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Richard Hinz

The World Bank's Pension Policy Framework and the Dutch Pension System

A Paradigm for the Multi-Pillar Design?

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The World Bank's Pension Policy Framework and the Dutch Pension System: A Paradigm for the Multi-Pillar Design?

Richard Hinz, the World Bank

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Abstract

Since the early 1990's the World Bank has utilized the multi-pillar framework as a model for the design and evaluation of pension systems. This model is derived from the principle that the primary functions of pension systems, (poverty alleviation, consumption smoothing and insurance) are most effectively and sustainably performed when they are made transparent through separate and distinctive elements of the system. The model emphasizes the advantages of private management, pre-funding and managing risk through diversification among the pillars. The pension system of the Netherlands is considered in relation to this multi-pillar model. It is found to be well aligned with the anticipated structure and main principles of the model. It diverges from the ideals of the design primarily in the balance among the pillars and in the complex forms of hidden redistribution that are inherent to the collective occupational funds that are the dominant element of the Dutch system. Overall, the pension system of the Netherlands, consistent with other recent evaluations, is found to be among the most consistent with the benefit adequacy, sustainability and affordability objectives of the model and among the closest to the ideals of the framework to be found in the world today.

I. Introduction

During the past two decades the World Bank has emerged as a central player in the development and reform of pension systems. In part this has been a consequence of its traditional role in providing loans to middle and low income countries. World Bank lending that was directly related to the establishment or reform of pension systems grew from very minimal levels to more than $1.5 billion when it reached its peak in the years from 1997 through 2000. Overall the World Bank lending that was in some manner associated with pension systems totaled more than $7.5 billion between 1984 and 2007, representing about one and one half percent of the total lending by the Bank during this period[1].

However, the influence of the World Bank extends beyond the direct impact of its' lending. As the Bank has evolved from the primary role for which it was originally envisioned (a source of financial intermediation for reconstruction and development to fill the gap in private markets following the Second World War) to a broader mandate under which it has become a source of knowledge, policy

[1] Hinz, Richard, Biletsky, Sergiy and Egilmezler, Melike: "Pensions in World Bank Lending and Analytical Work, 1984 – 2007" in Social Protection and Labor at the World Bank, 2000-2008, The World Bank 2009

analysis and technical assistance, it has increasingly sought to develop and disseminate policy and implementation guidance that provides theoretical and practical foundations to guide its work.

The Bank's policy and research efforts on pension systems and reform is one of the more notable examples of this evolution in its role. Beginning in the early 1990's the Bank undertook an extensive program of research to support the development of a policy framework to address the impending demographic transition brought on by rapid increases in longevity, the aging of the post war "baby boom" generation and the precipitous decline in fertility experienced by countries at all levels of development. This effort was initially motivated by the need to cope with the fiscal challenges imposed by pension systems that had been implemented in Latin America and Central and Eastern Europe in the early and middle parts of the 20th century. The challenges faced by these systems, many of which sought to emulate the social insurance arrangements introduced in Western Europe during the previous century, were brought to the fore by the financial crisis in Latin America in the late 1980's and the collapse of the formerly socialist governments in Central and Eastern Europe. The necessity to resolve the fiscal challenges in Latin America and facilitate the transition to a market economy in Central and Eastern Europe thrust pensions to the forefront of fiscal and policy debates in the early 1990's, making the reform of pension systems a central element in the structural reforms of the period and a critical determinant of the ability of the fledgling market economies and nascent democracies in Europe to survive.

This Bank's research and policy formulation effort lead to the publication in 1994 of a World Bank Policy Research Report entitled "*Averting the Old Age Crisis*"[2]. In addition to the underlying analytical work on demographic trends and patterns of old age income provision, this report provided the initial formulation of what was to become the central theme in the World Bank's policy framework, the multi-pillar concept of pension system design. The influence of this conceptual approach to system design and the various interpretations applied in its implementation have likely exerted a far greater influence in the thinking about pension systems and reform than any of the Bank's lending operations. It has also become one of the more controversial elements of World Bank policy and a lightning rod for the ongoing debate between the proponents of the traditional "Bismarkian" approach to the design and financing of social insurance that is based on earnings related benefits and "pay-as-you-go "financing and the advocates of mandatory funded individual account systems pioneered by the Chilean reforms of the early 1980's.

In the intervening years the World Bank's pension policy framework has been the source of considerable controversy and debate within as well as outside of the institution. In response to the emergence of new evidence and experience, the original framework has been adapted and refined. This has resulted in a somewhat more complex formulation although the underlying analysis and essential principles remain remarkably consistent with those set forth nearly 20 years ago. This paper begins by briefly outlining the analysis of pension systems underlying the initial policy framework and discusses how this provided the rationale for the original multi-pillar policy framework. It then briefly traces the motivation for the subsequent refinement and extension of these principles leading to the current articulation in the 2005 publication "Old Age Income Support in the 21st Century". The paper concludes by considering the pension system of the Netherlands in relation to the World Bank's multi-pillar policy framework and the extent that the Dutch system can

[2] The World Bank. Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth. Oxford University Press. 1994

be perceived to achieve the outcomes and objectives envisioned by this approach to pension system design.

II. "Averting the Old Age Crisis" and the Origins of the Multi-Pillar Policy Framework

Defining Criteria: The Three Functions of a Pension System

Underlying the World Bank's diagnosis of existing systems that lead to the formulation of the multi-pillar design framework articulated in 1994 is the view that all pensions system should be considered in the context of their capacity to effectively perform three sets of functions. These functions are not intended to be the exclusive functions that pension should perform. There is also considerable overlap among them with some of the functions of a pension system falling within more than one of the groups. Rather than a rigorous analytical paradigm these were envisioned as a more general conceptual basis for the critical analysis of existing pension systems that comprises the main focus of the Bank's early work. The three functions are articulated in the overview section of "*Averting the Old Age Crisis*" as:

> **Consumption Smoothing** – The capacity to organize and facilitate savings instruments and individual behavior to smooth consumption over a life cycle that is likely to have considerable variability in earnings and consumption requirements. For pension systems this specifically focuses on the ability to efficiently transfer consumption from periods of economic activity that are likely to reach a peak considerably in advance of withdrawal from active labor followed by a gradual decline in earnings culminating in pure consumption in old age. This function implicitly includes establishing institutions and instruments that enable and facilitate life cycle planning. It overlaps considerably with redistribution functions as well in addressing poverty alleviation objectives at the individual level.
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> **Redistribution** – The ability to efficiently, effectively and equitably transfer income and resources among various income groups to achieve a defined set of policy objectives. This is most specifically focused on the capacity to achieve poverty alleviation and ensure that low-income workers achieve a minimal level of retirement income. It includes both intra-generation redistribution associated with poverty alleviation or broader social or economic policy objectives and also inter-generational redistribution associated with an implicit "social compact" to enable earlier generations to share in subsequent economic growth. The evaluation of redistributive outcomes of pension systems and the extent to which they represent the implementation of explicit policy objectives in a transparent manner, or conversely, are outcomes that are unintended and non-transparent is perhaps the central theme in critique of existing pension systems in the initial research.
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> **Insurance** – The capacity to provide effective risk management and fairly spread the costs across the full range of relevant individuals. This includes managing volatility in earnings and financial markets, and most importantly for pension systems, the capacity to manage

mortality risks by spreading coverage widely across the population. This function is overlapping and often difficult to distinguish from consumption smoothing. It includes both the management of idiosyncratic risks among individuals through participation in large or national level risk pools as well as the management of macroeconomic risks through investment requirements, public guarantees and the establishment of requirements and mechanisms for the receipt of benefits as lifetime annuities.

Pension systems are evaluated in consideration of the extent that they perform these functions in an efficient and transparent manner. Pensions are considered as an element of a broader system of social insurance as well as private saving and insurance instruments. At the core of the analysis is consideration of what combination of design, operation and outcomes of these institutions can be expected to achieve equitable results in the most cost effective manner. A related focus is assessing how the outcomes of various approaches to the design of pension systems have varied in relation to the level of economic development in which they are implemented.

Diagnosis of Existing Systems

The 1994 report examined the evidence on existing pension systems and concluded that most were unable to effectively achieve these goals, both because the underlying designs were flawed but also because the environment in which they have been implemented could not be expected to support designs imported from other setting. This was based on several main conclusions derived from the review of existing systems. The central tenets of the analysis were:

The immutable demographic transition that will occur in countries at all levels of development will impose challenges that require rethinking the designs that were viable under the very different conditions under which many pension systems were established. One of the most readily apparent relationships in economic development is the strong link between the level of development (per capita GDP), the proportion of the population that is elderly, coverage under public pension systems and most critically the level of public expenditures for pensions. Improvements in basic necessities such as nutrition and sanitation in conjunction with better working conditions and access to health care services significantly extends life expectancy during the transition to the industrial and post industrial economies. This extends life expectancy well beyond the usual age of economic activity for an increasing larger proportion of individuals. Reductions in fertility associated with this process dramatically change the share of the population that is elderly from the less than 5% characteristic of the early 20th century to the more than 20% now observed in many OECD countries, a level that is projected to increase to nearly 40% of the population within the next 50 years.

This rapidly growing old age dependency ratio dramatically increases the burden imposed on successive generations to support the elderly. These changes in fertility and longevity occurred over a period of more than a century within the OECD countries enabling them to establish and maintain public social insurance systems based on direct transfers between generations. The post World War II “baby boom” the leading edge of which is now approaching old age and the collapse of fertility levels in recent decades has now moved the ratio of elderly to working age from 1 to every 6 to 8 workers to levels approaching 1 to 3. However, the more rapid pace of industrialization in the modern global economy in conjunction with the associated transmission of medical technology, contraception and other factors have accelerated this demographic transition. This has resulted in

today's developing countries "becoming old before they become rich", precluding their capacity to engage in the transitional stage in which pay-as-you go systems could provide adequate benefits without imposing tax rates in excess of one third of workers earnings that would distort behavior and hinder economic development.

Informal systems and individuals cannot be expected to fully address this challenge. Concurrent with industrialization has been a collapse of the informal inter-generational systems that support the elderly in traditional societies. Movement of workers to urban areas and the erosion of traditional family structures make multi-generational households the exception in industrial societies. Individuals are limited by their high discount rates, myopia and the inability to access and process relevant information to be able to compensate for the dissolution of traditional means of caring for the elderly. There is scant evidence of any systematic capacity of individuals in any society, on their own, to be able to effectively plan and manage savings and consumption decisions over the full life cycle. This should come as no surprise given the vagaries of human nature and the fact that even among the most skilled economists there is no consensus about how to effectively forecast earnings, manage individual risks and achieve an optimal pattern of savings and consumption over the lifetime. The rapidly emerging field of behavioral finance seems to confirm the perspective that even when provided with the appropriate information few individuals are capable of making rational decisions in this area.

Markets are unlikely to deliver the products required to support solely private or individual solutions. Similar (and undoubtedly closely related to) the experience with individual behavior there is scant evidence of markets ability to deliver products that respond to the need for effective management of life cycle savings and consumption without substantial public intervention. In addition to the limitations from the demand side, the provision of pension and annuity products face formidable structural challenges in the form of "moral hazard" and "free riding" in which individuals perceive that their failure to save will ultimately be addressed by a societal norm that finds poverty in old age to be unacceptable. In addition, "information asymmetries" and "adverse selection" problems in which the buyers of products whose value is linked with mortality possess far more knowledge about their individual circumstances than the seller, limit the viability of market solutions. These lead to private annuity markets with prohibitive risk premiums.

Pension systems that seek to combine all three required elements in a dominant single component that is earnings based and publicly managed nearly always face insurmountable efficiency and distributional problems. The earliest pension systems that emerged in European countries and quickly spread to the Americas sought to address these challenges by creating social insurance systems that provided income support in old age through earnings based systems that transfer resources directly from current workers to the elderly, the "Bismarkian" pay-as-you-go model. While this has proven to be an effective approach during periods when the number of workers grew or remained relatively stable in proportion to the elderly, the reliance on this design faces an array of formidable challenges when faced with the degree of demographic transition nearly all countries will experience in the forthcoming decades.

These systems are able to deliver relatively high benefits to the early generations because they produce high cash flows in the initial periods. However, when they become mature, unless substantial reserves have been accumulated, the required tax rates will have to be rapidly increased

imposing successively greater burdens on the following generations. This, however, becomes increasingly difficult in no small part because of the secondary consequences of high tax rates that distort labor markets by creating incentives for early withdrawals and informal labor to evade contributions. The more rapid pace of demographic change, in today's developing countries that will increase the share of the elderly at four to five times the rate experienced in Western Europe, make this design even more problematic.

The analysis also finds distributional and equity issues arising from the design of many earnings based systems. Benefits that are derived from reported earnings and linked to payroll taxes, while in principle seeming to provide direct linkages between earnings levels and benefits often result in outcomes that redistribute in favor of higher income groups. This is due to the greater likelihood of higher income individuals to be engaged in the formal wage and salary sector and therefore to be covered by these systems and their lesser propensity to evade contributions when they are covered. Equally importantly it is because high earners tend to have a much greater probability of positive patterns of lifetime earnings (in contrast to the relatively flat patterns of lower income individuals) or to show significant spikes in reported earnings in the years just before retirement. Most earnings based systems utilize relatively short reference wage periods in their benefit formulas (typically the highest three to five years or the years just before retirement) which provide significantly greater benefits in proportion to lifetime contributions for higher income individuals.

A central corollary to the economic critique is derived from observations about the political economy of a dominant earnings based design. In this regard the 1994 report notes that:

> *"Given their separation of benefits from contributions, their low initial costs that rise thereafter, and their complexity and non transparency, large earnings related pay-as-you-go pubic pillars are prone to pressure from influential groups. These groups want provisions that will benefit them, they want others to finance these benefits, and pay-as-you-go defined benefit schemes make it easy for them to introduce poor design features that accomplish this goal in the early years of the plan. In this political sense, the design features may be inherent – not incidental – and they come back to haunt the country in later years."*[3]

The Multi-Pillar Policy Framework

To address these shortcomings "*Averting the Old Age Crisis*" proceeds from the diagnosis to propose the initial formulation of the multi-pillar design. A primary impetus for this approach was the perceived need to clearly distinguish the savings and consumption smoothing objectives from the poverty and redistributive functions by separating these into two distinct mandatory "pillars" of the pension system. It was envisioned that these would fulfill the core social insurance functions and could then be supplemented by additional components to enable groups or individuals that had a particular need or willingness to accrue higher benefits levels to do this on a voluntary basis. This

[3] Averting the Old Age Crisis. p 237

delineation of the two primary functions into separate institutions was also intended to provide transparency that would facilitate adjustments to their parameters so that they could be more easily constrained so as not to impose undue costs or distortions in behavior through their financing requirements. The expectation was that risk management and coinsurance functions (especially the pooling of management costs and mortality risk) would be distributed amongst all three of the elements.

This theoretical framework is summarized in the diagram from the report that delineates the objectives, form and financing of what were termed the "The Pillars of Old Age Income Security" shown below[4].

	Mandatory Publically Managed	***Mandatory Privately Managed***	***Voluntary***
Objectives	Redistribution Plus Coinsurance	Savings Plus Coinsurance	Savings Plus Coinsurance
Form	Means Tested, Minimum Pension Guarantee, or Flat Pension	Personal Savings Plan or Occupational Plan	Personal Savings Plan or Occupational Plan
Financing	Tax Financed	Regulated Fully Funded	Fully Funded

This proposes to isolate the poverty alleviation and associated redistributive elements of the system into a publically managed component that could be constructed in a variety of ways depending on objectives and prevailing conditions. One form this could take is an age based flat pension available to all persons. Alternatively it could be coordinated with the central pillar by establishing it as a means tested minimum benefit that is offset in proportion to the value of benefits accrued in the individual savings or occupational pillars or as a minimum guaranteed level of pension income that would supplement the value of benefits accrued within the other components. The essential point of this approach is that by organizing this element of the system separately and clearly distinguishing it from the others any redistributive or minimum income objectives would be made explicit and transparent. This is intended to have the advantage of making the costs more predictable and constraining the potential for unintended or hidden redistribution in favor of higher income groups. Making this pillar the only element of the system with direct tax financing would limit the future fiscal exposure as well.

The most important innovation (at least in regard to prevailing practice) of this formulation, and certainly that which achieved the greatest notoriety, is the suggestion that, when the basic redistribution and poverty alleviation functions had been achieved through a tax financed publicly

[4] Averting the Old Age Crisis. p 15

managed program, the broader consumption smoothing and insurance functions are likely to be best achieved through individual savings or occupational arrangements that are privately managed. This perspective was largely derived from the critique of existing public earnings based systems and the view that funded individual accounts would improve incentives and efficiency and achieve positive synergies with the development of capital markets that was assumed to create a "virtuous circle" that would support economic development. It is important to note that the report does not categorically reject the ability for other types of designs (including the traditional public pay-as-you-go approach) to achieve this function. It does, however, very strongly suggest that reliance in individual account design will result in fewer of the identified shortcomings of existing systems, especially in developing and middle income settings.

The most controversial aspect of this policy framework was the suggestion that the choice of design of the middle pillar was likely to be between "personal savings plans and occupational pension plans set up and run by employers"[5] a formulation that, in the perception of many readers, implicitly excluded any role for earnings based defined benefit systems. The conflation of this presentation with the statement that "earnings based benefits are a poor choice for the public pillar" (which was in fact a reference to the design of the first rather than second pillar) lead many to perceive the main policy message of the report to be advising all countries to replace earnings based public systems with private individual savings accounts in the manner that Chile had sought to do in the early 1980's.

Despite the prevalence of this perception among its critics, the view that the central tenet of the World Banks pension policy was to replace all earnings based benefit formulas and pay-as-you-go financing with privately managed individual savings accounts represents an over-simplification that became almost a caricature. Despite the perception of many, the 1994 report does not categorically reject the idea that a well designed and effectively managed pay-as-you go or partially funded earnings based system could effectively fulfill the mix of consumption smoothing and insurance functions of the middle pillar in the framework[6]. It does however point out in very strong terms how many of these earning based arrangements have, in practice, resulted in non-transparent redistribution among income groups and between generations. It also argues in quite strong language that the result is that most will be unable to remain fiscally sustainable over the long term. Unfortunately, the simplified diagram shown above has contributed to this perception because it does not include earnings based pay-as-you-go systems in the examples for the second pillar. However, a full reading of the text indicates that while this is not recommended for most settings it is not fully excluded either.

The report contrast the experience and what are deemed to be inescapable characteristics of earnings based systems with the perceived advantages of individual savings accounts. Primary among these are the inherently tighter linkage between contributions and benefits that limit the incentives for the manipulation of earnings records or evasion and remove many of the incentives for early exit from the labor force which are also perceived to eliminate the potential for redistribution in favor of higher earners. The report argues that the perception of increased security

[5] Averting the Old Age Crisis p18

[6] For a discussion of misperceptions of the policy position espoused in the 1994 publication see the essay by its lead author, Estelle James: "On Averting the Old Age Crisis" in Lessons from Pension Reform in the Americas, Stephen Kay and Tapen Sinha (eds), Oxford University Press. 2008

of defined benefit arrangements is illusory due their vulnerability to the risk of prospective changes in benefit formulas that may subject participants to the vicissitudes of future political decisions. It is important to note that a considerable part of the skepticism about pay-as-you go financing is not with the inherent nature of the design but instead with the assessment of the political risks associated with any government's capacity to deliver promised benefits when faced with the fiscal challenges of aging societies.

Although the framework presents the design choices for the second pillar as including personal savings arrangements and occupational plans, based on the evidence reviewed on occupational plans, it articulates concerns about their ability to achieve the broader objectives of a pension system. Several advantages of occupational schemes are noted including the capacity to utilize payroll deductions that are potentially less distorting than social insurance contributions because they are not perceived as taxes and the capability to achieve low operating costs and access financial and managerial expertise in the private sector. It notes however that these advantages are largely offset by the inability of occupational plans to achieve broad coverage (especially in developing countries) and the perverse redistribution associated with the tax preferences afforded to these systems when they are voluntary and tend to cover only the upper segments of the income distribution. It also notes that the incentives for employers in these arrangements are to impose vesting restrictions and preclude portability of benefits thereby introducing limitations on labor mobility. It notes that occupational funds expose workers to the risks of underfunding and employer defaults concluding that "personal savings plans are probably preferable except for countries that already have substantial coverage under well functioning occupational schemes". [7]

Despite these reservations, a mandatory occupational plan paired with a flat benefit or means tested tax financed public scheme is recommended as one possible combination for a multi-pillar system.[8] This however is coupled with the observation such a design would not offer the economies of scale of mandatory savings systems in which pension funds tend to be highly concentrated. Advocacy of occupational schemes is conditioned on the presence of a regulatory regime to address the prudential and insolvency risks and a design that makes benefits portable to avoid possible labor market distortions. The challenges of achieving these conditions in even the most developed economies, however, are noted as well, which contributes as to the perceived bias in favor of individual savings accounts. A careful reading of the report however reveals that this is carefully couched in the observation that "personal savings plans would seem to have the edge" rather than an explicit recommendation between the two.

On balance, what has come to be perceived by many as the main message of the early policy framework, an unambiguous endorsement of mandatory individual saving accounts, is in fact far more a critique of the manner in which public earnings based defined benefit systems have been operated rather than a complete repudiation of them. This is based primarily on skepticism about the capacity of governments to adhere to responsible policies and maintain these systems in manner that does not impede economic efficiency through distortions in retirement behavior, excessive tax rates that distort labor markets and the risk of future default on benefit promises. When combined with what are perceived to be inherent advantages in all of these areas of the alternative design, "Averting the Old Age Crisis" presents very strong arguments in favor of mandatory individual

[7] Averting the Old Age Crisis. P18, p 248
[8] Averting the Old Age Crisis. P248

savings accounts and (to a lesser degree) mandatory occupational plans, provided that either is linked to a mandatory first pillar designed to ensure that minimum poverty alleviation, insurance and consumption smoothing functions are fulfilled. It does not however, as it is often characterized, promote individual savings arrangements to the exclusion of other designs.

The other major aspect of the policy framework is the view that decentralized private management of the assets of any saving (or partially funded defined benefit) system offers a superior alternative to public management. This position is derived from the evaluation of the record of the investment performance of provident funds and the reserves of partially funded arrangements. A review of these is shown to indicate that they have historically achieved low or negative real returns. This evidence is buttressed with the more theoretical view that private management would be less vulnerable to the direction of assets into government debt or low yielding instruments with potentially conflicting social or developmental objectives. It is also argued that private management creates positive synergies by developing "new financial institutions and deepening capital markets by mobilizing long-term savings and allocating it to the most productive uses, including uses in the private sector"[9]. It is also posits that privately managed funded systems will have some ability increase overall rates of savings.

This conclusion leads to one of the strongest recommendations in the report (in addition to the need for the first two pillars to be mandatory) which concludes that as a general proposition, any funded pillar is best organized on the basis of decentralized private management. A very important qualification however is attached to this position, which is that there be both sufficient development and depth in the capital markets and that effective regulation of both the markets and any prospective pension system is required before private management should be considered. The report presents these largely as principles and does not go into depth to define the relevant enabling conditions or suggest any specific threshold to be reached before funding and private management becomes feasible.

After setting out the diagnosis and suggested elements of the multi-pillar framework the report proceeds to address some key decisions in implementation. This section of the report notes that the relationship between the pillars and the key design choices within each pillar will vary considerably depending on the context in which a system is to operate. The primary distinction is in relation to the level of development of the country. This is illustrated by applying the principles to three settings, (1) young low income economies, (2) young but rapidly aging economies and (3) older economies with large public pillars.

For the first group of countries a greater initial emphasis on establishing the environment and regulatory infrastructure to support a mandatory savings pillar is suggested in conjunction with an effort to achieve poverty alleviation among the elderly through the development of social assistance programs that will reach the elderly poor. It is suggested that in these environments any contributory public system be operated on the basis of flat benefits and be introduced in conjunction with the phasing out of centrally managed provident funds that are susceptible to poor investment performance and other types of abuse.

[9] Averting the Old Age Crisis. p18

In the young but rapidly aging settings the recommendations are similar in regard to an immediate focus on developing the supporting institutional and regulatory framework for privately managed savings and seeking to implement this as rapidly as possible to preclude pressure from an emerging middle class to establish a dominant public earnings related pillars with its attendant shortcomings. In the case of countries with already established public pension programs (which include OECD countries as well as others in Latin America and Central and Eastern Europe) the suggested path of reform are parametric adjustments to retirement age and benefit formulas to downsize the system concurrent with establishment of privately managed individual savings. A gradual process of reallocation of contributions in favor of the second pillar is proposed as the means of making this transition.

The overview of the report concludes with the often overlooked observation:

> "*The right mix of pillars is not the same at all times and places. It depends on a county's objectives, history and current circumstances, particularly its emphasis on redistribution versus savings, its financial markets and its taxing and regulatory capability."*[10]

III. Experience and Refinement of the Multi-Pillar Theme

New Policy Direction and Experience with Pension Reforms

In the 16 years since the publication of "Averting the Old Age Crisis" and the considerable reaction that it engendered from both its supporters as well as critics, the World Bank became involved in pension reforms in a wide range of settings. This experience (as well as the reaction to the earlier report) and continued research has motivated an ongoing reassessment, refinement and extension of the policy framework. A number of key issues and experiences have informed the evolution of thinking in this area. Some of the most important of these are:

The Social Risk Management (SRM) framework. The SRM was articulated as the conceptual foundation for the World Bank's first Social Protection Strategy in 2001[11] to guide to work on labor markets, social funds, and social safety nets as well as pensions. The SRM posited that throughout their lives individuals face a range of risks and shocks, some of which are individualized or idiosyncratic and others that are systemic in nature. It proposed that social protection systems should be explicitly constructed in consideration of the nature of these risks and how they may vary for different groups and countries. This theoretical approach importantly notes that poor people and those in developing countries may face very different risks than others and emphasizes the importance of tailoring the various elements of any system to the particular characteristics and requirements of the relevant populations. It also sought to delineate between several types of risk management instruments and strategies, distinguishing between prevention, mitigation and coping strategies.

[10] Averting the Old Age Crisis p22

[11] See "Social Risk Management: The World Bank's Approach to Social Protection in a Globalizing World", The World Bank, May 2003

This conceptual paradigm moved the Bank's thinking on pension systems from the initial perspective that was largely oriented to considering the experience and expected overall outcomes associated with the various types of pension institutions toward an approach that introduced a risk assessment and management point of view into the policy framework. The practical result of this was to direct the thinking on pension systems towards a greater emphasis on evaluating differences in individual country circumstances and toward providing institutions and instruments that address the particular risk characteristics of the lifetime poor and those working in the informal sectors. The SRM approach was also used to sharpen consideration of the aggregate capacity of the pension system to reduce the risks in conjunction with other social protection instruments, the various combinations of individual characteristic and systemic risk that contribute to elderly poverty and how these differ in settings and among groups, the kinds of risk faced by earnings based and funded pillars and the degree to which less than perfect correlation between these can improve benefit outcomes at equivalent costs. These concepts of diversification and risk management were interpreted to strengthen the argument in favor of the multi-pillar design but to move it towards a more complex formulation beyond the original three pillar model.

The Challenges of Achieving Positive Synergies with Capital Market Development and Savings. An important premise supporting arguments in favor of a greater role for funded privately managed saving arrangements was that these would facilitate depth in the capital markets and create the demand for new types of financial instruments that would have positive development and growth effects[12]. Although the advocacy of funded second pillars was conditioned on the presence of some minimal "pre-conditions" including banking and payment systems there was an assumption that the demand for long term and higher yielding investment instruments[13]. The reality proved to be far more complex and challenging. In order to provide the perceived level of security necessary to support the reform of pension system through the substitution of funded individual savings accounts for future benefits of unsustainable earnings based systems, most of the new systems sought to manage investment risks in under-developed capital markets by requiring funds to invest in presumed safe government debt. This was an approach that, not coincidently, converged with the financing needs of many governments. In most cases the process of market development proved to be much more difficult and slower than the expectations that had been derived more from theory than experience. Although evidence of positive growth effects from a move to funded accounts have been asserted to have resulted in Chile and posited for other Latin American settings conclusive evidence in other environments provided to be elusive.[14] [15] The funded systems proved to be far more vulnerable to political exploitation and instability that had formed the basis for some of the critique of the pay as you go earnings pillars. Empirical evidence of improved national savings levels from funded proved to be difficult to confirm as well.

[12] Holzmann, Robert. " Pension Reform, Financial Market Development, and Economic Growth: Preliminary evidence from Chile." Staff Papers International Monetary Fund 44 (2). 1997 and Davis, E. and Y.-W. Hu (2008). "Does funding of pensions stimulate economic growth?" Journal of Pension Economics and Finance v 7. 2008

[13] See Musalem, Alberto and Theirry Tressel "Institutional Savings and Financial Markets" in The Future of Financial Markets: The Role of Contractual Savings Institutions, Brooking Institution Press, Washington DC. 2003

[14] For a discussion of the positive effects in capital markets see: Eduardo Walker and Fernando Lefort "Pension Reform and Capital Markets: Are There Any (Hard) Links? " Social Protection Discussion Paper No. 0201; The World Bank, 2002

[15] For a more recent discussion of the issues and evidence that funded pensions do not have discernable growth effects see Zandberg, Elco and Laura Spierdijk "Funding of pensions and Economic Growth: Are They Really Related?" Netspar Discussion Paper 12/2010 - 082

The Difficulties in Achieving the Behavioral Outcomes from Expected Incentives A considerable impetus for the initial multi-pillar framework that included the strong endorsement of an individual savings account design was the view that the more direct linkage between contributions and benefits would diminish evasion of contributions, especially among younger workers, and limit distortions in labor markets. This was predicated on the idea that individuals would not perceive and respond to mandatory contributions to these accounts as a tax but rather treat them as personal savings. For a variety of reasons however the expected outcomes did not occur as anticipated. The Latin American countries that reformed their pension systems to incorporate individual accounts as a supplement or substitute to earnings based systems experienced stagnant or in some cases diminished rates of coverage.[16] Although rates of switching some portion of contributions to individual accounts exceeded expectations in the Central and Eastern European countries that established funded second pillars,[17] overall participation and contributions continued to decline as many workers transitioned to the informal economy or found other means of evasion. The challenge of coverage became especially apparent in relation to the lifetime poor, many of whom did not participate in the formal economy at all remaining fully outside of formal pension systems.

The simple structural change apparently did not alter the perception of many that any form of mandatory contributions constituted taxation. Strong skepticism remained regarding the security and ownership of funded system assets, a perception that was reinforced in many settings by requirements that the majority of assets be invested in government debt and the highly visible appropriation of pension funds assets in Argentina. The emerging field of behavioral economics research confirmed the seemingly irrational and short term orientation of many individuals, especially in relation to life cycle savings and consumption decisions. This challenged the assumptions about behavior change on which the endorsement of funded individual accounts was based.

The Challenges of Transition Costs and Administrative Costs Making the transition from a pay-as-you-go to funded accounts without defaulting on the substantial (and unfunded) commitments of existing systems required countries to find a mechanism to fund transition costs without requiring the transition generations to pay twice, once to continue the benefits of the retired generation and again to fund their savings accounts. The utilized in Chile, issuing recognition bonds that delayed cash flows for accrued benefits to the future proved to be far more difficult to achieve in countries without a similar strong fiscal position at the time of the reform. Countries seeking to fulfill stringent fiscal criteria for potential entry into the EU or to be able to continue to issues and service high levels of existing public debt found this to be an infeasible proposition that stymied efforts to design reforms making large transitions to the mandatory funded pillars. One solution that emerged was the Notional (or Non-Financial) Defined contribution design pioneered in the Swedish pension reform of the late 1990s which effectively created a pay-as-you go individual account framework

[16] See Rafel Rofman and Leonardo Luchetti "Pension Systems in Latin America: Concepts and Measurements of Coverage" Social Protection Discussion Paper No. 0616; The World Bank, Washington DC 2008

[17] See Whitehouse, Edward "Individual Decisions To Switch Between Public and Private Pension Schemes". DELSA/ELSA/WP1(2005)13, The Organization for Economic Cooperation and Development, Paris. 2006

that linked outcomes to wage growth rather than capital market returns, effectively mimicking some key attributes of earning based systems with inherent controls on future spending[18].

Early experience with mandatory funded accounts also indicated that keeping administrative expenses to a level that could be anticipated to achieve the efficiencies in outcomes that were expected proved to be a formidable challenge. Administrative (especially marketing) costs proved to be high in most settings and establishing regulatory ceilings seemed to result in most companies settings fees at the maximum level and competing for market share on non financial factors. The hoped for competition on price and investment performance did not materialize and most markets were characterized by high and increasing concentration.[19]

Greater Understanding of the Importance of the Political Economy of Reform The initial policy framework was largely predicated on economic analysis and principles. However, pension reforms are inevitably implemented through a political process. This became especially important in the nascent democracies of Central and Eastern Europe that (in addition to Latin America) became the focus of pension reform efforts in the 1990's and early years of the new millennium. Experience with this process illuminated the path dependency of any reform process especially in regard to starting points and the capacity of interests groups in the pluralistic process to marshal political resources. This lead to a greater consideration of the political economy of reform and the degree to which feasible system designs are equally a function of the unique political dynamics of a country as derived from economic theory, regardless of its elegance or correctness.[20]

Extension of the Multi-Pillar Framework – *"Old Age Income Support in the 21st Century"*

Based on this experience and the lesson derived from it, an updated multi-pillar policy framework is articulated in the 2005 World Bank publication "*Old Age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform"* that was produced by a team from the various organizational units of the Bank that had been involved in the development of the earlier framework and the subsequent pension reform work.

This new report incorporates an extension and some refinements of the original multi-pillar framework. Most fundamentally it extends it from three to five pillars. The original first pillar, that is broadly construed to include a range of systems including a non-contributory pension that might go to all persons above a certain age as well as means tested benefits for the elderly or is somewhat more narrowly specified to have a greater focus on poverty alleviation. It is suggested that this basic pillar be directed to meeting the needs of the lifetime poor or groups with very low likelihood of participation in the earnings based or individual savings components. This narrower version of the original first pillar was designated as a "zero pillar".

Most importantly, the new framework splits the original second pillar concept into two parts that are now re-labeled as the first and second pillar. This is intended to address the widespread perception that the original formulation excluded the possibility of an earnings based pay-as-you-go

[18] For a discussion of the emergence of NDC arrangements see Pension Reform: Issues and Prospects for Non-Financial Defined Contribution Schemes The World Bank. 2006

[19] See Gregorio Impavido, Esperanza Lasagabaster, Manuel García-Huitrón, "New policies for Mandatory Defined Contribution Pensions" The World Bank forthcoming

[20] For a discussion of political economy issues and experience informing the World Banks perspective see Pension Reform in Europe: Process and Progress Robert Holzmann, Mitchell Orenstein and Michal Rutkowski (Eds), The World Bank 2003

or partially funded arrangement. This potential for a traditional earnings based defined benefit element is now explicitly formulated as the new first pillar rather than left as an implicit (though discouraged in most settings) possibility for the earlier second pillar.

More significantly, the revised framework seeks to better differentiate the functions of the pension system among the various pillars by separating what had been overlapping objectives of poverty alleviation and consumption smoothing spread across the first two original pillars by more specifically differentiating these among the first three components of the new framework. This was an effort to both separate the functions and emphasize the importance of evaluating how each of the elements of the multi-pillar system would manage distinctive risks and perform the more clearly distinguished functions. It was also motivated by an effort to move away from the perception that the earlier approach was focused on the structure of the system (proposing individual private accounts to the exclusion of publicly managed earnings based systems) rather than consideration of the outcomes in terms of risk management and benefit delivery.

This policy formulation also incorporates an increased emphasis on individual country conditions to address the perception that the earlier framework was prescribing a similar design for most countries. It emphasizes the importance of inherited systems in establishing both the motivation for reform and the constraints on feasible reform options and the importance of the enabling environment in determining feasible options. The new framework focuses on identifying the core objectives of country pension systems and considering broader questions of social protection and social policy towards the poor in designing an effective pension system. It is focused on the capacity of systems to align their components with the relevant risks associated with various elements of the population and manage these risks more efficiently through diversification among the various pillars. It suggests that choices and combinations among the pillars will differ widely among countries with optimal combinations derived from the evaluation of the starting point and varying priorities. It is less oriented to the critique of the limitations of dominant earnings based pillars or the inherent advantages of funding and private management while maintaining the position that in most cases the goals of a pension system are likely best met through some elements of pre-funding. It suggest that funded privately managed systems should be a “benchmark not a blueprint” in considering reforms, suggesting that options can be evaluated in relation to a fully pre-funded individual account to illustrate choices in dynamics and outcomes.

The 2005 report also seeks to incorporate new experience and designs into the possibilities for the design of the various pillars. Most important among these is the endorsement of the Notional (or Non-Financial) Defined Contribution (NDC) systems originating in the Swedish pension reforms of the 1990’s that rapidly spread to countries in Central and Eastern Europe. The new framework specifically includes these as a possible design for a mandatory first pillar. The NDC design is presented as an approach that embodies the effort to move beyond existing structures to designs that achieve the desired functions and fiscal sustainability. The NDC design is included because it is able to incorporate automatic adjustment mechanisms (such as cohort specific annuity conversions) that facilitate sustainability without requiring political interventions, more directly link financing and benefit through the DC design and choice of crediting factors yet operate primarily on a pay-as-you-go basis that manages a large part of the challenges of transition costs.

The five element multi-pillar framework is presented in the overview published in 2008[21] as:

(i) A *non-contributory "zero pillar"* that extends some level of old-age income security to all of the elderly where social conditions warrant and fiscal circumstances can sustain such a system,

(ii) An *appropriately sized mandatory "first pillar"* with the objective of replacing some portion of lifetime pre-retirement income through contributions linked to earnings, and which is either partially funded or financed on a pay-as-you-go basis;

(iii) A *funded mandatory defined-contribution "second pillar"* that typically provides privately-managed individual savings accounts establishing a clear linkage between contributions, investment performance and benefits, supported by enforceable property rights and which may be supportive of financial market development;

(iv) A *funded voluntary "third-pillar"* taking many forms; and

(v) A *non-financial "fourth pillar"* that includes access to informal support such as from families, other formal social programs such as health and housing, and individual assets.

This approach to evaluating a pension system design seeks to focus on the overall outcomes that result from the pension system rather the characteristics of the any of the individual elements of the structure. To do this it establishes an analytical framework for the evaluation of the system that distinguishes between a few primary and some additional secondary criteria.

The primary criteria are*:*

(i) *Adequacy,* ability of the system to provides benefits sufficient to prevent old-age poverty (at a country-specific absolute level) to the full breadth of the population in addition to providing a reliable means to smooth lifetime consumption for the vast majority of the population;

(ii) *Affordability,* the ability to remain within the financing capacity of individuals and the society and does not unduly displace other social or economic imperatives or have untenable fiscal consequences;

(iii) *Sustainability,* the feasibility for the system to remain financially sound and be maintained over a foreseeable horizon under a broad set of reasonable assumptions; and

(iv) *Robustness,* the capacity to withstand major shocks, including those coming from economic, demographic and political volatility.

In addition to the primary criteria some secondary evaluation criteria related to the ability of the pension system to contribute to output and growth are incorporated into the framework. These include the capacity to (1) minimize labor market distortions, (2) contribute to savings mobilization; and (3) to support financial market development. A central tenet of the approach is the view that because pension benefits are claims against future economic output, it is essential that, over time, pension systems contribute to growth and output to support the promised benefits.

[21] Holzmann, Robert , Richard Hinz and Mark Dorfman , "Pension Systems and Reform Conceptual Framework" , Social Protection Discussion Paper No. 0824; The World Bank, 2008

The updated policy framework is summarized in the table below:

Initial Conditions	***I. Inherited System*** ▪ Elderly vulnerability and poverty prevalence in absolute terms and relative to other age groups ▪ Existing mandatory and voluntary pension systems ▪ Existing social security schemes ▪ Existing levels of family and community support ***II. Reform needs*** – such as modifying existing schemes in the face of fiscal unsustainability, coverage gaps, aging and socio-economic changes assessed against the primary and secondary evaluation criteria below ***III. Enabling environment*** ▪ Demographic profile ▪ Macroeconomic environment ▪ Institutional Capacity ▪ Financial market status
Core ***Objectives*** of Pension Systems	▪ Protection against the risk of poverty in old age ▪ Consumption smoothing from work to retirement
Modalities for achieving objectives	▪ *Zero Pillar* – non-contributory social assistance financed by the state, fiscal conditions permitting ▪ *First Pillar* – mandatory with contributions linked to earnings and objective of replacing some portion of lifetime pre-retirement income. ▪ *Second Pillar* - mandatory defined contribution plan with independent investment management ▪ *Third Pillar* - voluntary taking many forms (e.g. individual savings; employer sponsored; defined benefit or defined contribution) ▪ *Fourth Pillar* - informal support (such as family), other formal social programs (such as health care or housing), and other individual assets (such as home ownership and reverse mortgages).
Primary Evaluation Criteria	▪ Adequacy ▪ Affordability ▪ Sustainability ▪ Robustness
Secondary Evaluation Criteria	Contribution to output and growth through: ▪ Lowering labor market distortions ▪ Contributing to savings ▪ Contribution to financial market development

IV. The Pension System of the Netherlands in the Context of the World Bank's Multi-Pillar Model

Originating in 1832 with the establishment of a pension fund for civil servants (that is now one of the largest pension funds in existence) and later expanded to include some of the first occupational schemes in the early 20th century, the pension system in the Netherlands is one of the oldest and well established. The current form of the system largely takes its shape from legislation enacted in the 1950s, nearly two generations before the initial articulation of the multi-pillar policy framework by the World Bank. The Dutch system however, has many attributes that bear close resemblance to

the organization and operating characteristics that are set out in both versions of the World Bank's multi-pillar model and, as noted in the early publications, it provided an example that motivated the concept. This following section provides a brief analysis of the extent to which the current system in the Netherlands may be perceived as fulfilling the objectives of this design and policy framework.

The Organization of the Dutch Pension System

Although, as discussed previously, it is largely a misconception to view even the earliest presentations of the multi-pillar approach as primarily structural in their approach, it is nevertheless useful to consider the Dutch system initially from the perspective of its overall organization in relation to the multi-pillar model.

The foundation of the system is a mandatory first pillar established in 1957, the *Algemene Ouderdomswet* that is more commonly known by the acronym AOW. This provides a basic pension to all citizens reaching the age of 65 that is designed to deliver a minimum flat benefit equivalent to 70% of the minimum wage to all persons who have been residents of the country for 50 years before the age of eligibility. The value of the benefit is reduced by 2% for each year of non-residency below this minimum threshold. Persons with insufficient residence history are eligible for other sources of social assistance on a means tested basis. No distinctions are made for eligibility or benefit levels on the basis of gender, occupation or work history, there is no means tests for eligibility or any offsets for other sources of income. This basic pension is financed through an earning based contribution however persons with no earnings do not pay the contribution but remain eligible for benefits. The AOW is administered through a public agency, the *Sociale Verzekeringsbank*, (SVB), the Social Insurance Bank.

The second pillar of the Dutch system is an extensive program of occupational funds that has achieved one of the highest coverage rates of any supplementary pension system in the world at a level that exceeds 90% of the working population. This is comprised of three types of funds, company specific pension funds, industry wide funds and pension funds operated by professional organizations for the self employed. In addition there are some insurance providers that manage group insurance products for some individual employers. While the vast majority of the funds are individual company funds the industry wide funds cover about 85% of members with a proportional share of the assets. The pension funds take the legal form of foundations that are governed by independent boards with representatives of employers and employees through the trade unions. Nearly all of the funds are organized as defined benefit arrangements that target income replacement rates of 70% to 80% with the benefits fully integrated with the basic pension through an offset to the value of the occupational funds target benefit equal to the value of the – the so-called *AOW franchise*. Over the past decade the majority of the funds have evolved to what has been termed a "hybrid" defined benefit form, in which post retirement benefit indexation is has become conditioned on the value of funding levels making it effectively a function of investment performance. Benefits are required to be pre-funded based on specific standards that are linked to accruals and investment performance. No specific floors on asset classes are imposed and considerable latitude is afforded in investment strategies that are regulated through a

comprehensive set of risk based standards finalized in 2007[22]. The system is supervised by a public agency, the *De Nederlandsche Bank* (DNB), pursuant to a comprehensive legal framework.

This form of a second pillar is well aligned with the initial formulation of the multi-pillar framework. The earnings based benefit formulas are explicitly designed to achieve consumption smoothing and function through a collective model that pools risks and supplements the basic pension. The defined benefits structure, annuity form of payouts and the organization primarily on an industry-wide basis provides the envisioned insurance and risk pooling functions by spreading mortality and investment risks across broad populations. The funds are organized as decentralized and privately managed entities that are subject to a well developed regulatory and supervisory regime. The assets of the funds are held in well diversified portfolios on a large scale that operate at low costs relative to what is observed in many other countries[23]. These are constituted as separate entities and assets are fully segregated from the sponsoring employers, a form that inherently separates insolvency risk from other labor related risks.

Benefit promises are pre-funded and fully permitted to be invested in private markets thereby facilitating market development and depth and potentially enhancing national savings levels. Although the system is ostensibly voluntary, Dutch labor law can impose a requirement for all employers in an industry to provide coverage if more than 60% of the workers in an industrial branch participate in an industry wide fund, a requirement that effectively makes the system mandatory for a large share of the workforce. The high coverage in industry wide funds which by design create the portability of benefits at least within industries and the sharing of contributions between individual workers and employers address the concerns about labor market distortions.

The third pillar is a variety of individual products sold at the retail level on a voluntary basis. These may be either annuity or savings products that are supervised also by the DNB. This part of the system has been relatively small historically although it began to grow rapidly in the late 1990's and is now taking on greater significance although the assets backing these products has been estimated to be less than one tenth those of the occupational funds. These pension savings are afforded a consumption tax treatment in which taxes are deferred on contributions and investment earnings and benefit payments are taxed as income. The amount of income that can be shielded from taxes in this manner is subject to some limitations to ensure that these do not become a means of tax avoidance by higher income persons.

The Structure of the Dutch System in Relation to the World Bank Multi-Pillar Framework

Overall the structure of the Dutch pension system is very consistent with the principles of the multi-pillar model. It is a system with several distinctive separate elements that perform well defined functions and includes all three of the components of the original three pillars. There is far greater room for interpretation of the form in relation to the later five pillar formulation. In general, the AOW can be construed to fulfill the role of the "zero" pillar. The quasi-mandatory occupational funds are consistent with the role of the main middle pillar (second in the three pillar model or first

[22] For an overview of the risk based supervision see Hinz, Richard and Rein Van Dam "Risk Based Supervision of Dutch Pension Funds" in Risk Based Supervision of Pension Funds: Emerging Practices and Challenges. The World Bank. 2008

[23] Bikker, J.A. and J de Dreu "Pension Fund Efficiency and the Impact of Scale, Governance and Plan Design". DNB Working Paper no. 109, De Nederlandsche Bank. 2006

in the five pillar construct. The fourth and fifth pillars are provided in the form of voluntary pension specific savings products and residual informal family and community based support for the elderly.

The first pillar is closely aligned with recommendations of the World Bank's framework for the basic pillar. It is a publically managed program that provides a guaranteed minimum level of income through a flat benefit to all persons reaching a specified age. In contrast to the suggestion that this pillar is tax financed, the AOW is funded through an earmarked earnings based contribution rather than general taxation. This somewhat limits redistribution although to a significant degree this is muted by the absence of linkages between contributions and benefit levels giving it far more the character of tax financing in outcomes if not form. The financing potentially has a mixed character that may emerge in the near future as the contribution is limited to a fixed levy on earnings with any deficits payable from general revenues. It operates primarily on a pay-as-you-go basis and therefore does seek to accumulate large reserves. The limited reserves that are accumulated are invested solely in government debt. This avoids the challenges of public management of assets that is identified as one of the key shortcomings of public systems.

It is managed separately from the other pillars and as the occupational system matures it increasingly distinguishes the objectives of poverty protection and minimum income support from a more general goal of consumption smoothing. It is more consistent with the mixed consumption smoothing and poverty alleviation role of the original three part formulation because it is paid to all who meet the qualifying conditions without regard to need and is typically integrated with benefits from the occupational defined benefit systems to achieve income replacement targets.

Participation is mandatory and it is designed to perform redistribution and reinsurance functions that are explicit and relatively transparent. The accrual of rights and payment of benefits are clearly defined and (through the formula derived from the minimum wage) indirectly but likely to be closely linked to the minimum income and poverty alleviation objectives. It largely functions in a manner that does not require political interventions in the pension system provided that the minimum wage level is adjusted periodically in a consistent manner. It clearly fulfills the overall objective of limiting fiscal exposure through a clearly defined and universally available benefit with earmarked financing that limits fiscal exposure and is not readily vulnerable to manipulation for political purposes.

The AOW, however, deviates somewhat from the principles of the envisaged or zero pillar in several respects. The scope is relatively large, currently on the order of 30% of the income of the elderly. This is more in line with what is envisioned in the earlier formulation that anticipates a mix of consumption smoothing and poverty alleviation functions rather than the later concept that is oriented towards separating these functions. The scope of the AOW is more in line with what would be anticipated in a developing or middle income setting during a transitional phase in which formal wage based employment is becoming more widespread and the capacity for an earnings based system is just emerging rather than a country with a well established occupational system. Although the relative role of this basic pillar continues to diminish (declining to half the share of retirement income than in earlier decades as the occupational system reaches full maturity) until it is means tested or otherwise more targeted to poverty alleviation it maintains somewhat of a different character than the envisioned "zero pillar".

The linkage of the benefit formula to the minimum wage rather than to a consumption, price or poverty index also raises some issues of potential redistribution and transparency. If the benefit is

manipulated through ad hoc supplements and adjustments (as has occurred beginning since 2005) the nature and objectives of this pillar become less distinct and transparent. Moreover, if the minimum wage moves in a manner that no longer makes it a consistent proxy for poverty prevention, for example if overall wage levels change in response to a decline in the size of the future labor force (a distinct possibility given current demographic trends) or the demand for low wage labor declines through structural changes, a variety of relatively non-transparent types of redistribution can result. Rather than being fully consistent with the delineations of the Bank's model, the AOW and the occupational system together (because they are explicitly integrated and have nearly full coverage) have character of a very robust version of an earnings based first pillar that is universal and therefore obviates the necessity for a zero pillar. This is not inconsistent with the objectives but differs in form. Most importantly it does not achieve the same degree of transparency in redistribution that is a key objective of the World Bank framework.

Consideration of the system of occupational funds within the five pillar model is more complex. This element of the system includes some characteristics of the earnings based pillar through the defined benefits linked to earnings records and is effectively mandatory. It also incorporates elements of the suggested second pillar through relatively strictly controlled pre-funding, private management and the conditional nature of benefits that partially links benefit obligations to investment outcomes. In this regard it is perhaps best can be interpreted as a combination of the first and second pillars falling somewhere in between without fully meeting the full specifications of either, a sort of pillar one and one half.

An alternative perspective might perceive the combination of the AOW and occupational funds as jointly encompassing the functions of pillars one through three in the five part model. The integration of the benefit formula with the AOW providing a relatively high share of income replacement for the lower half of the income distribution achieves essentially the same outcome as a basic pension in combination with a publicly managed defined benefit arrangement that is supplemented by widespread occupational plans that produce similar rates of income replacement for higher earnings groups. The conditional indexation of benefits that has become the norm mimics some of the results of savings arrangements by linking benefits to some degree with portfolio performance although this remains indirect and entails highly variable outcomes for different groups as discussed below. The main difference from this perspective is the degree of collectivization of risks. The current Dutch system only partially imposes the more individualized exposure to investment risks of personal savings accounts. While this is certainly a design that is reflective of inherited conditions and societal norms, whether it results in more effective risk management or the imposition of common outcomes on individuals who may have highly diverse preferences and utility is a matter of perspective as well[24].

Overall the structure of the system can be perceived to be very consistent with fulfilling the basic functions of poverty alleviation, redistribution and consumption smoothing with instruments that separate these functions and operate in a relatively (at least compared to most other systems) transparent manner. It includes a universal basic pension and effectively mandates participation. The system cleanly distinguishes between public and private management, avoiding the pitfalls of

[24] For a discussion of the limitations on individual utility imposed by collective pension funds see Bovenberg, Lans and Ralph Koijen, Theo Nijman and Coen Teulings "Saving and Investing over the Life Cycle and the Role of Collective Pension Funds" Netspar Panel Papers, No. 1. Netspar. 2007

public control over assets. It facilitates market development with relatively unconstrained parameters in regards to asset types and assigns investment management to the private sector where it is efficiently performed. The organization of the pension funds as independent foundations with required representation by workers and employers provides a governance structure that is representative of the interests and residual claims of the various stakeholders, although one that leaves retirees potentially unrepresented. The large scale in which the funds are organized achieves the scale efficiencies and risk management capacity that are envisaged in the model.

Where the structure of the system may be seen to fall short of the ideals espoused in the multi-pillar approach is in the relative balance among the three pillars. The high income replacement rates in the middle pillars leave little space for voluntary components. The mandatory pillars consequently require high contributions by employers who are estimated to pay 70 to 80% of the contributions. This creates some distortions within labor markets as there is likely not a full incidence of costs especially for older workers. These contributions fall evenly across the life cycle of workers so effectively mandating a very high replacement rate imposes homogeneous savings rates at all ages which is certainly suboptimal in theory and does not easily accommodate variation in individual preferences.

The two areas of greatest divergence from the theoretical framework are in the structure of the benefits and the potential for redistribution. The system is nearly entirely directed to the payment of benefits in the form of lifetime annuities. The overall scope of the system aspires to provide essentially full consumption replacement requiring high contribution levels thereby crowding out other forms of retirement saving for most participants. This leads to undiversified portfolios that are inefficient on an individual level[25] and leads to a large portion of wealth invested in the relatively homogeneous portfolios of the large collective pension funds. This is inconsistent with the principle behind the multi-pillar model and the preference for a significant reliance on individual savings accounts to accommodate variations in utility preferences among individuals. It also, especially due to the very strict solvency standards and absence of a residual risk bearing sponsor of occupational funds, limits portfolio composition that may constrain diversity and innovation in financial markets. The greatest divergence from the model, as discussed below, isre related to the level and transparency of redistribution that results from the design.

The Dutch System in Relation to the Evaluation Criteria

[25] See Brown, Jeffry and Theo Nijman "Opportunities for Improving Pension Wealth Decumulation in the Netherlands" Netspar Working Paper DP 01/2011-008. 2011

The multi-pillar framework is derived from concerns about fiscal sustainability, equity and transparency of redistribution. The further elaboration of the model presented in 2005 further elaborates thee principles by suggesting that systems should be evaluated through analysis of the degree the overall pension system is aligned with country specific conditions in relation to the: (a) enabling environment, (b) inherited programs and institutions and (c) the prevailing political economy and societal values.

It proposes primary evaluation criteria of (a) Adequacy, (b) Affordability, (c) Sustainability, (d) Robustness and secondary consideration of how well the system contributes to output and growth through (a) Lowering labor market distortions, (b) Contributing to savings and (c) Contributing to financial market development. The Dutch system is considered in relation to these standards and criteria in the section that follows.

Enabling environment. The heavy reliance on pre-funding through private asset management and the flexible functionally oriented (as opposed to the more prevalent rules based) nature of the regulatory and supervisory approach is reflective of deep and sophisticated financial markets. The innovative risk based regulatory system that enables individual funds to tailor investment strategies to their particular circumstances effectively exploits the depth of financial markets and products and the high capacity of Dutch financial institutions, a strong rule of law and a high level of supervisory capability. The solvency standards and risk buffer requirements (the *Financieel Toetsings Kader,* usually referred to as FTK, that had its origin in actuarial standards imposed in 1997 and later developed in much greater depth becoming fully effective in 2007) utilize market valuations, market derived discount rates and sophisticated assumptions patterns of asset performance and correlation matrices to establish funding standards that allow full flexibility and innovation in investments. This flexibility and the potential to achieve highly efficient that are reflective of the analytical capacity of the industry and take advantage of the sophistication and depth of the capital markets. There is however some evidence that pension funds do not take full advantage of the potential of the capital markets with a recent study indicating that the small and medium sized funds exhibit a variety of potentially suboptimal choices in asset allocation and diversification leading to low-risk lower return strategies.[26]

Inherited Institutions, Political Economy and Social Norms. The system is the result of an extension of existing programs and legal foundations, gradually emerging over more than a century from coverage of civil servants and voluntary occupation programs to include a universal basic pension and nearly universal occupational based coverage. The effectively mandatory coverage of the occupational system has its origins more than 50 years ago and has developed over the ensuing decades consistent with policy framework reflective of the political and social context[27]. The level of benefits that are guaranteed, while potentially imposing some efficiency constraints as discussed above, seem to be reflective of societal norms that emphasize security, consistency and solidarity over efficiency and wealth optimization. The governance of the pension funds is well aligned with the Dutch political environment reflecting the tradition of governing through consensus and participation of the "social partners" in cooperation with industry representatives.

[26] De Dreu, Jan and Jacob A. Bikker, "Pension Fund Sophistication and Investment Policy" Netspar Working Paper 05/2009-016. 2009

[27] Omtzigt, P.H. "Mandatory Participation for Companies" in Costs and Benefits of Collective Pension Systems, O.W. Steenbeck and S.G. van der Lecq (Eds) Springer. 2007

Adequacy Certainly one of the strongest attributes of the system has been its ability to deliver very high income rates. The targeted benefit level of 70 to 80% replacement of final pay for a full career worker from what is effectively a mandatory system for wage and salary workers are among the highest mandated benefit levels of any country and are consistent with what analyst generally assume is required to maintain individual consumption levels in retirement. Assuming that the Netherlands maintains the hump shaped age earnings patterns characteristics of developed countries this should support consumption in old age at a level that would remain near or above the lifetime average. The nearly full transition from final pay to career average benefit formulas over the last decade will likely bring initial income replacement rates down somewhat in the future however the pension funds have compensated for the longer (and therefore lower) reference wage periods by targeting 80% of indexed lifetime average rather than the previous 70% of final pay. The presence of the AOW that guarantees a benefit of 70% of the minimum wage and the accessibility of other forms of social assistance provides a social safety net for the elderly that provides effective poverty alleviation.

Where the system potentially faces challenges in the future in regard to adequacy of benefits are in the impact of the new conditional indexation design which may reduce the real value of retirees benefits to achieve short term solvency of funds when returns in the capital markets low. Under certain conditions, for example a return to the "stagflation" of the 1970's and early 80's the formulas that limit indexation to stay within the solvency framework of the FTK could, over any extended period, have a serious effect on the capacity of the system to sustain consumption at the targeted levels. The vulnerability to adequacy concerns in the future arises from the dual "steering" mechanism in the current regulatory structure that permits a choice between contribution increases and reductions in benefit indexation to revert pension to the quite strict (by international standards) solvency requirement. The organization of the pensions funds as independent bodies with few having specific obligations by sponsoring employers to increase contribution levels creates a significant degree of vulnerability to future benefit reductions. Thus far sponsors have been willing to raise contributions to compensate for a much of the adverse experience in the markets which has precluded the need for dramatic benefit cuts. Required contributions to fulfill the solvency standards have increased by approximately 50% over the last decade and there is no assurance that this will be feasible over the long run when the pressures from population aging become more acute.

Another area of concern is the crowding out of voluntary retirement savings by the high benefit levels. The market for voluntary products in relatively small in the Netherlands which will make it more difficult to achieve low management costs and diminish the pool of lives over which mortality risk is spread resulting in costs in the private insurance sector that far higher than those of the collective pension funds[28]. This potentially threatens the ability of the system to provide effective venues for pension savings to the self employed or other informal sector workers who fall outside of the occupational plans.

Affordability/Sustainability. The generous benefits impose some challenges in regard to long term affordability. From a narrow public fiscal perspective the Netherlands receives relatively high marks in regard to affordability. The publicly financed benefits now represent about one third of overall

[28] Bikker, J.A. and J. De Dreu. "Operating Costs of Pension Schemes" in Costs and Benefits of Collective Pension Systems, O.W. Steenbeck and S.G. van der Lecq (Eds) Springer. 2007

benefit payments which is relatively for comparable countries. The financing of public benefits is income based so has some, albeit, indirect linkage to the benefit formula that is self adjusting. The basic pension (AOW) however is beginning to show some signs of strain as the cash flows near expenditures creating the imminent need for subsidies because of the statutory cap on the contribution level. The accelerating demographic transition will no doubt exacerbate the problems with the solvency of public benefits. [29]

Sustainability of the current benefit promises in the occupational funds however has emerged as perhaps the most significant concern for the Dutch pension system as the impact of the two financial crises of the past decade have worked their way through the system. On the positive side of the ledger, unlike nearly all other mandatory pension systems the occupational funds in the Netherlands have virtually no unfunded pension debt on a current basis and now hold assets that are among the highest proportions of GDP in the world. The buffers required under the FTK target surplus funding levels that should be on the order of 25% of the present value of the liabilities with funding deficiencies required to be made up over the very short period of three years and funding buffers restored in fifteen years.

However, the FTK framework requires the funding of future benefit obligations on a nominal basis which significantly understates the level of their obligations. The funding level on an indexed basis is estimated to be only about 70% at present. The Goudswaard Commission report notes that pension contribution rates would have to rise from the current 13% of the wage bill to 17% in the next 15 years to fulfill the current "ambitions" of the system raising serious concerns regarding the long term financial sustainability of a system that is reliant on negotiated level rates of contributions by the sponsors. It is important to note that while daunting to a system that aspires to full funding these projected deficiencies are likely well below those of other large occupational defined benefit systems in countries like the US and UK.

The main problems of affordability and adequacy for the system are strongly identified in the reports of the two recent government committees (apparently known by the names of the Chairs as the Goudswaard and Frijns Committees) which is the absence of a comprehensive approach to addressing increases in life expectancy that have consistency proven to be above the anticipated levels. Currently neither the AOW nor occupational funds incorporate adjustments in their benefit levels to reflect the longer period in retirement of current and future cohorts. Resolving this will require either significantly increasing contributions, which is inherently difficult given the way in which the system is structured, or significant reductions in benefit levels for future retirees.

The Social Partners "Pension Accord" issued in the spring of 2010 recognizes this challenge and proposes increasing retirement ages or reducing benefits to align lifetime contributions with aggregate benefits received when life expectancy increases in order to stabilize future contribution requirements[30]. This would move the system that is already conditioning post retirement indexation to asset performance a step closer to the NDC model that translates account "balances" into annuity payment on the basis of cohort specific longevity projections. The 2010 Accord proposes that similar changes to periodically adjust the AOW in line with life expectancy gains be made. While enhancing

[29] van Ewijk, Casper and Nick Draper, Harry ter Rele and Ed Westerhout. "Ageing and the Sustainability of Dutch Public Finances" CPB Netherlands Special Publication no 61, 2006

[30] Stichting Van Arbeid "Pension Accord Spring 2010" June 4, 2010

future affordability and inter-generational equity these change would achieve this through diminished benefit levels. Given the already high level of benefits promised by the two parts of the system such changes are unlikely to severely threaten overall benefit adequacy in the near term and might actually induce a better balance of voluntary savings.

Robustness The capacity of the Dutch system to remain robust in the face of economic volatility remains one of the principle challenges for the future. The development of the "Risk Based" approach to supervision by the DNB in which oversight and remedial interventions are aligned with a comprehensive assessment of management capabilities and financial risk is a leading example of innovation in this area that promises to contribute to the long term stability of the system. The related requirements that every fund have a fully developed risk management very specific standards related to the governance of the funds that are further strengthened in the new legislation effective in 2007 will likely make the funds more responsive and resilient to stress in the future. Basing the FTK standards on nominal benefits and the manner in which they are calculated which does not fully address the risks are also noted as challenges to the capacity of the system to retain solvency when faced with the kinds of volatility in financial markets of the past decade.

The recently imposed solvency standards contained in the FTK are likely to be more complex in their impact. These will surely impose rapid responses to market volatility as illustrated since late 2008 in quickly imposing requirements to restore funding to nominal levels when markets are disrupted. The longer term impact however is likely to more complex. Imposing high funding buffers that are based on current market valuations and discount rates in conjunction with the requirement for quick recovery periods when these fall below minimum thresholds may direct portfolios into more conservative allocations that are unable to support the high benefit promises. Sponsors willingness to absorb losses in asset values through higher contributions to the extent that has occurred in the past decade may not continue in the future which will limit the resiliency of the system to future volatility in the financial markets. Most consequential however is that the finding standards are based on nominal benefits and therefore do not recognize the aspirations or "soft benefit claims" of post retirement inflation indexation. This severely compromises the robustness of the system from the perspective of expectations.

Transparency and Redistribution

Perhaps the strongest divergence of the Dutch system from the World Banks model is in the transparency and scope of redistribution that occurs within the occupational funds. As discussed earlier, in addition to enhancing fiscal probity, the primary motivation behind the multi-pillar model is to make redistribution explicit and transparent through separate instruments that have readily distinguishable characteristics. The emphasis on the use of a defined contribution individual account second pillar to perform consumption smoothing is based on the fact that there is only minimal potential for redistribution of any sort.

The occupational funds in the Netherlands, however, have evolved to create the potential for considerable redistribution that is likely to be hidden from participants and to a significant degree inadvertent. Redistribution always a challenge in any earnings based defined benefit system which is one the main reasons that the initial presentation of the policy framework expressed such strong skepticism about the ability of defined benefit systems to achieve equitable outcomes. There are two primary aspects of the system that particularly contribute to this problem, the "level"

contribution and accrual rates that do not distinguish by age, gender or other characteristics and the recent movement to hybrid arrangements (motivated by the tight solvency standards of the FTK) that either adjust contribution levels or reduce indexation of benefits to rapidly bring funds within the stringent solvency corridors. Secondary sources of redistribution originate in the tax treatment of pension funds and the investment portfolios that the risk based regulatory structure may direct the pension funds to adopt.

The level premium structure of the funds charges each member the same annual rate regardless of characteristics that lead to meaningful differences in the value of annual benefit accruals. This uniform pricing structure redistributes value from person with short life expectancy to those with longer life expectancy and from those with more rapid rates of income growth over the life time to those who exhibit flat or declining earnings patterns. The practical result is that, like any similar defined benefit schemes the Dutch occupational funds transfer value from men to women and from less educated lower income workers to more educated higher income workers.[31] Similarly the equal premiums for all covered members results in a transfer from those with short working careers who may depart from coverage early in their lives and later receive benefits based on salary levels that are low compared to even average lifetime earnings.[32]

The earnings linked defined benefit structure of the systems inevitably results in the "back loading" of the accruals in which later years of participation become credited in relation to many preceding years of service and have a much higher present value through the closer proximity to the receipt of the payment at retirement.[33] This results in a potentially large and non-transparent transfer of value from younger to older workers an outcome that is facilitated by the industry wide organization of the funds. In a single employer defined benefit arrangement the cost differential might be adjusted through wage offsets for older employees who value the benefit and have incentives to remain with an employer. The employer contributing to the collectively managed fund has no similar means or incentive to make this adjustment simply paying a per capita rate. None of this redistribution is readily apparent or can be easily be calculated by members and is not likely to be understood by most even if they are made aware. The scope of the redistribution for any member is contingent on a variety of individualized factors and cannot, even in the aggregate be reliably estimated by pension experts. The nominal liabilities of retirees, that are settled first, are required to be fully funded. The younger workers therefore are bearing considerable risks on behalf of the retirees. This however is obscured by the complex and difficult to quantify nature of this relationship and the conditional nature of indexation for retirees. This complex array of structural redistribution under the rubric of "solidarity" has been diminished somewhat by the transition from final pay to career average benefit formulas as a cost saving measure over the past decade but nevertheless remains substantial representing a material departure from a central objective of the multi-pillar design

Somewhat more transparent and perhaps better intuitively understood by individuals is the redistribution resulting from the introduction of conditional indexation of benefits that has accompanied the concurrent imposition of the FTK funding standards, tight recovery periods and the

[31] Bonenkamp, Jan "Measuring Lifetime Redistribution in Dutch Occupational Funds" Netspar Discussion Paper 2007-036. 2007

[32] Aarssen, A. and B.J. Kuipers, "Everyone Gains But Some More Than Others" in Costs and Benefits of Collective Pension Systems, O.W. Steenbeck and S.G. van der Lecq (Eds) Springer. 2007

[33] Bovenberg, A.L. and T.E. Nijman, "Developments in pension reform: the case of Dutch stand-alone collective pension schemes", International Tax and Public Finance, Vol. 16, No. 4, pp. 443-467, August 2009

dual financial crises in the first decade of the new century. The change to conditional indexation creates a complex pattern of gainers and losers depending on the age of members.[34] The significant "buffer" funding requirements and short recovery periods may lead funds to increase contributions resulting in a transfer in favor of retirees or to reduce current indexation in favor of restoring funding levels without altering contributions, potentially preserving the capacity for future indexation and creating transfers in the other direction. Therefore decisions made by the pension fund can create complex reallocation of value depending on the response to a shock to the value of assets or movement of interest rates that will trigger a similar result from revaluing liabilities.[35]

Similar forms of nearly invisible redistribution result from the secondary consequences of the funding standards and contemplation of governing bodies of facing difficult decisions regarding choices between "catch-up contributions" or reneging on aspirations for benefit indexation. To diminish the likelihood of facing such unpleasant outcomes the managers of pension funds may skew portfolio composition away from otherwise optimal long term asset allocation, reducing equity exposure to manage the risk. Lowering the risk and returns of the funds to increase the probability of remaining within funding corridors transfers value from the young to the older members and retirees in ways that are unlikely to be apparent to either group.[36] The unpredictable and contingent nature of these sources of redistribution within and among generations are antithetical to the principles of transparency and equity that motivate the strong preference for a significant individual savings element to all of the World Bank's formulations of a multi-pillar system.

Limiting Distortions in Labor Markets

The impact of the pension system on labor markets needs to be considered in the context the underlying of its defined benefit design and the "backloading" of benefits which reduces incentives for labor mobility and raises related equity issues for those who may move to employment outside of the industry funds yet cannot take the market value of the premium with them. While this surely imposes greater limitations on mobility than a pure individual account system, the predominance of industry-wide plans limits these effects relative to what is experienced in other kinds of occupational DB systems. It nevertheless impedes mobility across sectors. The high benefit levels and fixed retirement age likely have the greatest impact by creating sharp break points in the value of pension benefits that surely impacts the labor supply decisions of older workers. Although it has been mitigated considerably by the adoption of conditional indexation the high cost exposure to employers is also likely to be a problem.

Contribution to Savings and Capital Market Development

Decentralized private management and the absence of categorical requirements or restrictions in investment requirements make the system highly conducive to supporting capital market

[34] Ponds, Eduard H.M. and Bart van Riel, "The Recent Evolution of Pension Funds in the Netherlands: The Trend to Hybrid DB-DC Plans and Beyond" Center for Retirement Research at Boston College Working Paper 2007-9. 2007

[35] Bonenkamp, J.P.M. and M.E.A.J. van de Ven and E.W.M.T. Westerhout, "Macroeconomic Aspects of Intergenerational Solidarity" in Costs and Benefits of Collective Pension Systems, O.W. Steenbeck and S.G. van der Lecq (Eds) Springer. 2007

[36] Bikker, Jacob A. and Dirk W.G.A. Broeders, David Hollandes and Eduard Ponds "Pension Fund Asset Allocation: A test of the Life Cycle Model" DNB Working paper No. 223, De Nederlandsche Bank. 2009, and Hoevenaars, R.P.M.M. and E.H.M. Ponds, "Intergenerational Value Transfers Within an Industry Wide Pension Fund – a Value Based ALM Analaysis" in " in Costs and Benefits of Collective Pension Systems, O.W. Steenbeck and S.G. van der Lecq (Eds) Springer. 2007

innovation. The strong funding requirements that should result in overfunding of nominal benefit obligations through the buffer requirements direct a high level of assets into the capital markets as reflected in levels that are among the highest in the world, exceeding 125% of GDP in recent years. In this regard the system can be perceived to be among the most successful in supporting market depth and development. Mandating high levels of what are essentially forced savings through the dominance of occupational plans and their high funding requirements, although it surely crowds out other forms of savings, given the evidence of myopia among individuals in other settings without this strong mandate, can likely be assumed to increase aggregate savings levels. The strong behavioral element, nearly universal coverage and complex sorting process for non-participants make constructing a counter factual to test this virtually impossible to construct In both of these areas, however, the Dutch system surely rates among the strongest in the world today.

V. Concluding Observations

A review of the World Banks multi-pillar pension policy framework in relation to the design and recent developments in the pension system of the Netherlands indicates that the structure of the Dutch system includes many of intended characteristics that the multi-pillar policy framework. The effectively mandatory nature of the system that achieves nearly universal coverage and clear separation of public and private functions achieves many of the fundamental objectives. The system has a relatively high degree of separation of its functions among three main components each of which is primarily designed to achieve a distinctive purpose. The three elements are effectively coordinated and most of the redistribution occurs within a publicly managed pillar that is simple and relatively transparent in design.

The system operates on a large scale to achieve efficiencies and constrain costs and is subject to rigorous oversight under a comprehensive legal framework administered by a well financed and organized supervisor. It has a relatively high degree of pre-funding with privately managed assets subject to a flexible and risk based regulatory regime that facilitates economic and capital market development.

The predominance of the central occupational pillar mandating a heavy reliance on defined benefits differs significantly from the more balanced approach and greater reliance in individual accounts to achieve optimal incentives and sustainability that are implied in the Bank's description of an ideal system. The perceived negative consequences of these deviations are to some degree offset by the adjustments that have been made to more traditional forms of occupational defined benefits through stringent funding rules, the independent governance structure of the funds and their hybrid nature resulting from the relatively recent adoption of conditional indexation.

There are however significant concerns about the sustainability of the benefits promised by the system as the funding requirements are not fully consistent with the promised benefits and will either need to be reduced or a significant rise in contributions accepted by workers and employers. Increases in life expectancy and financial volatility are not yet well managed by the system. Perhaps most significantly, the high reliance on defined benefits results in non transparent redistribution.

The Dutch system therefore does not yet completely fulfill the ideals toward which the multi-pillar design is directed. Although it faces challenge to maintain the generous benefits that Dutch citizens have come to expect imposed by a demographic transition and the recent turbulence in financial

markets, the system remains one of the very few today that comes close to embodying the principles that motivated the development of the policy framework and a model that others could do well to emulate. Despite some evident shortcomings the system remains far better than most of the current alternatives.