated closely with pro-active methods and are less likely to rely on market discipline to control their pension systems. Also, the countries with higher levels of development are more communication-oriented in their methods.

The more developed countries in our sample, Australia, Hong Kong, Ireland, and the United States, tend to have re-active regimes of pension supervision, with very low market entry barriers, moderate levels of intervention, outsourced analysis, and exception-based corrections aimed at restoring compliance with regulation.

A variety of factors explain this relationship. Wealthier countries tend to provide more widely available social safety nets and universal social security systems, so they are likely to be able to sustain greater levels of risk in their private pension systems. Private pensions are consequently likely to be a less significant proportion of overall household wealth in these countries, making them better able to take risk in search of higher returns therefore requiring less restrictive supervisory regimes. Lower income countries, especially those that have established private pensions to replace or supplement public programs for fiscal reasons, have a much lower capacity to sustain such risk and are also likely to have large fiscal exposure through the kinds of public guarantees required to sustain the reforms.

To take this argument further, we examined the variation of the intensity of supervision with the “depth of financial markets” across the countries in our selected sample (See Figure 4). The ratio of stock market capitalization of traded companies to GDP provides a measure of the “depth” of financial markets and financial market development (Levine et al, 2000). Figure 4 shows countries ordered according to this measure. The expectation would be that in well-developed markets, there are a large number of participants and a high level of primary or direct regulation of financial products. The competition among these actors fuels institutional development and creates venues for third-party oversight that can take the form of comprehensive accounting rules or established auditing practices. In such systems, all of these layers of financial intermediation and professional affiliations are governed by primary market regulations that support less intensive supervisory oversight. Also, the high level of integration between the different branches of the financial industry allows for the development of fungible financial professionals, limiting the need for specialized pension supervision. The same relationship holds when we examine the variation of intensity of supervision against the size of the pension fund market, expressed by the number of funds, for the same sample of countries (See Figure 5).

The pension systems are grounded and operate similarly across legal frameworks: this constitutes an environmental factor as important as the overall level of economic development. To complement the findings on the relationships between the intensity of supervisory activities and the elements of the economic and structural environment, we examined the same parameters against information on legal traditions and general levels of governance.

The sample of countries is divided according to the primary foundations of their legal systems: common law and code law (See Figure 6). Countries that share legal traditions based on English common law rely heavily on trustees and whistle blowers in the exercise of pension supervisory activities. Both of these actors are external to the supervisory authority and operate by virtue of the prudent person principle. Trustees ensure implementation of internal control mechanisms and reduce the need for heavy regulation, which allows the supervisor to have a re-active, exception-based approach to supervision. This fact can be viewed as a possible explanation of the low levels of intervention and the negotiated, corrective function we observed. Whistle blowers, even when they are not recognized as such in the legislation, are still present, as an institution, in the form of auditors, actuaries, and trustees. Reliance on these external parties for signals of non-compliance shifts much of the monitoring and analysis activities from the supervisor to private third parties. This possibly explains the low levels of monitoring and analysis done in-house in countries where the legal system is based on English common law.

The opposite is true for countries that base their legal systems on codes that set rules (Argentina, Chile, and Mexico) that are slower to adapt to changes in the economic and social environment (Beck and Levine, 2004). The code law tradition also offer an explanation for the reliance on many written rules that generate a directive way of approaching communication and a punitive style of correction. These conditions create a set up where market failures occur more often, creating the need for a more pro-active, intense style of pension supervision.

General levels of governance in the economy, expressed as the “rule of law,” potentially determine the extent to which supervisors are able to function in a more re-active manner and to rely on markets and third parties to undertake some of the basic monitoring and analytical functions. To test this hypothesis, the sample of countries are compared to the relevant measure from a rule of law indicator developed by Kaufmann and Kraay. This indicator is derived from a statistical compilation of various measures and responses on the quality of governance. Even though the relative positions of the countries displayed in Figure 7 on the rule of law indicator are not precise enough to sustain a exact country ranking, the relative positions do provide some insight into the connections between style and intensity of supervision and the level of governance.

Countries with higher levels of governance and rule of law in the economy allow supervisors to rely more on market forces and adjust their supervisory interventions to efficient levels. High levels of governance and rule of law create opportunities for people to pursue their individual rights of action in a negotiated process of litigation, therefore reducing the need for enforcing detailed protective mechanisms and intense supervision.

Conclusion

Creating and maintaining effective pension regulatory and supervisory structures that secure the interests of the participants and beneficiaries is crucial for systemic stability and economic growth. This paper focuses on the supervision of privately managed, defined contribution pension systems and attempts to clarify key factors that determine the setting and operational activity of pension supervisory structures and the extent to which they can be made more efficient.

We find that in countries with low barriers to entry and relatively loose regulations, the pension supervisor's activities are concentrated in the communications area, with strong implications for outreach and training (Australia, Ireland, and the United States). Also, although intervention is already limited, efforts are being made to implement risk-monitoring systems that further-reduce intervention and monitoring and tailor resources to risk. In these countries, the number of supervised entities is very high and a reliance on market mechanisms and on the institution of "trust" (originating in trust law) is also very high. In countries with high barriers to entry, the overall activity of the supervisor is much more intense: more monitoring, more analysis, more intervention, and more correction. This is logical: since these regimes generally have numerous rules, much effort is required to implement and insure compliance.

It is interesting to note that in the latter group of countries, the mechanisms of supervision that apply to the mandatory defined contribution pillars also apply to the voluntary components. Granted, these components are much smaller by comparison, but the finding is nevertheless interesting. As defined contribution systems mature, the occurrence of greater reliance on market mechanisms and less intense supervisory processes will take place. Given the economic and financial level of development, as well as the characteristics of the underlying legal traditions, countries seem to carry out supervision of their funded retirement systems in consistent patterns. Given these constraints, freedom of modulating the style of supervision from pro-active to re-active seems to be contingent upon development of financial markets and economies. Even though there are no well-defined best practice models for pension supervision, consistent patterns of supervisory practices may be assessed from matching context with supervisory methods. The relationship among these elements is obviously very complex and more research will be required to establish clear causality.

In any event, several key messages emerge from this analysis, of interest to policymakers in countries where supervisors and other policymakers are looking for methods to make their supervisory actions more efficient. As the level of economic development improves, and the number of participants and intermediaries in financial markets increases, policymakers have to pay attention to the mechanisms that transfer supervisory responsibilities (e.g., prudent person rule, “Value-at-Risk” performance monitoring models) and make sure that the intermediaries (e.g., actuaries, auditors, trustees) have the sufficient skills to make proper decisions and the right incentives to carry out these responsibilities, keeping in mind the interests of the participants.

An equivalent interpretation of the findings presented in this paper would be to say that as countries are looking to become more efficient in their supervision of privately managed, defined contribution pension systems, they should devote attention to the transition from more pro-active to more re-active methods of supervision. Economic conditions and legal traditions seem to play a very important role in determining the level of intensity and the structure of pension supervision.

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Figure 1. Intensity of Basic Elements of Supervision in Eight Countries

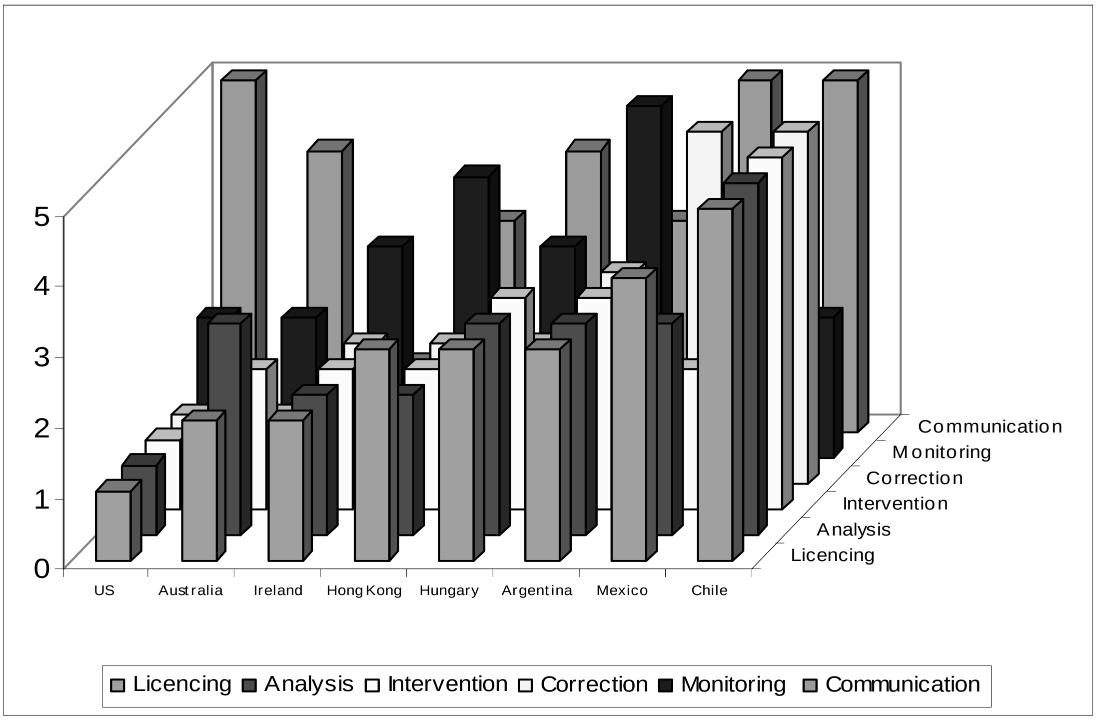
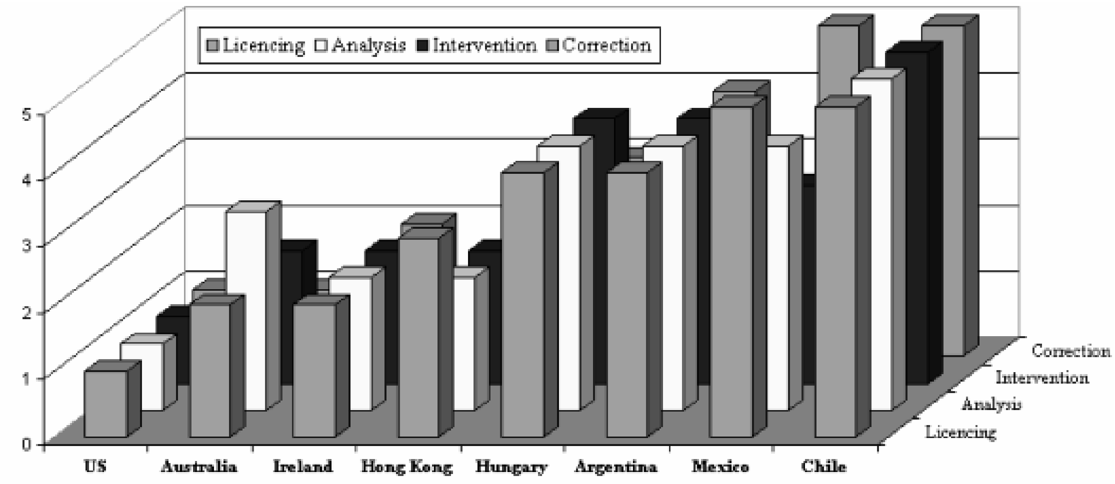
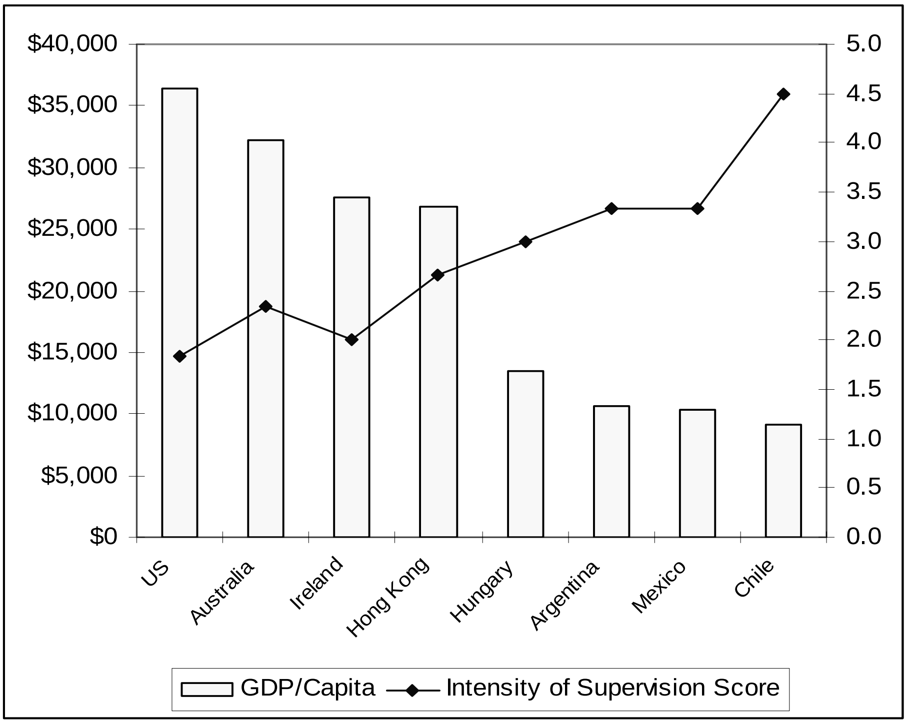


Figure 2. Variation of the Intensity of Basic Elements of Supervision with the Administrative Structure of the Pension System across Selected Countries



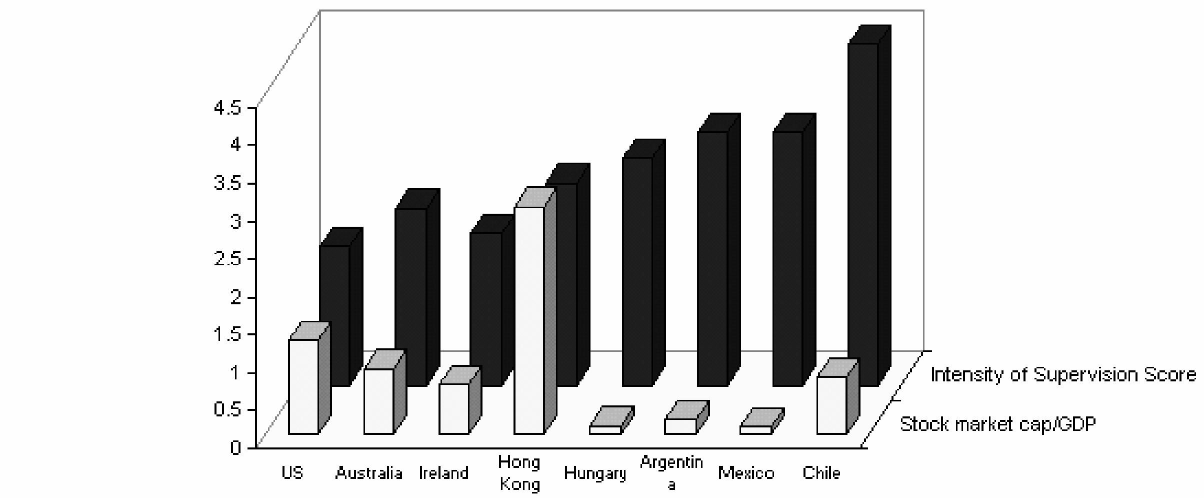
Voluntary Occupational	Mandatory Occupational	Mandatory Personal
		Chile
US	Hong Kong	Mexico
Ireland	Australia	Argentina
		Hungary

Figure 3. Variation of the Intensity Supervision with GDP/Head



Note: Intensity of Supervision Score was calculated as an average total score for all six elements identified.

Figure 4. Variation of the Intensity of Supervision with "Depth of Financial Markets"



	US	Australia	Ireland	Hong Kong	Hungary	Argentin a	Mexico	Chile
□ Stock market cap/GDP	1.23	0.86	0.65	2.99	0.11	0.19	0.1	0.75
■ Intensity of Supervision Score	1.8	2.3	2.0	2.7	3.0	3.3	3.3	4.5

Note: Intensity of Supervision Score was calculated as an average total score for all six elements identified.

Figure 5. Primary Elements of Supervision and the Size of the Market for Privately Managed, Funded Retirement Systems

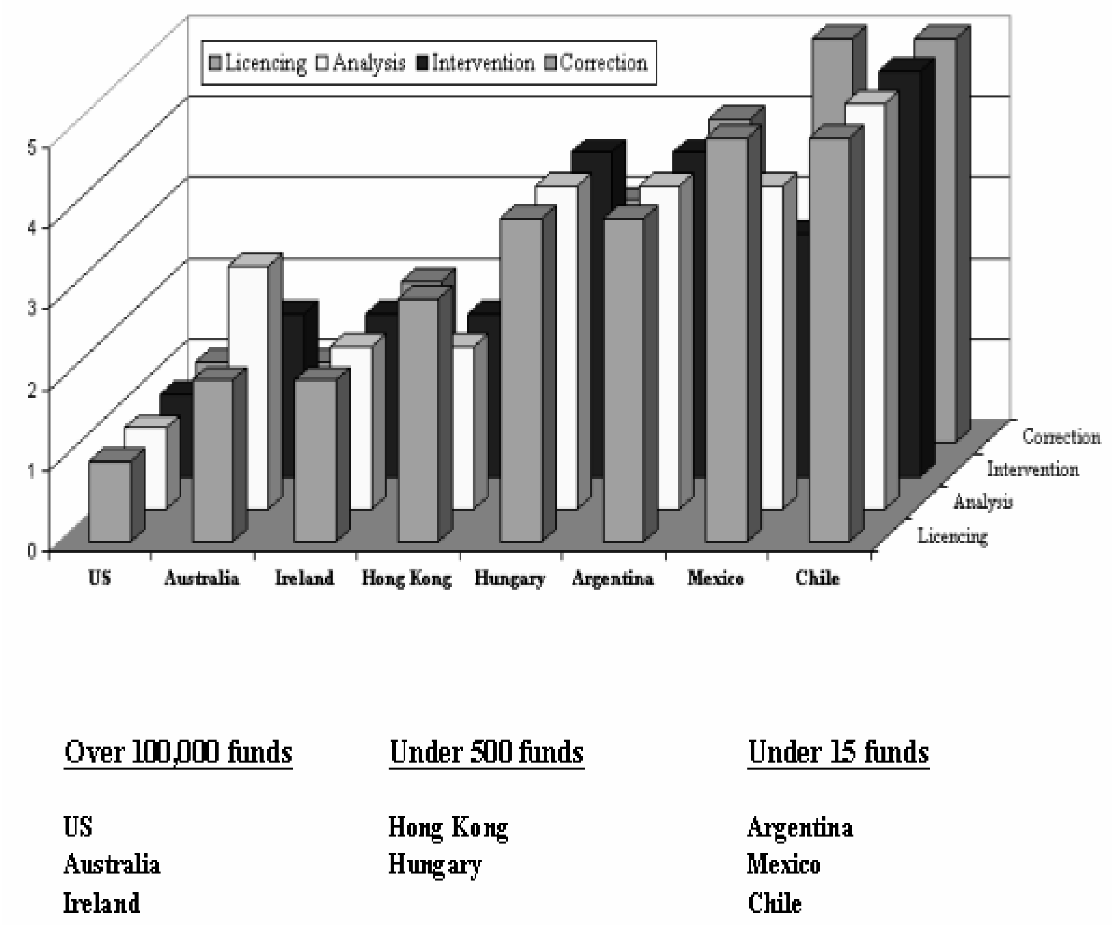
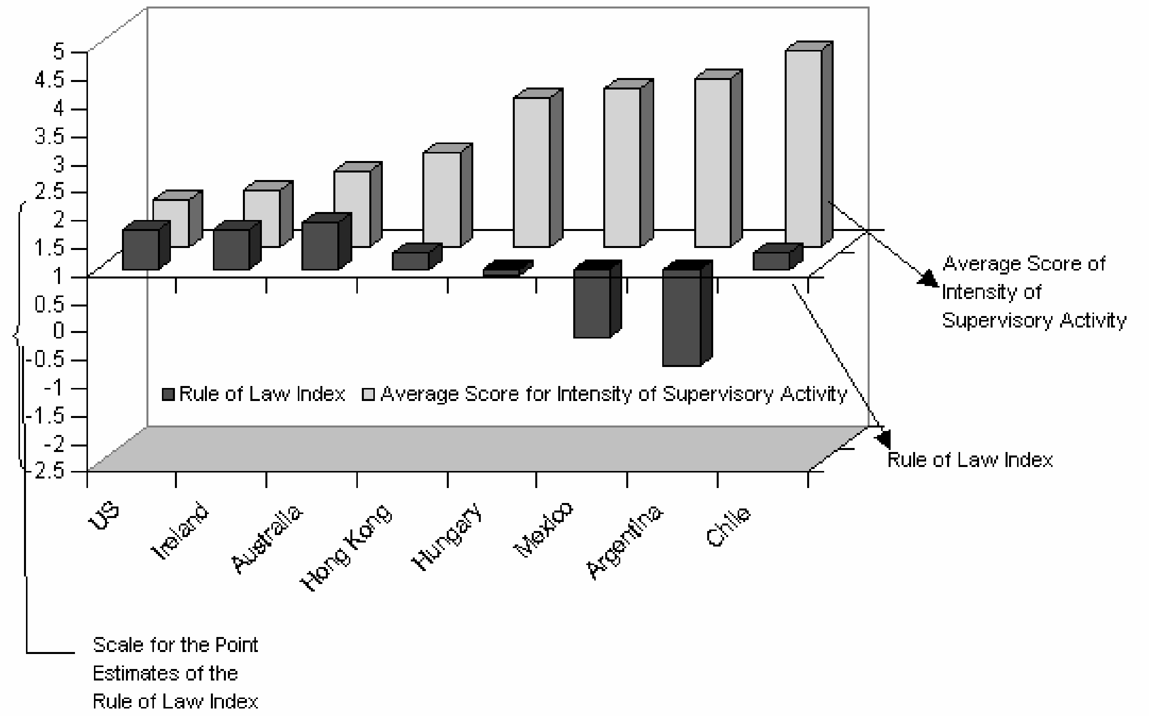


Figure 6. Foundations of Legal Systems in the Sampled Countries

Common Law	*Code Law*
Australia	Argentina
Hong Kong	Chile
Ireland	Mexico
US	Hungary

Figure 7. Variation of the Intensity of Supervision in Relation to the Rule of Law Index



Source: Daniel Kaufmann, Aart Kraay, Massimo Mastruzzi, "Governance Matters III: Governance Indicators for 1996-2002," The World Bank, 2003.

Note: Intensity of Supervision Score was calculated as an average total score for all the six elements identified.