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NOTES & MANUALS

IMF Engagement on Pension Issues in Surveillance and Program Work

Fiscal Affairs Department and Strategy, Policy, and Review Department

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Prepared by teams from the Fiscal Affairs Department and the Strategy, Policy, and Review Department

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IMF Engagement on Pension Issues for Surveillance and Program Work
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Fiscal Affairs Department and Strategy, Policy, and Review Department

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CONTENTS

Executive Summary 1

Introduction 3

Pension Systems: Objectives and Features 7
- A. Objectives 7
- B. Typology and Basic Features 8

Assessing the Macro-Criticality of Pension Spending 18
- A. Fiscal Sustainability 18
- B. Adequacy of Pension Spending 24
- C. Efficiency of Pension Spending 27

Incorporating Pension Issues into Country Work 33
- A. General Considerations 33
- B. Surveillance. 37
- C. IMF-Supported Programs 40
- D. Dialogue with Country Authorities 47

Boxes

Box 1. Gender Aspects of Pension Provisions 9
Box 2. Actuarial Equilibrium, Neutrality, and Balance 13
Box 3. Point Systems and Notional Defined Contribution Schemes. 15
Box 4. Definition of Public Pension Spending 23
Box 5. Benefit Adequacy at the Individual Level 26
Box 6. Examples of How to Address Pension Issues in Surveillance 38
Box 7. Examples of How to Address Pension Issues in IMF-Supported Programs 42
Box 8. Selected Examples of Communicating Policy Advice 48

Figures

Figure 1. Old-Age Income Security: Constituent Elements and Functions 17
Figure 2. Projected Change in Pension Spending, 2020–70 19
Figure 3. Higher Pension Spending vs. Capacity to Finance 21
Figure 4. Per Capita Income vs. Social Security Coverage 25
Figure 5. Growth Has Limited Impact on Coverage. 26

Table

Table 1. Illustrative Questions on Pension Issues in Surveillance and Program Work 34

Annexes

Annex 1. Typical Pension Policy Reforms 51
Annex 2. Internal and External Resources Supporting Analytical Work and Policy Engagement 59

EXECUTIVE SUMMARY

IMF country teams are increasingly providing policy advice on public pension issues to member countries over recent decades. Public pension spending is important from both fiscal and welfare perspectives. It is often one of the largest single public expenditure items, especially in advanced and emerging market economies, representing a double-digit share of GDP. Pension policy reforms can have significant short- and long-term fiscal implications, whether related to adjusting key pension parameters in mature pension systems or expanding population coverage. Even relatively small and gradual changes can materially impact public finances in the long term. At the same time, pension benefits often serve as the most important source of income among the elderly (especially for lower-income groups) and are a key policy lever through which governments can mitigate poverty among the elderly and support individuals in planning for old age. By pooling risks across a large segment of the population, pension schemes are an efficient approach to facilitating consumption smoothing across working and retirement years, income groups, and individuals with varying mortality, health status, and labor market characteristics. Insurance against such risks can also have implications for key macroeconomic variables, for example, labor supply and savings.

This departmental paper provides guidance to staff on when and how to engage on pension issues in surveillance and program work. The IMF's engagement on public pension spending is guided by an assessment of its macro-criticality in surveillance and program contexts, as well as in the context of capacity development. The macro-criticality of public pension spending can arise through one or any combination of three channels—fiscal sustainability (FS), spending adequacy (SA), and spending efficiency (SE). FS issues can arise in the context of existing spending pressures in countries with high pension coverage and aging populations (advanced and some emerging market economies) or expected spending increases in countries expanding coverage (emerging market economies and developing countries). SA issues arise when existing spending is insufficient to achieve stated social objectives related to poverty alleviation and consumption smoothing over the lifecycle. SE issues can emerge when pension generosity and design generate unnecessarily large negative macroeconomic, behavioral, or distributional impacts, including unnecessary adverse impacts on employment and savings outcomes. In many instances, consideration needs to be given to more than one of these issues and potential trade-offs.

The paper discusses how to assess the importance of these channels of macro-criticality, the appropriate policy responses, and possible policy trade-offs. It is aimed at ensuring consistent and appropriate policy advice in different country contexts and enhancing the quality and effectiveness of engagement with the authorities and with development partners also providing policy advice in this area. Reflecting the variety of pension systems and policy objectives that exist, as well as varying country-specific contexts (for example, level of development, fiscal space, and labor market conditions), the paper focuses on providing tools to staff to better understand pension policy issues and information on where to get additional support. The information provided supports staff in: (1) understanding the important characteristics a country's pension system, (2) accessing the various channels of macro-criticality, and (3) effectively integrating pension analysis into surveillance and program activities.

The paper emphasizes the importance of taking a long-term and comprehensive perspective when evaluating public pension spending and providing policy advice. Most pension reforms take time to impact pension spending. Where feasible, reforms should be gradual and transparent to allow individuals ample time to adjust their work and savings decisions to facilitate consumption smoothing over their lifecycle and avoid poverty in old age. It is also important to ensure that pension design and reform do not have unintended undesirable impacts in other policy areas including general tax compliance, health insurance coverage, labor force participation among older workers, or labor market informality. In the context of economic shocks, such as COVID-19, it is important to avoid responses that undermine the ability of pension systems to meet long-term social objectives. Pension systems are typically poor instruments for addressing such short-term economic problems. At the same time, it is important to recognize that the design of pension policy and pension reforms need to reflect country-specific social and economic objectives and political economy realities.

INTRODUCTION

In June 2019, the IMF Board approved the Strategy for IMF Engagement on Social Spending and supported the systematic incorporation of social spending issues into the IMF's analytical, surveillance, and program-related work.[1] Staff was invited to translate—and further elaborate—the Board Paper's recommendations into a series of papers operationalizing policy advice for use by area and functional departments. This departmental paper focuses on IMF engagement on public pension spending[2] and is the first in a series that will address other components of social spending (that is, spending on social safety nets, health, and education).

Public pension spending is of interest to the IMF from both fiscal and welfare perspectives. Pension spending is often one of the largest single public expenditure items, especially in advanced and emerging market economies, representing a double-digit share of GDP. Pension policy reforms can have significant short- and long-term fiscal implications, whether related to adjusting key pension scheme parameters in mature pension systems or expanding pension population coverage. Even relatively small and gradual changes can materially impact public finances in the long term. At the same time, it is important to recognize that pension benefits often serve as the most important source of income among the elderly (especially for lower-income groups) and are a key policy lever through which governments can mitigate poverty among the elderly and support individuals in planning for old age.[3]

The IMF's engagement on social spending issues is guided by an assessment of its macro-criticality in surveillance and program contexts, as well as in the context of capacity development. The macro-criticality of social spending can arise through one or any combination of three, often interrelated, channels—fiscal sustainability, spending adequacy, and spending efficiency:

- *Fiscal Sustainability.* This refers to the c*apacity to finance spending needs without undermining macroeconomic stability*, including through increasing fiscal deficits and debt or crowding out other expenditures crucial for promoting poverty reduction and inclusive growth. In the mature pension systems typical in advanced and some emerging market economies, such concerns may reflect large projected spending increases due to aging populations. In emerging market economies and developing countries with low pension coverage, it may arise from plans to significantly expand coverage over the short term or introduce generous systems that will require significant expenditures over the medium term.
- *Spending Adequacy.* This refers to the *adequacy of spending, at the aggregate level, to meet the government's pension policy objectives.* These policy objectives typically include avoiding old-age poverty and facilitating income smoothing by individuals over their lifecycle to ensure an acceptable income in retirement. Many emerging market economies and developing countries face large gaps in pension system coverage that may undermine these objectives, especially

1 See A Strategy for IMF Engagement in Social Spending.

2 Additional papers will focus on safety nets, health, and education spending.

3 The presence of other sources of income (for example, social transfers, capital income, earnings, and intra-family transfers) should also be taken into account when evaluating the role of pension income in addressing poverty among the elderly.

where populations may be aging quickly. It is important to ensure that plans intended to improve adequacy are accompanied by financing strategies, including through social security contributions and general revenues.

- *Spending Efficiency*. This refers to the design and implementation features of pension systems that ensure *policy objectives are achieved without generating unnecessarily large negative macroeconomic, behavioral, or distributional impacts*, including undue negative labor market and other externalities. For instance, relatively large pension spending may not translate into relatively low poverty and income security for all pensioners where it is used to finance overly generous pensions for small subgroups of the population. Or overly generous pension benefits may require relatively large labor taxes that result in large work disincentives or low compliance incentives. Similarly, generous or lax entitlement rules, such as for early retirement or disability pensions, may result in undesirably low labor force participation for older workers.

Addressing any one aspect of macro-criticality can have implications for the others, thus requiring careful considerations of various trade-offs. For instance, if spending pressures need to be contained, maintaining spending adequacy may require re-thinking of benefit design, especially whether benefit distributions need to be compressed. Similarly, improving adequacy through broadening coverage may, at least in the short term, require limiting benefits to poverty alleviation (rather than consumption smoothing over the lifecycle) to ensure that the system's financing needs reflect government's public expenditure priorities and revenue constraints. Equity considerations can also imply trade-offs, for example, enhanced horizontal equity (that is, a closer relationship between earnings, work history, and pension benefits) results in greater expenditures if adequacy is to be maintained for low earners. All policy choices and reform proposals—even marginal ones—can involve trade-offs that need to be carefully considered in terms of short- and long-term impacts.

Countries need to take a broad, long-term perspective when evaluating the possible macro-criticality of public pension spending and determining the appropriate policy responses. Pension systems aggregate, over a multi-decade horizon, individuals' career decisions and earning and saving histories. Reforms therefore need to recognize that those later in their careers have little time to adjust to new pension system parameters, for example, by adjusting labor supply or savings decisions. This puts a premium on gradual and transparent reforms and, where possible, avoiding large spending adjustment over the short term. Pension systems can also impact other dimensions of the economy and be impacted by them in turn. The design of pension schemes may influence compliance with tax obligations, health insurance coverage, labor force participation among older workers, or labor market informality. Similarly, measures that affect labor market informality (such as business regulations) may affect the ability to develop pensions systems financed by contributions with benefits linked to lifetime earnings.

While the COVID-19 pandemic has reinforced the importance of strong pension systems (and social insurance more generally), it has also highlighted the need to avoid responses that undermine these systems' ability to meet long-term social objectives. Shocks such as the COVID-19 pandemic can act as a catalyst by aggravating underlying macroeconomic, labor market, and fiscal tensions and accelerating developments already jeopardizing pension systems' sustainability, adequacy, or efficiency. Pension systems are typically poor instruments for addressing such short-term economic problems. Responses to temporary shocks need to be time-limited to avoid setting the pension system on an undesirable course.[4]

[4] See Pension Schemes in the Crisis: Impacts and Policy Considerations.

The objective of this paper is to further staff understanding of (1) the different channels through which public pension spending may become macro-critical, (2) how to assess the importance of these channels, and (3) the types of policy response that are appropriate and the trade-offs involved in choosing among them. Staff have already been extensively engaged with country authorities on the issue of public pension spending across surveillance, program, and capacity development activities.[5] This paper is aimed at ensuring consistent and appropriate policy advice in different country contexts and enhancing the quality and effectiveness of engagement with the authorities and development partners also providing policy advice in this area. Reflecting the variety of pension systems and policy objectives that exist, as well as varying country-specific contexts (for example, level of development, fiscal space, and labor market conditions), the paper focuses on providing tools to staff to better understand pension policy issues and information on where to go to get additional support.[6]

This paper is structured around a set of questions staff needs to address when engaging on pension policy issues. The answers to these questions provide an important foundation for staff on how to think about key policy issues and identify possible policy implications and responses.

- *What is the nature of the current pension system?* Chapter 2 provides an overview of typical pension systems and how they may vary in terms of policy objectives and design. When evaluating current pension policies or proposed policy reforms, it is important to first focus on the overall pension system, which can be made up of different pension *schemes* that may complement each other in terms of achieving underlying policy objectives. This chapter also provides a description of commonly used terminology on scheme and system characteristics that should be useful for discussing pension issues with country authorities and for providing a context for analytical issues and reform options presented in this paper.
- *How to assess the various channels of macro-criticality?* Chapter 3 discusses the three channels through which public pension spending can be macro-critical: fiscal sustainability, spending adequacy, and spending efficiency. It demonstrates how the relevance of each channel can be evaluated both in the context of countries with comprehensive public pension systems and relatively large public pension spending and of countries with very narrow pension system coverage that are planning to expand coverage and public pension spending.
- *How to effectively integrate pension analysis into surveillance and program activities?* Chapter 4 discusses how macro-criticality considerations related to pension systems should enter into surveillance and program design. This section considers how macro-criticality should be incorporated into country work in light of broader policy preferences and constraints, and how to integrate long-term pension issues into medium-term fiscal frameworks. Country examples are used to illustrate how different pension issues can be reflected in surveillance and program work, including the design of quantitative targets and structural benchmarks. The section also discusses how analytical results and pension reform proposals can be effectively communicated to the authorities.

Annexes 1 and 2 present, respectively, common reform options and resources available for IMF staff. Reform options are grouped into parametric, structural, and paradigmatic reforms and are discussed in more detail, including caveats and trade-offs. The internal and external resources listed

[5] See IEO Background Paper examining the IMF's work on pension issues during 2006–15.

[6] Where detailed technical advice is required, staff should seek input from experts in the IMF Fiscal Affairs Department and explore opportunities for collaborating with external experts and development partners.

include data sources, repositories of regulatory information, projections, and selected literature that provides important background for informing staff on pension issues, including in a regional and country context.

PENSION SYSTEMS: OBJECTIVES AND FEATURES

This section aims to familiarize readers with the distinguishing features of different types of pension schemes and systems and basic pension terminology. It identifies features that need to be considered when assessing, comparing, and benchmarking pension systems.

A. Objectives

The overarching objective of a pension benefit is to provide income replacement after exit from the labor force and efficiently redistribute longevity, disability, and loss-of-breadwinner risks over an efficiently sized pool of participants. Pension systems aim to partially replace income lost due to old age, disability, or death. Historically, the genesis of pensions is in disability and survivor benefits. However, as societies grew more affluent, retirement from the labor force became less a matter of earning ability and more a preference for leisure or gradually declining productivity. During the 20th century, this conceptual shift became a major determinant of the design features of pension systems.

Pension systems can achieve the income-replacement policy objective through two basic goals: poverty alleviation and consumption smoothing. Systems vary according to whom they are designed to cover, the risks they are intended to protect against, and the relative importance attached to poverty alleviation and consumption smoothing. Since all events that may trigger a pension payment have an element of uncertainty (for example, related to lifecycle earnings, health, and longevity), the efficient functioning of pension systems requires some degree of risk pooling through insurance, which distinguishes pension systems from pure savings plans. While the twin goals of poverty alleviation and consumption smoothing are often achieved simultaneously, tight fiscal conditions may require policymakers to consider trade-offs, for example, reallocating resources from consumption smoothing to poverty alleviation objectives.

Pooling risks of longevity, disability, and loss of a breadwinner is also a basic function of pension systems. Expansion of pension system coverage is desirable from the perspectives of insuring against a variety of risks that are not easily insured against on the market or is not efficient to ensure individually, broader risk-pooling, and lower administrative costs because of economies of scale. Risk pooling also allows more efficient insurance against longevity risk (that is, the risk of outliving one's savings intended to ensure some target level of consumption in old age) from a social welfare perspective.

Pension benefits are lifelong payments to eligible beneficiaries in retirement, which may be augmented by various one-off benefits as well as regular or occasional supplements. Pensions are streams of income paid to individuals assumed to have reduced earnings capacity due to old age, invalidity, or the loss of breadwinner jeopardizing the income security of surviving family members. Most pensions are paid until the beneficiary's death but—as in the case of temporary survivor benefit or an orphans' pension—may be temporary, for example, payable until reaching a legally specified age or the end of a period. If a payment does not meet the above conditions (for instance, because accrued entitlements are paid out as a lump sum), it may not meet the policy objectives of

a pension and may be better categorized as another form of income replacement or income supplement, even if it is paid through the pension system.[7] Risks typically covered by regular pension payments[8] include:

- *Old-age pensions* are triggered by reaching the legally defined retirement age. With old-age pensions, the risks covered are reduced earning capacity due to lower productivity and outliving one's private savings. Old-age pensions are usually determined by the length of individuals' affiliation with the scheme and the reference earnings used for pension calculations.
- *Disability pensions* are triggered by the onset of reduced earnings capacity due to medical conditions. Disability may be short-term, long-term, or permanent, with short-term disability usually referenced as "sickness" and covered by other branches of social security. Disability pensions are typically a function of age, scheme affiliation, and degree of disability.
- *Survivor pensions* cover immediate relatives who are (or are expected to be) fully or partially dependent on the main beneficiary's pension. The benefit is typically payable to widows, widowers, orphans, parents without other income and, in some cases, unmarried daughters and sisters. Survivor benefit rules are fairly diverse but benefits typically depend on the deceased's beneficiary status (pensioner or active member), the deceased beneficiary's pension entitlement, and the number and age of eligible survivors.

B. Typology and Basic Features

What makes pensions different?

Pension entitlements are the longest legally or contractually defined financial obligations between an individual and a provider, with maturities often exceeding 60 years.[9] Pension entitlements start to accrue at the time of first employment (in general or within a given occupational pension scheme) and expire with the death of the last eligible survivor. This period covers government, business and economic cycles, crises and recoveries, and historical events. Due to the slow attrition of beneficiaries, pension expenditures are slowly trending, and their reforms typically take a long time to make themselves felt. Pension entitlements are also enjoying increasing levels of legal and constitutional protection,[10] making pension entitlements difficult to amend retroactively, while forward-looking adjustments may have a material impact over many decades. These features impact on how to interpret "macro-criticality" and its channels—financial sustainability in particular—when assessing pension systems.

[7] In low-income countries, it is common that occupational pension schemes (in both the public and private sectors) pay out all pension savings or the cash value of pension entitlements as a lump sum at the time of retirement. These schemes fail to ensure post-retirement income security and expose members to longevity risk (for example, outliving their retirement resources).

[8] One-off and other auxiliary benefits, such as death grants, funeral assistance, and Christmas allowances, may also be financed by pension schemes.

[9] The law on U.S. Civil War veterans' pension was enacted on July 14,1862. The last pensioner whose benefit derived from this law died in 2020, aged 90. Although an unusual case—Ms. Irene Triplett was born when her father, a Civil War veteran, was 83— it demonstrates that pension systems must be designed with a rather long horizon in mind.

[10] Protection typically includes an explicit liquidity guarantee extended to social security schemes. Public occupational schemes (civil service and public employee schemes) don't necessarily enjoy explicit budget guarantees but are often understood to be backed, implicitly, by the state.

Public pension spending—especially in advanced and emerging market economies with universal and mature systems—often tend to be the single largest public expenditure item. Therefore, even small fluctuations in their level or expected change can have a material impact on public finances, such as central or general government deficits. Large expenditures require allocating similar amounts of tax revenues, making pension systems an important constraint on tax policy and revenue administration, and an important factor determining the fiscal room available for financing public goods and services both in the present and the future.

The objectives, constraints, and operational principles of a public pension system are determined by past entitlements and long-term expectations. Policy choices are typically constrained by legacy pension entitlements as well as long-term expectations feeding into individuals' labor supply, saving, consumption and other decisions. Therefore, pensions already in payment can usually only be adjusted at great political cost, and the same holds for entitlements accrued to workers relatively close to retirement. While governments may occasionally be forced to make retroactive adjustments—for instance, at times of economic crises—measures addressing pension spending are typically very gradual and their impact incremental, with tangible outcomes taking several years to become manifest.[11] It is therefore essential that governments similarly take a longer-term perspective when considering reforms. When considering pension systems' policy objectives, governments also need to consider the system's gender aspects and their interplay with other policy areas, such as healthcare, education, and nondiscriminatory labor market regulations and practices (Box 1).

BOX 1. Gender Aspects of Pension Provisions

Men and women have different life expectancies, and their biological differences make them sensitive to different short-term, long-term, and permanent health issues. In many countries, women's access to healthcare and education still lags behind that of men and their labor-market prospects remain poorer in terms of hiring, promotions, and wage levels. In addition, both the design and the actual use of parental benefits (income replacement programs and paid or unpaid parental benefits) are typically heavily skewed toward mothers, which can further affect earning opportunities over their lifetimes.

Pension benefits sum up and mirror the socioeconomic status of participants from birth to retirement. In an effort to ensure equal opportunities and treatment, most contributory pension systems offer higher implicit returns to women's pension contributions than for men. Life expectancy differentials also create differences. Although many countries have initiated the equalizing of retirement ages for men and women, on average women still become eligible for old-age pensions significantly (2–5 years) earlier than men. Moreover, life expectancy differentials imply that survivor pensions (both as a main benefit and as a supplement) are taken up by women more often and for longer than for men. Women also often enjoy higher accrual rates than men, at least for segments of the accrual schedule, to ensure that their lower wage levels are less than fully reflected in their lower pensions. In privately underwritten defined benefit products, regulators aim to achieve similar redistributive objectives by disallowing the use of gender-specific life expectancy tables in mandatory—and, in some cases, supplementary—schemes.

[11] One exception is changing benefit indexation regimes, which can impact benefit levels and pension spending within a relatively short time, depending on price and wage dynamics.

While redistribution across the insured population is typically seen as a valid social objective of public pension schemes, it is still important to continue to identify where such redistribution is excessive (for example, as with very generous survivor benefit eligibility conditions in certain regions), including as gender employment and earnings opportunities converge.

Future improvements in sustainability, adequacy, and efficiency hinge on the interaction of pension regulations with factors and policies exogenous to the pension system. The outcomes of pension policy are largely determined by system input variables: decades of labor, income, education, health, tax, and other policies. Pension benefits—population coverage, benefit level, distribution of benefits, fiscal cost, and welfare impact—reflect how pension rules translate decades of economic policy, history, and individual choices into eligibility and payments. In this context, an important fact: whereas labor market regulations, tax policy changes, social benefits, and so on all have a tangible impact on future pensions via altering individual's preferences and behavior, pension reforms appear to have only marginal impact on these variables. For example, so-called funded reforms (that is, partially replacing defined benefit, pay-as-you-go social security pension schemes with privately managed, fully funded, defined contribution arrangements) had limited effect, at best, on informality, compliance, and pension coverage. Promises of higher pensions—or the same pensions in return for lower contributions—to current workers also typically fail to result in higher compliance.[12]

Pension schemes

Pension schemes[13] can be categorized according to their basic features: how they are financed, who can (or must) participate, what determines benefits, who bears various risks, and whether they should be considered part of general government. Pension schemes differ across certain key dimensions including their actuarial balance, fairness, and neutrality (Box 2) and various design features, summarized below.

- *Mandatory vs. voluntary schemes*. While the difference here is self-explanatory, two phenomena deserve specific attention. First, there are countries (for example, Denmark and The Netherlands) where the mandatory public pension scheme is limited to a basic pension but where the share of the working-age population participating in an earnings-related

[12] Structural pension reforms introducing privately managed, fully funded, individual pension accounts in central and eastern Europe as well as in Latin America were expected, among other things, to improve compliance not only through a promise of higher pensions but also by presenting private pension account balances as "real" financial assets as opposed to the unfunded government promises of predecessor public schemes. However, these reforms made no discernible impact on coverage and compliance. Likewise, significant contribution rate reductions—which, without commensurate reductions in benefit accruals, translated into much higher returns on contributions—also failed to improve compliance (for instance, in Ukraine).

[13] A *scheme* or *plan* is a legal construct or a set of rules defined in law and/or contract, describing the rights, obligations, and behavioral standards of scheme managers (or administrators), scheme members and various service providers relative to each other and parties external to the scheme. A pension scheme is not an institution or organization, but it may have legal personality. A pension fund is the pool of assets underlying or assuring scheme members' financial claims. A fund may be a legal person but in and of itself is not an organization: a fund needs to be managed by one or more fund managers. While the differences across these terms are clear, they are often used interchangeably, and analyses must be clear about whether its subject is a legal construct, an organization, or pool of assets.

occupational or other voluntary scheme is so high as to be practically universal. Comparing such pension systems to traditional social security arrangements requires care, especially in terms of assessing spending adequacy and efficiency. Second, over the last two decades, auto-enrollment into voluntary pension schemes has become popular, as in Australia, Canada (Quebec), Chile (for self-employed[14]), Denmark, Georgia, Lithuania, New Zealand, Poland, Turkey, and the United Kingdom. Under such regulations, workers are automatically enrolled, by law, in voluntary schemes with the possibility to opt out. In some cases, opting out results in the auto-enrollment repeating in the following period. This places participation in these schemes on the conceptual boundary of mandate and volition, transforming the traditional dichotomy of mandatory and voluntary participation into a spectrum.

- *Universal vs. partial coverage schemes.* Social security schemes are universal when all (or almost all) workers, regardless of occupation, can (or must) participate. Universality, however, does not preclude fragmentation: for instance, there may be separate schemes (following different or uniform rules) for civil servants, public employees, private sector workers, and the self-employed, jointly ensuring universal coverage. Occupational schemes may be organized by employer, industry, or sector, with participation either mandatory or voluntary. While occupation schemes are only accessible to employees in particular firms, sectors or industries, open pension schemes can accept members without restrictions and operate as voluntary private schemes offered by financial service providers. When reviewing pension coverage two factors are important to consider. First, a unitary social security system does not always cover everyone—coverage of agricultural workers and the self-employed always merits checking. Second, a fragmented system made up of pension schemes that are designed to cover only particular groups may, in the aggregate, still provide universal coverage.
- *Contributory vs. non-contributory schemes.* Pension schemes may be contributory or non-contributory, depending on whether the individual to whom pension entitlements accrue is covered by contributions paid by them as employees and/or by their employers. In the case of government employees, the state is the employer, bearing responsibility for contribution payments.[15] Pension entitlements earned without contributions may still be related to earnings (noncontributory earnings-related pensions) as in the case of various civil service schemes in low-income countries and military pensions in a large group of countries.
- *Earnings-related vs. "flat" schemes.* Pension benefits may or may not be based on pre-retirement earnings. Those not based on earnings (that is, paying equal benefits to all eligible individuals), are referred to as flat pensions.[16] Earnings-related pensions mostly reflect the length of time making contributions and pre-retirement earnings averaged over varying lengths of time. Regarding the two basic functions of pension systems, earnings-related pensions are better suited to ensure consumption smoothing, while flat pensions are better placed to address poverty-alleviation objectives. Purely earnings-related pensions can achieve poverty alleviation only if the entire pension distribution is above the poverty level defined for pensioners. Thus, pension schemes with strongly earnings-related components also tend to be accompanied by a highly redistributive element either within the pension system or outside it in the form of social assistance available to the elderly.

[14] Auto-enrollment in Chile was a temporary arrangement: participation of the self-employed is now mandatory.

[15] Contributions paid by the state as employer should be not confused with state transfers to cover pension system deficits when the contribution base and rate is insufficient to finance benefits.

[16] Flat pensions are also sometimes differentiated by risk covered (such as old age or disability), by age, and sometimes according to length of residence in the country of retirement.

- *Defined benefit (DB) vs. defined contribution (DC) schemes*. The fundamental difference between DB and DC schemes lies in who bears the underlying risk. In a straightforward DC arrangement, the risk of retirement balances falling short of the assets needed for an expected benefit stream in retirement are fully borne by the individual, while in a DB scheme the risk of insufficient assets relative to benefit entitlements is carried by the underwriting entity.[17] DB schemes can define benefit eligibility and calculation rules according to any indicator (for example, benefits can depend on seniority or achievements), which may have a strong or less pronounced relationship to the individual's payments into the system. Most often, benefits are a function of service time and wages during a reference period. In DC schemes, individuals' retirement savings are strictly defined by payments made and net returns credited to accounts. The similarities with personal investment accounts are strong, although the use of retirement account balances is typically restricted.[18]
- *Pre-funded vs. pay-as-you-go schem*es. A scheme is fully funded ("funded") if the present value of pension obligations do not exceed that of pension assets (reserves already accrued and expected future contributions and investment returns) when measured over the same horizon and group of beneficiaries. If a scheme's assets are less than its liabilities, it faces a funding gap. In the case of privately underwritten schemes, this gap needs to be addressed by the underwriting entity, which for occupational schemes is the employer and for open schemes is the financial intermediary managing the pension product. For schemes underwritten by the government, such obligation is not enforced for a variety of reasons, including the government's assumed capacity to raise revenues at such timing and in such amounts as may be necessary to meet pension obligations falling due. Under pay-as-you-go schemes, current liabilities are entirely or mostly financed from current revenues (dedicated payroll taxes or general revenues). So-called "partially funded" schemes are essentially pay-as-you-go but operating with some reserves, which typically fall far short of full funding.

  Social security schemes and civil service and public employee schemes are typically either entirely unfunded (fully pay-as-you-go financed) or are supported by insufficiently small reserves. This situation may result from historic events (wars, economic crises, and other major disruptions), poor design, or poor management (when reserves are invested at low returns or are simply stolen). Given the size of these schemes, once they become mostly pay-as-you-go financed there is little chance to build up reserves ensuring full funding. Also important: the presence of a reserve (fund, trust fund, etc.)—even if nominally large as percentage of GDP—is no assurance of full funding for entitlements already accrued which are typically multiples of GDP in advanced economies with full coverage and a mature system.

[17] This clear dichotomy is somewhat muddied by guarantees, the nature of DB annuities, and the existence of various hybrid schemes mixing features of both DC and DB arrangements.

[18] Importantly, the defined contribution logic only holds during the accumulation phase: since annuities—similarly to all other insurance products—are "defined benefit" by nature, even DC pension schemes have a strong DB element in the payout phase. Guarantees—especially guarantees partially or fully underwritten by parties other than the individual scheme members—also introduce DB features into DC schemes.

- *Public vs. private pension schemes*. A pension scheme is "public" if its liabilities are explicitly[19] underwritten by the state, while in a private scheme the underwriter or guarantor is, prima facie, a private entity.[20] Bearing in mind that a scheme, a fund, and an administering entity are conceptually and legally different, it is possible that a public scheme is administered by a private entity while administration of a private scheme may also be entrusted to a public entity.[21] Determining the public or private nature of a pension liability and whether it represents a fiscal liability (or risk) is not always straightforward, especially in the presence of performance guarantees underwritten by a public agency or if implicit guarantees are likely to be offered in case of insolvency or illiquidity.

BOX 2. Actuarial Equilibrium, Neutrality and Balance

Actuarial equilibrium—or fairness—requires that the present value of lifetime contributions equals the present value of expected lifetime benefits at the individual level.

Actuarial neutrality requires that the marginal benefit earned (or lost) by working one year more (or less) is commensurate with the income lost or gained by the individual. In other words, actuarial neutrality is actuarial fairness at the margin.

A scheme is in ***actuarial balance*** if its liabilities, in the aggregate, do not exceed its assets, on an accrual basis, using a sufficiently broad assessment method.

A scheme that is in balance—that is, sustainable over a long horizon—does not imply either fairness or neutrality. Likewise, a scheme that is fair to the average member doesn't necessarily lead to neutrality for every year of affiliation. This is particularly important for early and deferred pensions, that is, neutrality in the vicinity of the standard retirement age.

In practice, most pension schemes fall into four common types:

- *Mandatory, pay-as-you-go financed, contributory, publicly underwritten and managed, universal, defined benefit, earnings-related schemes (typical social security schemes).* These schemes have their origins partly in traditional 19th century civil service pension schemes where annuities were part of the budget's current expenditures, without separating them into segregated funds or provisioning against future liabilities. World War II was also an important factor in making these schemes dominant, especially in Europe: pension schemes already had broad or

[19] Explicit underwriting often takes the form of legally sanctioned liquidity guarantees enjoyed by social security schemes or of incorporating pension benefits into the public sector wage bill. Obviously, the boundary of explicit public and private underwriting is not entirely clear: some pension schemes—in a manner similar to very large employers or systematically critical financial service providers, while formally private, are too large to fail and therefore can be assumed to be covered by an implicit underwriting obligation by the state. In these cases, the extent of the budget's exposure is more difficult to assess.

[20] In some cases, such as with the US Pension Benefit Guaranty Corporation, private pension schemes may be guaranteed by a public entity. This does not change the private nature of the guaranteed entity. However, the private schemes' financial position impacts the (public sector) guarantor's finances, potentially translating into a fiscal risk.

[21] Whether reserves (the "fund") behind a scheme are managed by privately or publicly owned asset managers is immaterial from the perspective of the scheme's public or private nature.

quasi-universal coverage, offering defined benefit pensions backed by assets. However, while their physical and financial assets perished in the war, their liabilities persisted and necessitated shifting toward pay-as-you-go financing.

- *Funded, privately underwritten and managed, defined benefit, or defined contribution schemes*. This paradigm is typical in countries where contributory pension provisions emerged out of occupational (company) schemes which then either maintained their predominance regarding consumption smoothing (for example, Australia, Denmark, The Netherlands, and New Zealand) or have become components in a more complex ("multi-pillar"[22]) pension systems. Participation in these schemes may be mandatory (as in the countries which partially or fully replaced their mandatory, public, pay-as-you-go, defined benefit social security schemes with privately managed, fully funded ones) or voluntary. While private underwriting and management, or full funding, do not imply an automatic choice between defined benefit or defined contribution schemes, over the past three decades a marked shift away from DB and into DC schemes has been taking place, primarily to reduce underwriters' (including employers') exposure to mounting underwriting risks.
- *Noncontributory, universal basic, or social pensions*.[23] The primary focus of these schemes is poverty alleviation in old age or in case of disability, either paying uniform benefits or supplementing other (public or private) income up to a socially acceptable minimum. Countries with universal coverage[24] and adequate benefits usually incorporate the poverty alleviation function of the pension system into the distributional features of their earnings-related public schemes and do not operate a separate basic pension pillar. In systems where mandatory earnings-related pensions are inadequate or are designed to play a smaller role, noncontributory universal basic or social pensions become more important (for example, Canada, Denmark, Iceland, and Thailand have basic pensions). Social pensions play a particularly important role in expanding pension coverage in countries with extremely high labor market informality where expanding contributory pension coverage requires addressing existing barriers to formality.
- *Noncontributory, earnings-related, publicly managed, defined benefit occupational schemes*. This arrangement is typical of armed forces and civil service schemes in low-income and middle-income countries. These schemes typically represent high and perverse redistribution from the general taxpayer—most of whom are typically poorer than scheme members—toward more affluent people enjoying job security and guaranteed wage income.

[22] Basic elements of pension systems are often referenced as "pillars," following the terminology introduced by the World Bank. First pillars are mandatory, pay-as-you-go, defined benefit or notional defined contribution public schemes; second pillars are mandatory, privately managed funded schemes (either defined contribution or defined benefit); third pillars are privately managed voluntary (supplementary) funded schemes. Basic (social) pensions are occasionally referred to as "zero pillars," and pension products offered by private financial sector providers are sometimes labelled "fourth pillars."

[23] "Social pension" is a common and somewhat loosely used term describing regular "pension-like" payments to people above the retirement age who do not have other pension income. Social pensions sit at the boundary of the pension system and social welfare schemes.

[24] Coverage refers to the share of the working-age population covered by pension insurance. Coverage among the elderly (that is, the share of people above the retirement age receiving a pension benefit) is often referred to as eligibility ratio, to differentiate it from coverage.

BOX 3. Point Systems and Notional Defined Contribution Schemes

Both point systems and notional defined contribution (NDC) regimes aim to combine pay-as-you-go financing with closer contributions-to-benefit links and to mimic, to some extent, certain features of defined contribution arrangements.

The term "point system" refers to an arrangement in which pension contributions (or the income base on which they are levied) are assigned a relative value, depending on how the individual's contribution performance (or wage) compares to either the economywide average contribution (or wage) or that of the scheme's affiliated members. Point systems are pay-as-you-go financed and defined benefit. Technically, contributors accrue points every year, the value of which can range between zero and the ratio of the maximum insurable and the average insured income. A contribution history of 40 years will result in 40 points if the person was earning at the average every year, or if his/her total lifetime earnings were equal to the sum of average wages in the same period, or if he/she earned twice the average for 20 years—point systems attribute no value to the timing of cash flows. At retirement, total points are multiplied by the average wage of the given year to arrive at a starting pension. The advantage of point systems is that they can ensure intragenerational horizontal equity while permitting some room of maneuver for governments regarding intergenerational equity, that is, the same relative contribution performance will result in the same relative portion of the cake, but the government can determine how big the cake is for each cohort. The "exchange" rate at which accrued points are translated into money (the first pension after retirement) can be recalibrated for new cohorts as required by changes in longevity, regulatory changes, or fiscal necessities.

Notional Defined Contribution schemes[25] register contributions paid, and returns to contributions, to individual accounts. Since NDC schemes are pay-as-you-go financed, and contribution revenues are used for paying current pensions, the account balances are "notional," that is, there are no securitized financial assets behind the balances. Likewise, the returns credited to individual pension accounts are also notional, that is, they are based on expected long-term macroeconomic and demographic developments instead of observed changes in asset prices and yields realized. At the time of retirement, notional account balances are translated into annuity flows in a manner similar to buying a single premium annuity from a private insurance company (except that NDC schemes avoid the high cost of commercially purchased annuity products and, being social security schemes, offering a larger risk pool). NDC schemes are very transparent and provide a strong link between contributions and benefits—recording contributions, notional balances, and returns in actual monetary terms make NDC accounts appear very similar, in the eyes of scheme members, to ordinary defined contribution pension accounts or retail investment products. However, this transparency also presents additional challenges: (1) the easy comparison of NDC account "performance" to that of ordinary savings or investment products may harm compliance or nudge governments toward crediting notional returns that are unsustainable and (2), recognizing all claims in monetary terms makes it difficult for governments to adjust pension entitlements to macroeconomic realities. Therefore, given that pension entitlements have an extremely long maturity, there is more than a negligible likelihood that future fiscal challenges may require governments to adjust past pension entitlements, which can undermine the advantages of such systems.

[25] NDC is also referred to as "nonfinancial defined contribution" in some literature.

All of the above-mentioned characteristics have pros and cons, and any choice or combination necessarily implies recognizing difficult trade-offs and externalities. Therefore, when governments consider introducing or changing pension systems, it is crucial to consider existing circumstances (including public expectations), necessary preconditions, and the likely consequences of these policy choices. While designing and implementing pension policy should remain the prerogative of national governments, international organizations and other stakeholders can assist governments in setting objectives realistically and bringing about the necessary preconditions to support national policy choices.

Pension systems

Most pension systems consist of more than one scheme, all of which need to be considered when evaluating the adequacy, efficiency, and sustainability of public pension spending (Figure 1). Across these schemes, participation may be mandatory or voluntary and the different risks covered may be separated into distinct branches or pooled together. If constituent schemes contain different characteristics, workers can (or be mandated to) participate in more than one of them to realize their complementary objectives. These systems are often referred to as "multi-pillar systems."[26] In other cases, such as similar schemes serving different occupational groups, the presence of multiple schemes may simply reflect undue fragmentation. Coverage, that is, whether some groups are explicitly excluded from pension insurance, is unrelated to whether the system is unitary or fragmented; a fragmented system may provide universal coverage and a unitary scheme may exclude certain occupational or other groups. Public pension schemes limited to paying only a flat, noncontributory universal benefit will have significantly lower expenditures than contributory earnings-related ones. But they may also have larger net liabilities as there are no dedicated payroll taxes offsetting expenditures. Current spending on such pensions can also increase substantially in the short run due to discretionary spending policies, such as a significant increase in the level of a social pension that takes immediate effect. In addition, assessment of a system's spending adequacy also requires attention to the coverage and benefit levels of private pension provisions and non-pension social transfers.

While the basic functions of poverty alleviation and consumption smoothing are usually present in every pension system, these functions do not necessarily require complex, multi-pillar structures. Numerous countries, including many transition economies only operate (and permit) a universal, defined benefit social security system that is augmented by various social assistance schemes also available to the elderly. Due to their design features, defined benefit schemes lend themselves more easily to internal redistribution and can, therefore, accommodate both poverty alleviation and consumption smoothing. However, the stricter the relationship between contributions and benefits become—which is an important characteristic of defined contribution schemes and was a policy objective often sought by social security reforms of the early 1990s in European transition economies—the more likely it becomes that governments would eventually need to operate a separate

[26] The term gained currency following the 1994 publication of the World Bank's seminal volume "Averting the Old Age Crisis."

FIGURE 1. Old Age Income Security: Constituent Elements and Functions

<table>
<tr><th>Typical Objectives</th><th>Building Blocks</th><th colspan="6">Typical Features</th></tr>
<tr><td>Consumption smoothing</td><td>Other group or individual investment and insurance products</td><td rowspan="3">Contributory, pre-funded, earnings related, DB or DC, privately underwritten, privately administered</td><td rowspan="6">MAIN SOURCES OF NON-WAGE INCOME IN OLD AGE</td><td></td><td rowspan="3"></td><td rowspan="3">PRIVATELY UNDERWRITTEN</td><td rowspan="4">CONSUMPTION SMOOTHING</td></tr>
<tr><td>Consumption smoothing</td><td>Voluntary, private schemes</td><td rowspan="4">PENSION SYSTEM</td></tr>
<tr><td>Consumption smoothing</td><td>Mandatory, private schemes</td></tr>
<tr><td>Consumption smoothing, possibly poverty alleviation</td><td>Social security scheme(s)</td><td>Contributory, pre-funded or pay-as-you-go, DB or NDC, earnings related, publicly underwritten and administered</td><td rowspan="3">SOCIAL SPENDING</td><td rowspan="3">PUBLICLY UNDERWRITTEN</td></tr>
<tr><td>Poverty alleviation</td><td>Basic or social pensions</td><td>General revenue financed, universal or targeted, flat or quasi flat, publicly administered, with possible restrictions</td><td rowspan="2">POVERTY ALLEVIATION</td></tr>
<tr><td>Poverty alleviation</td><td>Social assistance</td><td>General revenue financed, targeted, publicly administered</td><td></td></tr>
</table>

redistributive scheme for old-age poverty alleviations. The reason for this is that a strictly earnings-related pension scheme will pay benefits that are commensurate with contributions (in other words, the system's internal rate of return is the same for everyone, irrespective of earnings). Low earnings during the reference period used for benefit calculation may result in benefits that fall below the socially acceptable minimum income for the elderly.

The structure of a pension system determines how the three channels of macro-criticality—sustainability, adequacy, efficiency—may be assessed. When analyzing the fiscal sustainability of public pension schemes it is sufficient to consider the financial position of publicly underwritten schemes. In terms of spending adequacy, it is important to consider the entire pension system and such cash and quasi-cash social transfers that are available to the elderly and measure it against the government's social policy objectives or other benchmarks. For instance, both the Netherlands and South Africa limit their universal public pension provisions to a basic, anti-poverty scheme. However, whereas private coverage of the occupational supplementary pension schemes is more than 90 percent in The Netherlands, it is much smaller in South Africa. Thus, The Netherlands can pursue both poverty alleviation and consumption smoothing while its public pension expenditures are much lower than what they would be if both objectives were within the public pension system's remit. Assessing spending efficiency requires a broad approach: while some drivers of efficiency may be assessed by simply evaluating public pension scheme's regulations, others may require considering the interaction of pension spending with such areas as tax policy, labor supply and demand, and savings behavior. Note also that pension reforms under consideration should also take account of potential impacts on different schemes, for example, the implications of reforms aimed at reducing spending on contributory pensions for social assistance pensions.

ASSESSING THE MACRO-CRITICALITY OF PENSION SPENDING

This section discusses how pension systems can be evaluated from each of the three channels of macro-criticality for social spending: fiscal sustainability, spending adequacy, and spending efficiency.[27] It emphasizes the importance of evaluating public pension spending over a longer-term horizon and the need to consider the overall pension system when evaluating a public pension scheme.

A. Fiscal Sustainability

A public pension system (or scheme) may be defined as sustainable if, under current policies, known demographic developments, and conservative macroeconomic assumptions, it will not run into prolonged or permanent financing constraints over a suitably long horizon. Under this definition, “current policies” include, in addition to pension policy, other expenditure and revenue (including tax) policies, as well as such deficit and debt ceilings as may be applicable (with or without legal sanctions) which should be assumed valid over the same horizon as the sustainability assessment.[28] The “relevant horizon” can vary, but the choice of horizon should ensure that at least two subsequent generations’ working years are included.[29] This long horizon is necessary because of the slowly trending nature of pension spending which only shows significant enough changes to trigger policy responses over a sufficiently expansive horizon and the long time it takes—often measured in decades—for reforms to demonstrate their full impact. The sustainability of publicly underwritten pension schemes should also be analyzed within a broader fiscal context, especially in such cases where the government is the main or exclusive employer of a scheme members.[30]

If the objectives of other public policies can be achieved more efficiently, or higher tax or debt levels are permissible, then the resulting fiscal space may be reallocated to finance higher pension spending—the very need for this adjustment, however, indicates that current pension rules and policies result in a system that is out of balance and requires additional resources to maintain its solvency. Financial sustainability is determined by the underwriter’s capacity to finance its obligations without undue adverse economic or social consequences. Pension spending is unsustainable

[27] As explained in the Strategy for IMF Engagement on Social Spending, macro-criticality is an important guiding principle for when to engage on social spending issues in bilateral surveillance, including pension spending. The IMF has long recognized that it should take relevant structural issues into account. To this end, the IMF’s engagement with members on these issues has been guided by the principle of "macro-criticality” to ensure consistency with its mandate. Specifically, a structural issue has been deemed macro-critical if it affects, or has the potential to affect, domestic (for example, growth and inflation) or external stability. At the same time, it is recognized that the IMF should avoid duplicating the efforts of international development institutions that often have greater expertise in these areas (Box 4).

[28] Current policies are equivalent to current (legislated) rules and their (also legislated) future change, if such rules exist. In some cases, policy objectives may be gleaned from more abstract documents, such as constitutional laws. However, the determination of “current policies” can be problematic in the absence of a clear statement of policies in a legal or other high-level document, or if the declared policy objectives are not borne out by the existing rules. In such cases, current policies may be inferred from discretionary decisions or their impact. For instance, if there is no legal provision for pension indexation but periodic, discretionary decisions have continuously increased pensions along a trend similar to wage growth, then wage indexation can be assumed to be “current policy.”

[29] Actuarial assessments may also be applied on an infinite horizon.

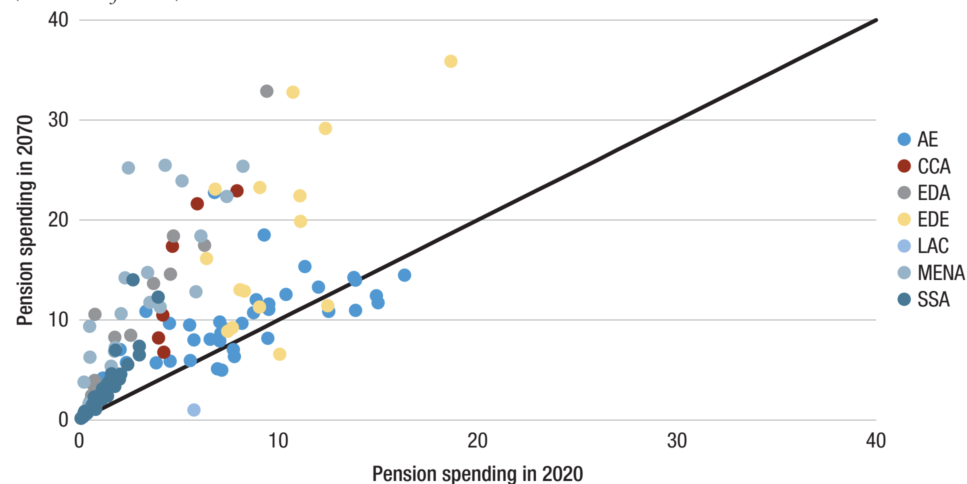
[30] In case of public employee pension schemes, keeping the government’s employer contributions at sufficiently high levels may limit the government’s capacity to pursue other policy objectives.

if, under current rules, continuously honoring pension entitlements accruing under current pension policies requires reducing other public spending, increasing taxes or assuming growing debt. A pension system, when viewed in isolation, may be unsustainable but the government may have the capacity to continuously reallocate resources to maintain its long-term solvency. It is important to note, however, that if a pension system's design is such that it creates growing unfunded liabilities, at some future point (or over a sufficiently long projection horizon), its operation is bound to exhaust the government's financing capacity.

An analysis of the fiscal sustainability of a public pension system should start by examining spending levels and pressures. For most pension systems these are readily available and are regularly published in the IMF *Fiscal Monitor.* A "Pension Reform Toolkit" for simulating the long-term impact of different baseline assumptions and various parametric reform options is available from the IMF Fiscal Affairs Department (FAD). Long-term pension spending pressures depend on a combination of the nature of the pension system, the coverage and generosity of the system, and demographic developments.

FIGURE 2. Projected Change in Pension Spending, 2020–70

(Percent of GDP)



While the sustainability of public pension schemes can impact overall fiscal sustainability, the relationship between the two is not deterministic. Fiscal sustainability assessments need to incorporate the analysis of public pension system's net liabilities and their maturity. However, while a public pension scheme may be deemed sustainable as defined earlier, whether it can indeed be sustained (for example, through raising additional public revenues) will depend, among other things, on available fiscal space and the capacity to levy additional taxes and assume further debt.

Public pension spending accounts for a high share of total public spending in most advanced and emerging market economies with universal and mature pension systems, while younger and often less affluent countries will also likely see increased pension spending. Taking up 10 percent or more of GDP on average in advanced and emerging market economies, pension spending is usually the biggest single expenditure item so that even small fluctuations can have a material impact on public finances (for example, on central or general government deficits). Demographically young countries are in the process of establishing or expanding their pension systems, with design features that can

critically impact the future of public finances. These countries may face fiscal pressures stemming from separate—albeit related—sources: demographic transition and the policy-induced expansion of pension benefit coverage and generosity. Prudent design and management of public pension spending and its financing is therefore crucial for ensuring overall fiscal sustainability.

- *Advanced economies and European emerging market economies* in the later stages of the demographic transitions[31] have, with a few exceptions, universal earnings-related schemes. Their pension expenditures are already high[32] but expected to increase only moderately in the next decades reflecting not only a slowing rate of aging but also recent policy reforms. However, many of these pension systems have been reformed by offering declining replacement rates or increasing retirement ages (reducing the ratio of beneficiaries to contributors) over time. In those advanced economies in which public pensions are limited to a basic, anti-poverty function (such as Australia, Ireland, The Netherlands, New Zealand, and United Kingdom), pension expenditures are relatively low and expected to rise somewhat faster due to aging populations since there is less room for adjusting benefit levels.
- *Emerging market economies* show a fairly mixed picture both demographically and in terms of the paradigms pursued through their pension policies. In middle-income Asian economies (such as China, Thailand, Vietnam), many countries often have incomplete pension coverage in their contributory schemes but are aging rapidly. Therefore, their public pension spending is expected to increase significantly driven by demographics and the potential expansion of coverage. In addition, spending increases may be reinforced as pension generosity expands.
- *Low-income countries*, with a few exceptions, are still at an early stage of the demographic transition. They spend little given that their pension systems typically have very narrow coverage, often paying generous benefits to a small portion of the elderly. A key challenge is how to increase the adequacy of spending to address current, and prevent growing, poverty among the elderly. Main challenges include the expansion of coverage in a fiscally sustainable manner which is, to a large extent, determined by countries' capacity to tax, addressing inequities inherent in existing arrangements and improving the administrative, fiscal management, and financial sector conditions crucial to the efficient operation of pension systems. The characteristics of most low-income countries (high informality, limited administrative capacity, young but fast-aging populations) present special trade-offs that can have long-term welfare and fiscal consequences. Averting old-age income poverty can often be achieved only by universal flat (uniform) pensions which, especially when means tested, may offer disincentives to participation in contributory arrangements. Expanding contributory pension schemes to achieve universal coverage may also be hampered by persistent informality and administrative-technological constraints. Demographically young countries—as many low income-countries are—also need to be particularly careful with scheme parameters: small imbalances and initially large positive cash flows may obscure poor design which, over time, may generate large net liabilities and financing difficulties. Under these conditions, prevention of old-age poverty should be the primary objective of governments, with consumption smoothing objectives introduced as economic and fiscal conditions allow.

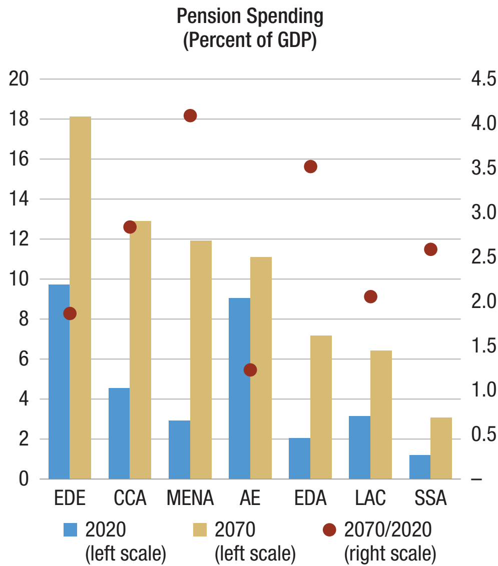
[31] The demographic transition describes a process that societies go through as determined by fertility and mortality characteristics. Stage one is characterized by high fertility and high mortality; stage two and three are driven by high mortality and initially fast, later slower declines in fertility. At stage four, low mortality is coupled with low fertility. Finally, at stage five, fertility may rise slightly, while mortality remains low.

[32] As a rule of thumb, earnings-related universal schemes spending above 10 percent of GDP merit further scrutiny.

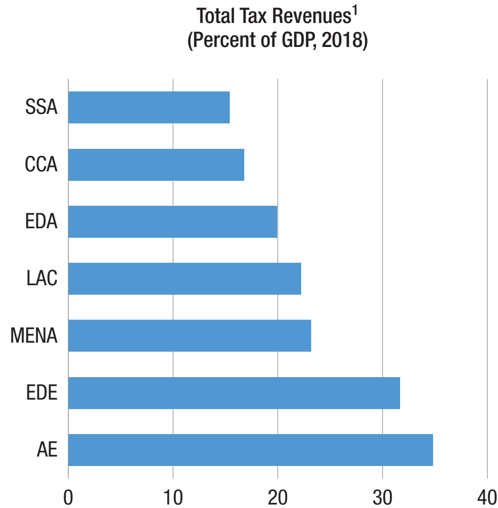
Increased pension spending will necessitate allocating greater resources to the pension system, raising issues regarding the capacity to finance this higher spending. There are four possible sources of financing: higher payroll taxes, greater general revenue financing (other tax and non-tax revenue), increased debt, and lower spending on other public goods and services. Each financing option may present governments with difficulties (Figure 3). Where debt is already deemed to be high, this leaves less room for new debt to finance pension spending. The situation is similar for payroll

FIGURE 3. Higher Pension Spending vs. Capacity to Finance

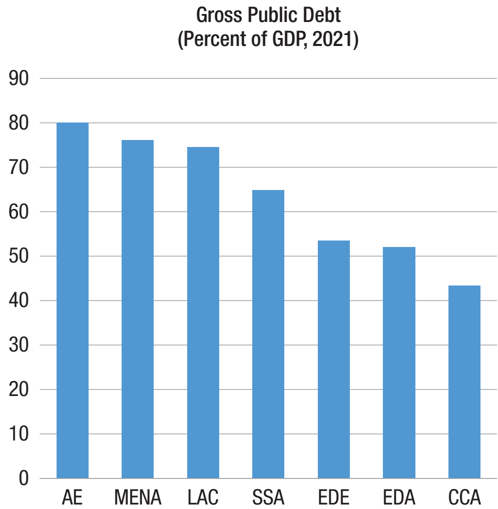
Pension spending is projected to increase ...



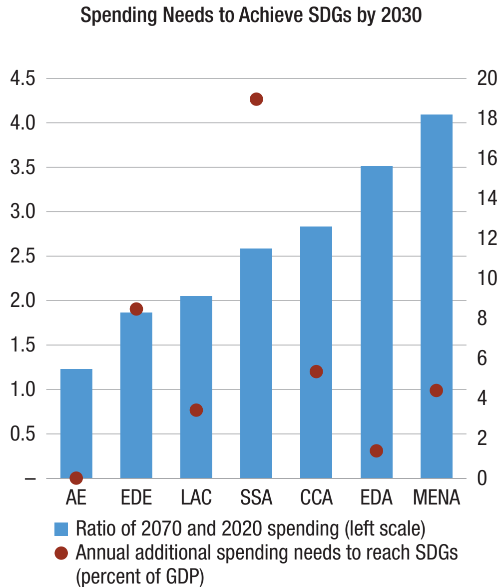
... while taxes are often already high ...



... but debt financing may be difficult ...



... while other areas need additional spending, too.



taxes, where already high contribution rates can make further increases politically difficult and may encourage informality and other forms of non-compliance. While financing from general taxation can be used to supplement dedicated payroll taxes, their use may also be limited where there is a

desire to maintain a strong contribution-benefit link. Finally, lower spending in other areas can compromise growth potential and, especially in middle- and low-income countries, may jeopardize needed investment in physical and human capital.[33]

Assessments of the fiscal sustainability of pension spending should be accompanied by analyses of pension benefit adequacy. For instance, many advanced economies have reduced projected spending pressures through reforms (including retirement age increases, amending benefit calculation and indexation rules, and tightening eligibility criteria) that gradually decrease the generosity and adequacy of pension benefits. When combined with a rising share of elderly in the voting population, this raises concerns about the political sustainability of these reforms. Similarly, countries where current policies imply persistently low coverage in the face of a quickly growing elderly population (as in various Southeast Asian economies) will come under pressure to expand the coverage and generosity of pension benefits.

The fiscal sustainability of public pension schemes is determined by the ability of governments to finance existing pension deficits and expected increases. While public pension schemes—such as social security schemes and many public occupational schemes—are almost universally underfunded or unfunded (and, therefore, technically insolvent if evaluated according to the same standards as private insurance companies), the sustainability of these schemes is ultimately determined by the government's ability and willingness to ensure sustainability through adjusting contributions, taxes, and expenditures as required. Technical insolvency simply means that liabilities exceed assets—and the fact that most public pension schemes operate on a pay-as-you-go basis and without reserves commensurate with accrued liabilities (which often far exceed 100 percent of GDP) reflects government design choices. Many schemes are also running deficits, that is, cannot pay their current obligations without budget subsidies, and thus are also illiquid.[34] The reason for this is partly in design deficiencies but equally often in historic shocks—such as hyperinflationary periods, wars, the breakup of countries, and nationalizations—which reduced (or entirely eradicated) the value of financial or physical assets while leaving defined benefit obligations unchanged.

Monitoring public pension schemes' financial health only through the indicators applied to those that are privately underwritten can therefore be misleading. While the level of unfunded liabilities measured at a given point in time may be cause for concern, it is important to note that public schemes are assumed to be "going concerns." In other words, their liquidation (when all accrued liabilities would need to be paid out to members) is not part of government policies, except for rare occasions.[35] Thus, what matters is the dynamics of unfunded liabilities: whether they are growing or declining. Through pension reforms, governments have instruments at their disposal to reduce the level and to reverse the trend of unfunded liabilities. In more technical terms, accrued-to-date liabilities (ADLs), conceptually similar to a scheme's liquidation value, measure entitlements earned up to the present (considering or disregarding future revaluations due to assumed wage growth) and

[33] For a more detailed discussion of the spending needs required to achieve SDGs, please refer to Fiscal Policy and Development: Human, Social and Physical Investment for SDGs.

[34] If assets are valued less than liabilities (at the given horizon and for the group of members defined in accounting and reporting regulations), the pension scheme is insolvent; if it cannot meet its current payment obligations, it is illiquid. In theory, the two states of financial distress do not necessarily follow from each other: an economic entity may have sufficient assets but may have difficulties liquidating them in a timely manner (illiquidity without insolvency); or it may have cash on hand to meet its obligations—but only for a while (insolvency without illiquidity).

[35] For instance, when a pay-as-you-go defined benefit public pension scheme is closed down and the accrued pension entitlements are partly or fully paid out in the form of recognition bonds or other quasi-securities.

compare them to current assets. ADLs may increase or decline, depending on the complex interplay of changing pension policies and the net impact of attrition across new and existing pension entitlements.[36]

From the perspective of establishing macro-criticality, actuarial assessments, and long-term projections are crucially important.[37] In addition to stock indicators (such as ADL or open-group net liabilities), expected net flows (surpluses and deficits) should also be scrutinized, over the same horizon as the one used for stock indicators. Even if a pension scheme appears to be financially healthy, according to a financial gap measures, there may still be spells of substantial deficits or surpluses due to, for instance, past reforms becoming effective or demographic volatilities. While initiatives to gradually move social security pension schemes' accounting standards toward full assessment and disclosure of their balance sheet position[38] have been under way for several years, standardized and broadly observed new reporting standards have not yet emerged from these efforts. Thus, due caution needs to be exercised in analyzing fiscal data pertaining to public pension system (Box 4).

BOX 4. Definition of Public Pension Spending

Assessing and comparing pension spending is fraught with measurement and reporting issues. To ensure completeness of public financial reporting and the analyses of the pension system—including intertemporal and cross-country comparability—it is necessary to include in "pensions" all relevant spending items. Below, typical reporting issues are listed which need to be considered in compiling pension spending figures:

- Social security institutions, as well as public occupational schemes, are usually not part of central government and function as extra-budgetary funds or other reporting entities only covered by general government reports. In the absence of general government financial reporting, it is important to obtain financial reports from these extra-budgetary and extra-governmental pension entities.
- Pension benefit payments—especially for public occupational schemes—may not be reported in an institutionally segregated manner but may be included in the wage bill. This practice is more common for military/police schemes than for civilians. It is important, therefore, to include these spending items in total pension spending.
- Social security schemes do not prepare balance sheets: social security "balance sheets" are cashflow statements that only record revenues realized and expenditures executed in a given fiscal year. Annual financial results reveal little about the system's long-term

[36] The EU now requires all member states to regularly report public schemes' ADLs and to explain changes between two reporting periods by attributing them to various factors, such as policy changes; methodology, macroeconomic, demographic and other assumptions; or maturation (exit) of entitlements. Open-group valuations are considerably broader and consider entitlements accruing in the future as well as expected future contributions. These may be measured over very long horizons and cover generations of workers not yet in the labor market (or not even born). Open-group assessments can reflect policy changes and expected future economic developments; conceptually, they require long-term projections of revenues and expenditures but, in addition to presenting financial flows, they also translate schemes' financial position into a financing gap stock indicator.

[37] It should be noted that many countries already require their social security and public occupational schemes to conduct regular actuarial assessments and produce long-term projections.

[38] At least in terms of ADLs, which is the most restrictive of the valuation concepts

financial health, especially in case of newly introduced schemes where contributions far outweigh benefit spending.

- Public pension entities are often used as payment agents for other welfare spending programs due to their administrative capacity, individual records, and network of offices. It is important to ensure that spending on benefits is cleaned of any non-pension items.
- Pension spending items are occasionally re-classified under a different name and/or moved off a pension agency's financial statement into a central government agency (for instance, the ministry responsible for other welfare programs) or another extra-budgetary fund such as a health insurance scheme. Such reclassifications are known to have happened regarding minimum pensions (that is, the part of an earnings-related pension equal to some minimum) and "unearned pensions" (that is, when a job or status warrants a pension in excess of what the person's contributions and the standard pension rules would imply—such as judges, prosecutors, miners, sportsmen, national heroes, etc.). Checking whether any such re-classification has occurred should be standard practice.
- Contingent liabilities generated by explicit government guarantees issued to privately underwritten pension obligations also need to be estimated. Common cases include rate of return guarantees, minimum annuity guarantees, and taking over entire occupational (company) pension schemes if their failure to meet regulatory funding levels threatens servicing their benefit obligations. These guarantees may not be provisioned against, in which case the fiscal risks may directly translate into additional government spending.

Finally, in most cases, replacing pay-as-you-go financing of public pension schemes with full funding is neither possible nor necessary. The size of additional assets required for fully funding these schemes is beyond the means of most countries and it is questionable whether setting aside such reserves—which, most likely, would be invested in the domestic economy, used to finance public debt, or, to a lesser extent, invested abroad—would indeed make a positive impact on growth, equity, or efficiency. What matters is a commitment to producing long-term projections and making them an integral part of social and economic policymaking.

B. Adequacy of Pension Spending

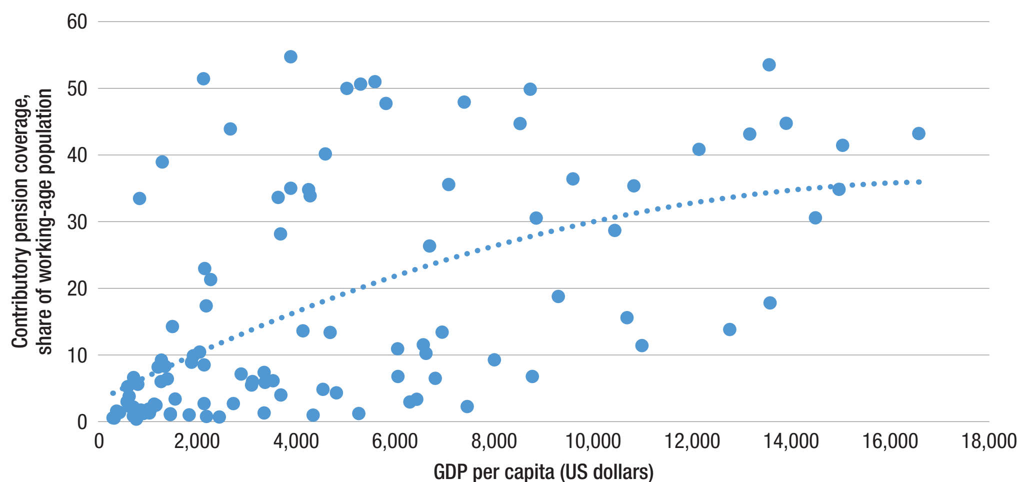
Spending adequacy refers to whether public pension spending is sufficient, at the aggregate level, to achieve a government's social policy objectives. While seeking universal pension coverage to address old-age poverty is an objective most countries would strive for, in the case of public pension systems universal consumption smoothing requires significantly higher fiscal resources. Note that it is possible for aggregate spending to be deemed adequate even though coverage and benefit levels are inadequate for some individuals. For instance, countries could spend significant amounts on earnings-related pensions, including civil service or formal sector pensions, while many individuals do not receive a benefit sufficient to achieve even the basic poverty alleviation objectives of pension systems. Note also that an assessment of the adequacy of public pension spending requires an integrated assessment of the different schemes within the system, including privately financed schemes.

Labor market characteristics and fiscal space are key determinants of pension coverage and eligibility. Low- and middle-income countries often struggle with high levels of informality, which manifests itself through low tax and contribution compliance. Typically, higher per capita GDP correlates with higher formality and compliance, resulting in higher coverage. However, in many

low- and middle-income countries, economic growth has failed to translate into higher coverage through contributory schemes or, as in eastern Europe, economic growth has not stopped coverage from declining. Among other factors, this may be due to difficulties of revenue administration in accommodating major shifts in market structure (including the multiplication of taxpayer entities) and predominant nonstandard forms of labor, as well as the disincentives for compliance caused by the high overall cost of moving from the informal into the formal sector. In these cases, coverage may also be expanded by introducing non-contributory pension benefits with eligibility linked to individual characteristics such as age, residence, or access to other sources of income. However, at least over the short term, introducing and expanding even these schemes may require significant improvements in many low- and middle-income countries' capacities to tax and may need to be measured against competing development needs on limited fiscal space.

Reflecting the above, the predominant driver of adequacy—pension coverage—varies substantially across countries, from almost universal coverage in advanced economies to large coverage gaps in developing economies. While there is a positive correlation between per capita GDP and pension coverage (Figure 4), actual coverage can vary greatly within regions and across countries at similar levels of development. It is also important to note that while the relationship between development and coverage seems to hold cross-sectionally, growth did not necessarily increase coverage over time in all individual countries: indeed, social security coverage appears to be relatively sticky, with the growth of per capita growth exerting only a limited effect on coverage. Indeed, there are countries for which coverage declined despite growing per capita income.

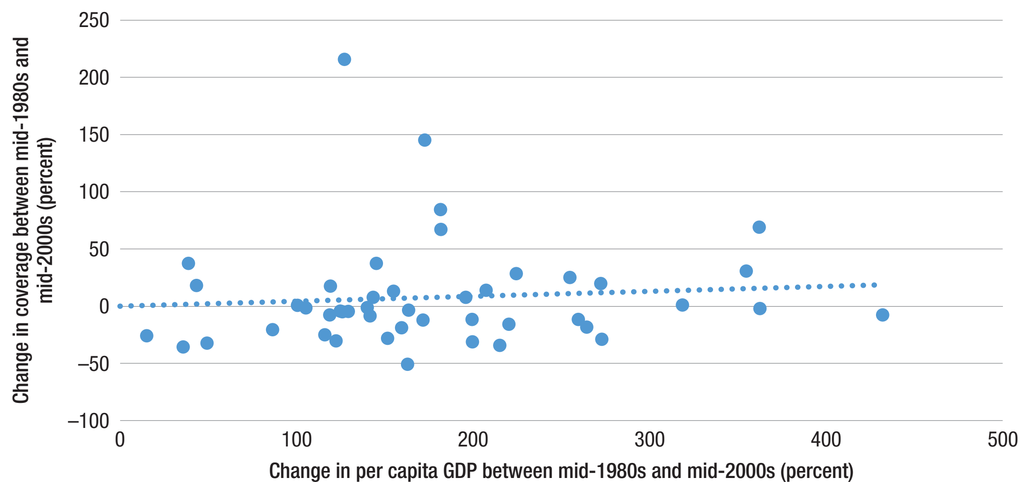
FIGURE 4. Per Capita Income vs. Social Security Coverage



The relationship between economic growth and contributory coverage appears to be relatively weak, especially in countries with very high levels of informality. Therefore, it should not be assumed that economic growth will automatically solve the problem of pension coverage. Structural, legal, cultural, and other factors should also be considered, as well as labor participation and compliance levels, and the incentives and disincentives inherent in tax, employment, welfare, and pension policies. In other words, in the absence of well-designed policy reforms, countries do not automatically "grow into" higher pension coverage (Figure 5). In contributory schemes, eligibility (whether an elderly person is entitled to a pension) is determined by coverage and contribution compliance during their pre-retirement years. Thus, in contributory schemes, high coverage results in high

eligibility and future eligibility rates can be predicted from current coverage rates. In noncontributory, basic pension schemes, eligibility is unrelated to compliance during working years and thus high eligibility is relatively easier and quicker to achieve, at least from a regulatory perspective.

FIGURE 5. Growth Has Limited Impact on Coverage



What constitutes an adequate benefit level depends on government policy objectives but as a minimum standard public pensions should, in combination with other transfers, address old-age poverty. For contributory earnings-related schemes the objective is to ensure relative benefit adequacy, that is, to prevent a major decline in consumption levels comparable to that enjoyed over one's economically active years. While the appropriate level is a matter of social preference, international practice, and International Labour Organization (ILO) standards (Box 5) suggest a target replacement rate (that is, the ratio of the pension benefit in retirement to pre-retirement earnings) in the 40–60 percent range. From the poverty alleviation perspective (for example, achieved via redistributive earnings-related schemes or a dedicated social pension scheme), the absolute adequacy requires a benefit set at a level that avoids at least extreme poverty. In setting this level it is also important that the level is not so high as to undermine incentives to contribute to earnings-related public pension systems (or to set aside precautionary private savings where feasible).

BOX 5. Benefit Adequacy at the Individual Level

The International Labour Organization Income Security Recommendation No. 67 sets the general guiding principles regarding coverage, benefit adequacy, and financing for achieving income security for all. These principles were further developed by later standards, such as the Social Security (Minimum Standards) Convention (No. 102), the Invalidity, Old-Age and Survivors' Benefits Convention (No. 128) and various accompanying recommendations.

Recommendation No. 67 states that the general objective of income security schemes should be to "relieve want and prevent destitution by restoring, up to a reasonable level, income which is lost by reason of inability to work (including old age) or to obtain remunerative work or by reason of the death of a breadwinner." It also states that "income security should, if possible, be organized as far as possible on the basis of compulsory

social insurance...," and recommends that social insurance should be extended gradually "to all workers and their families, including rural populations and the self-employed."

According to the Recommendation, benefit levels should be adequate in terms of income replacement, but at the same time potential adverse impacts on output and employment should be taken into account: "Benefits should replace lost earnings, with due regard to family responsibilities, up to as high a level as is practicable without impairing the will to resume work where resumption is a possibility, and without levying charges on the productive groups so heavy that output and employment are checked."

Signatories to the Social Security (Minimum Standards) Convention of 1952 (No. 102)[39] are expected to ensure that earnings-related contributory old-age pensions for someone with at least 30 years of affiliation should be no less than 40 percent of their previous earnings. Later conventions established higher standards of 45 percent, and 55 percent for low earners. The Convention also requires that flat-rate pensions should not be lower than the above benchmarks, relative [to] the earnings of a typical "ordinary (unskilled) adult male labourer." The Convention also covers means-tested benefits to elderly persons, establishing that these benefits, together with other resources available to the household, should be "sufficient to maintain the family of the beneficiary in health and decency."

Empirical studies show that 40 percent of "low earnings" is insufficient to prevent poverty entirely in many countries. Eurostat defines low earnings as two-thirds of the median gross earnings of all employees, estimated by surveys of establishments employing 10 employees and more. The relative poverty line is defined as a certain proportion (40, 50, or 60 percent) of the median equivalized household income. In all EU Member States, 40 percent of the low earnings threshold is below the relative poverty line commonly used in the European Union.

C. Efficiency of Pension Spending

Public pension spending is efficient if coverage and benefit levels meet the policy objectives of the government without causing undue welfare losses, labor or capital market distortions, or tax avoidance. Spending inefficiencies can arise through shortcomings of pension system design and implementation (including administrative) problems. Design shortcomings typically stem either from (1) disregarding structural conditions and administrative capacity constraints (for example, relying entirely on contributory arrangements in a countries with high informality; introducing private, funded schemes as dominant scheme in economies with underdeveloped capital and financial markets; or establishing basic universal pension schemes without adequately functioning citizen registries) or (2) using the pension system to address problems in other policy areas, such as low labor force participation rates; frictional or structural unemployment; unavailability, poor design or inadequacy of other social spending programs; and an oversized public sector.[40]

[39] Since its entry into force, the convention has been ratified by 59 countries.

[40] For instance, in the early 1990s some European transition economies decided that excess labor should be accommodated by higher inactivity rates, that is, extensive use of early retirement and disability pensions, rather than as higher unemployment. This was an inefficient way of dealing with structural unemployment, given the high direct impact of pensions in permanently reducing labor supply.

The existence of inefficiencies in public pension spending can arise through myriad design features. Selected examples of *design inefficiencies* include:

- Coverage gap in absolute or relative terms. Coverage (that is, the share of the working-age population participating in pension schemes) is crucial to ensuring that workers, when reaching the retirement age, are eligible for a pension.[41] A critically important condition of efficient pension spending is the size of the coverage gap. The coverage gap may be measured in absolute terms, against some widely accepted universal target, such as universal coverage. It may also result from comparing a government's own policy target, as say described in laws and regulations, against actual coverage. Whereas an absolute coverage gap can reflect a government's policy objectives (as constrained by various fiscal, social, or political factors), relative coverage gaps emerge from informality in the labor market and the weakness of systems designed to enforce labor contracts, taxes, and contribution compliance.

  In this respect, coverage indicators typically rely on the number of workers registered with agencies administering mandatory pension insurance (social insurance agencies or mandatory private schemes). Registration, however, doesn't necessarily imply compliance: workers may not actually contribute regularly (or at all) despite having a record with the scheme administrator. It is, therefore, important to understand how well the number of registered scheme members reflects the number of people who are indeed accruing pension entitlements or financial pension savings.
- Target benefit levels that are unsupported by contribution rates and other regulatory parameters. This is a typical design issue in defined benefit social security systems and is also common in civil service pension schemes. In well-designed defined benefit schemes, the target replacement rate should not become disconnected from the contribution rate, life expectancy at retirement, the sustainable implicit rate of the return of the system, and the type of mechanism used to index pensions.
- Benefit levels that are insufficient to alleviate old-age income poverty or meet pension policy's social objectives. Adequate spending at the aggregate level may mask inadequate benefits for potentially large groups. If, for instance, all pension spending is applied toward paying relatively high pensions to former civil servants, spending adequacy (and even sustainability) may hold, yet spending inefficiencies are reflected in low coverage levels inconsistent with the systems' basic social policy objectives. In other words, *adequate spending* does not necessarily translate into *adequate benefits at the individual level*.
- Special treatment of certain occupational or other groups that may no longer be warranted. Significant horizontal inefficiencies arise when some groups receive "special" pensions which are disproportionately generous relative to their (or their employers) contributions. Typical cases include the armed forces, judges, prosecutors, government officials, and people employed in jobs perceived as physically demanding or hazardous (often including miners, steelworkers, industrial divers, but also ballerinas, brass-players, and teachers). Historically, most of these easements were warranted by working conditions and the resulting occupational health risks. Many of the jobs covered by these provisions have gradually become easier and safer (or simply ceased to exist) over time without the regulations being revised accordingly. Also, occupational groups identified by sectors and industries have often become internationally more

[41] The eligibility ratio measures the share of the elderly population eligible for a pension benefit. In contributory schemes, the eligibility ratio is mainly driven by the coverage observed during retiring cohorts' working careers.

differentiated (for instance, administrative employees in a police force or the engineers in a mining operation may not necessarily merit the same early retirement easements as policemen "on the beat" or underground physical workers).

- Exclusion of certain groups from mandatory social insurance. Groups typically excluded from mandatory social insurance tend to be less likely to save or contribute voluntarily, even if the institutional and legal framework so allows, leading to inadequate incomes during retirement. These problems may be compounded if public schemes operate at a deficit requiring financing that is borne by all taxpayers, including people excluded from mandatory public pension schemes. Such exclusions may be driven by either pension policy objectives or by recognized capacity constraints to ensure compliance. Typical cases include the self-employed, farmers, artists, part-time employees, and employees of small enterprises. Certain exclusions (such as that of part-time employees) may be more harmful to women's social security coverage and future pension benefits, adding a gender policy angle to pension regulatory issues.
- Exempting certain types and brackets of labor income from the contribution base. Remuneration packages of civil servants and public employees often include non-pensionable items (or allowances) where the exemption is aimed to reduce governments' labor costs (including contributions) and future pension obligations. This practice not only weakens the effectiveness of public sector wage setting but may also significantly distort the distribution of pension benefits. The use of contribution thresholds,[42] often intended to encourage labor supply among new and less educated labor market entrants and workers, can undermine coverage expansion and can have unintended redistributive consequences if reflected in inadequate pension benefits in retirement.
- Generous social pensions and minimum pensions that diminish incentives for compliance with contributory scheme rules. The design of social pension (or, more broadly, poverty alleviation schemes) may weaken incentives to fully participate in the contributory pension system or to correctly report contribution-liable earnings. This may lead to both fiscal sustainability and equity issues when benefits are viewed as net transfers and eligibility is difficult to effectively control.
- Final salary schemes. DB pension calculation rules may be based on career average earnings, final salaries, or anything in between. Final salary schemes, which are historic remnants of public sector or civil service schemes that wanted to reward loyalty and long service time, link pension benefits to end-of-career incomes. In a world with heterogenous age-earning profiles, final salary schemes can introduce unintended and perverse redistribution across professions, careers, and people. These schemes can also provide incentives for unwarranted end-of-career promotions and salary increases unrelated to actual performance and add further upward pressure on pension spending. Further drawbacks include disincentives to labor mobility.
- Outdated definition of disability and little focus on reintegration. Disability is usually the second-largest pension expenditure item after old-age pensions. Inefficiencies may result from both design and implementation issues. Design shortcomings are often related to using a medical definition of disability without reference to the person's remaining capacity to work. A further problem is related to the changing perception of what constitutes "health" and how

[42] Contribution ceilings are also common, although they typically don't raise similar efficiency issues.

this is reflected in social security regulations.[43] Also, disability policies often pay insufficient attention to measures promoting reintegration into the labor market and enabling people with disabilities to lead an economically independent life.

- Expansive eligibility for survivor pensions. Survivor pensions are usually paid to spouses, direct descendants, and ascendants. Occasionally, they are extended to relatives two or three times removed, to working-age survivors irrespective of their labor market prospects, and to persons already receiving adequate pensions. Loose eligibility rules not only generate additional spending pressures but also negatively impact labor supply decisions.
- Early and deferred retirement options without actuarially neutral deductions and increments. Early retirement options may render the increase of statutory retirement ages ineffective and result in undesirable early exit from the labor market and undesirable increases in the number of pension beneficiaries. It is important to ensure that both early and delayed retirement leads to benefit adjustments reflecting actuarial neutrality. Early retirement regimes, even assuming actuarial neutrality, may be cause for concern from a labor supply and output perspective if they imply an early exit from the labor force.
- Incompatible regulations may hinder labor market mobility. Differences across occupational pension schemes (covering certain industries, sectors, professions, or employers) observing, for example, different vesting, benefit accrual and calculation, and liquidation rules may imply penalties for members wishing to switch into another scheme. This problem can be particularly difficult in the case of defined benefit arrangements, although international social security agreements (that is, partial, proportional benefit entitlements) may offer useful analogies for addressing this type of inefficiency.
- Labor market impact of pension regulations. Pension systems impact labor supply and labor demand decisions through the design of payroll taxes, retirement conditions, and benefit levels. Higher contribution rates increase total labor cost and may reduce labor demand or increase informality. Whether it is labor demand or supply that reacts more to higher contribution rates depends on the share of contributions borne by employers and employees, as well as employees' relative bargaining position, that is, the extent to which the marginal payroll burden is shouldered by employers or employees. The impact of minimum contributions may be particularly important for workers with low wages whose effective payroll tax rate may become so high (due to the nominal contribution minimum) as to crowd out formal employment. When considering changes to the contribution rates or bases, it is therefore also important to assess the likely impact on labor supply and demand decisions. In terms of retirement conditions, inefficiencies may arise if early retirement regulations or occupation-specific easements permit early exit from the labor market. These rules not only jeopardize pension systems' fiscal sustainability but also reduce labor supply. Further inefficiencies may arise if certain types of labor—such as part-time employment and temporary and seasonal work—are excluded from pension insurance.
- Taxation of pensions may also be a source of inefficiencies both from a fiscal revenue angle as well as from an equity perspective. While the literature is inconclusive regarding the optimal taxation of pensions[44] and the differences across pension schemes (especially whether they

[43] Interestingly, higher per capita income, better health care and occupational safety, or the structural changes replacing mining, heavy industries (or at least their demand for labor), have not reduced the uptake of disability pensions. Also, the structure of ailments leading to new claims is shifting toward mental and social-behavioral causes.

[44] For further reference, please see Chapter 2 in *The Taxation of Pensions*.

accumulate reserves and how closely benefits are linked to taxable earnings) make it difficult to establish generally applicable advice, some basic considerations do emerge. Pensions are deferred wages and, as such, should be subject to taxation once: at the contribution phase, during the accumulation phase or at payout. In progressive income tax regimes, the stage at which pensions are taxed has important welfare consequences, as pensions typically fall into lower tax brackets than the wages on which they are based. It is also important to bear in mind that reforming the taxation of pensions (by either subjecting them to taxation for the first time or changing the phase at which they are taxed[45]), requires avoiding discontinuities in pre- and post-reform benefit levels either for existing pensioners or new retirees.

Inefficiencies can also reflect implementation shortcomings. Selected examples of *implementation inefficiencies* include:

- Disregard for the critical administrative preconditions of implementation. This source of inefficiency can take various forms. Verifying eligibility criteria may be hampered by incomplete, unreliable, or non-existent citizen, taxpayer, corporate, or residence registries. Inadequate registries may make even relatively simple basic pensions difficult to efficiently administer. A common problem, in this regard, is the lack of reliable death registries and the consequent issue of "ghost beneficiaries". Concerning the replacement of public DB schemes by privately managed, mandatory, funded pension schemes ("second pillar" schemes), while such reforms are a matter of social preferences, it is important to ensure that the fiscal rules, financial and capital market regulations, accounting and disclosure standards, and administrative preconditions are in place before such reforms commence.
- Administrative capacity constraints and incompatibilities. Revenue administration and enforcement constraints may also lead to inefficiencies. For instance, the inability to uniformly enforce contribution (or tax) compliance may lead to higher contributions (or taxes) collected from compliant groups or general revenue financing, The differences in terms of incidence, lifetime taxes and benefits may lead to unintended redistribution across income groups and cohorts—for instance, from poorer to better-off individuals or households. Lack of information or the means of applying for or accessing benefits may also compromise the efficiency of pension scheme designs. Harmonizing delivery and IT platforms may also contribute to higher labor mobility.
- High administrative costs can have substantial fiscal impact. Operating pension schemes generate fixed costs and are subject to scale economies: smaller schemes and more complicated rules will cost more to run than larger and simpler ones. While the variety of pension schemes makes it difficult to establish clear rules of thumb, it is important to note that, in some cases, a nontrivial share (as high as 25 percent or more) of revenues is consumed by operating expenses. Analyses of pension schemes should therefore cover administrative costs as these deductions may translate into fiscal sustainability and adequacy problems.

[45] Referring to the three theoretically possible tax regimes, pension taxation may be described either as taxed-exempt-exempt (TEE), exempt-taxed-exempt (ETE), or exempt-exempt-taxed (EET), depending on which stages incomes are exempt or taxed. If gross wages (employee contributions) are income tax liable but pension benefits are tax exempt, it's a TEE tax scheme. Likewise, if contributions are deductible from the personal income tax base but pensions themselves are taxed, then it's an EET regime. The middle letter refers to investment income in schemes with individual accounts. Here, investment income may be exempt (especially if the regulators wishes to offer incentives to compliance or supplementary pension savings) or may be taxed (that is, ETE).

- Poor control over disability pension uptake. From an implementation perspective, the main issues are poor control over inflow (screening out fraud and incentivizing early gatekeepers, such as family doctors, to direct potential claimants toward rehabilitation and employment services) and the difficulty of re-entry into the labor market after extended absences due to lasting illnesses. Re-assessments, well-designed training opportunities, anti-discrimination policies, flexible modes of employment are among the instruments which may not only reduce benefit uptake but also can assist people to live an economically independent life.

INCORPORATING PENSIONS ISSUES INTO COUNTRY WORK

A. General Considerations

Discussion of pension issues in country papers should be guided by the following considerations. Country reports should (1) establish the macro-criticality of pension issues while considering the member country's needs and the authorities' policy priorities; (2) if deemed macro-critical, clearly lay out the facts about the existing pension system and/or pension proposals; (3) identify the specific policy concerns arising from pension issues and link them to policy recommendations; and (4) take into account the macroeconomic and political economy implications of recommended policies and account for policy advice from IMF technical assistance, World Bank and other international organizations' analytical work. To address the above issues, country teams should follow the sequence of questions presented below and provide answers to the key questions arising during surveillance and program work listed in Table 1.

Transparency of fiscal reporting is a crucial precondition for effective surveillance and high-quality program design. In light of pension schemes' relative size and the fiscal risks they may represent, fiscal sustainability analyses also need to cover publicly underwritten pension schemes. Ensuring access to financial information—including flows, such as detailed revenue and expenditure data, stock indicators such as assets and liabilities, portfolio composition (if applicable) —is, therefore, essential for high-quality fiscal governance, responsible policymaking and, regarding IMF operations, to surveillance and program engagement on pensions. Since public pension schemes often operate outside of central government and fiscal reporting does not necessarily encompass general government (especially in low-income countries and emerging market economies), it is important to pay attention to obtaining relevant financial information and to incorporate the fiscal impact of public pension schemes' operations into fiscal analyses.

How to discuss the macro-criticality of pension issues?[46] As with social spending issues more broadly, pension issues can become macro-critical through any combination of the three channels identified earlier: fiscal sustainability, spending adequacy, and spending efficiency. Staff should consider an integrated assessment of all aspects of macro-criticality. For example, while engagement in advanced economies often starts with a focus on the fiscal sustainability of public pension schemes, country papers should also cover considerations of adequacy and efficiency of the pension system where relevant. In low-income countries, an integrated approach to assessing macro-criticality may start with the adequacy angle where policies are focused on expanding coverage and address poverty concerns. Discussion should include recommendations on how to expand pension system coverage, as well as the resources needed to ensure fiscal sustainability.

[46] A structural issue, such as pension spending, is deemed macro-critical if it affects, or has the potential to affect, domestic (for example, growth and inflation), external, or global stability. Consideration should also be given to critical pension spending issues in the context of programs keeping in mind that conditionality should only be set on measures that are (1) critical for meeting program objectives or for monitoring the program's implementation, or (2) necessary for implementing specific provisions of the IMF Articles of Agreement or policies adopted under them.

TABLE 1. Illustrative Questions on Pension Issues in Surveillance and Program Work

ESTABLISH MACRO-CRITICALITY DURING SURVEILLANCE AND MEMBER'S CRITICAL NEEDS AND PRIORITIES	LAY OUT THE FACTS AND/OR PROPOSED MEASURES	IDENTIFY SPECIFIC POLICY CONCERNS	FORMULATE POLICY OPTIONS	INTEGRATE INTO BROADER ECONOMIC ANALYSIS
Is pension spending fiscally sustainable?	What are the key characteristics and objectives of the current pension system and/or reform proposals? Public or private? Defined benefit or defined contribution? How many pillars?	Where do concerns lie? Is it with the design? With its impact? Or is it the legislative framework?	If the pension system is unsustainable, what is the size and timing of needed adjustment?	How do policy recommendations fit in with IMF advice on fiscal consolidation? Financial system stability? Labor market reforms?
Are pension benefits adequate to protect poor and vulnerable elderly?	Why are changes needed? Why is this specific proposal on the table at this time?	Have these concerns been articulated in previous IMF reports (that is, Article IV)? Are they new, and are there analytical gaps?	If pension benefits are inadequate to meet social objectives, is there fiscal space to increase them? If not, find measures to increase fiscal space.	What are the main political economy considerations? How widespread is stakeholder buy-in for the reform? Do the authorities have the political capital to implement the reform?
Is the pension system efficient? Are benefits commensurate with the aggregate level of spending per beneficiary?	What is the role of the pension system in fiscal redistribution? In poverty reduction? In the broader social safety net?	Are pension entitlements eroding fiscal sustainability?	If pension spending is inefficient, identify measures to increase value for money such as better monitoring and control mechanisms.	Does the proposed timing and sequencing heighten implementation risks?
Does lack of pension coverage endanger macroeconomic or political stability?		Are low pension benefits inadequate to address old-age poverty?		
Are pension issues urgent, time-sensitive?		Are benefits too generous relative to stated social policy objectives?		

What are the characteristics and objectives of the current pension system and how does it fit in with the broader social protection system? Country papers should provide the necessary background information about the pension system. For example: Is it both public and private? Defined benefit or defined contribution? What is the coverage? How high are the benefits? Is there a second, third, or fourth pillar? Were there significant changes to prompt a reassessment? (see Chapter 2 for a more detailed discussion of features of pension systems). Assessment of the pension system should consider its role within the broader social protection system, since a durable pension system requires careful consideration of the role that pension schemes play in providing a safety net for the elderly.

In some cases, pension benefits might seem generous compared to peer countries, but this could reflect the fact that healthcare benefits might be significantly less generous necessitating significant out-of-pocket spending on healthcare. In others, the pension system may be integral to redistributive fiscal policy.

What are the country preferences and circumstances? In helping the authorities design pension reforms, staff should strive to accommodate the country's policy preferences, subject to consistency with macroeconomic, balance of payments[47] and fiscal and debt sustainability. In this regard, staff can consider using the long-term sustainability module of market-access countries' debt sustainability analysis. Staff should also point to tradeoffs arising from different approaches.

What analysis is needed to support policy recommendations? Staff can draw on the IMF's existing analysis and previous policy recommendations (in existing staff reports, technical assistance reports, selected issues papers, or cross-country papers) to the extent they are available and remain relevant. If analytical gaps exist, staff should leverage in-house and external expertise to conduct any further analysis that is warranted to provide a sound basis for policy recommendations. Early collaboration with relevant international development institutions is crucial to align on work and priorities (see Annex 2 on resources and collaboration).

How to integrate long-term pension issues into a medium-term macroeconomic framework? Assessments of the fiscal sustainability of pensions—a long-term issue—inevitably extend beyond the standard five-year projection horizon that anchors the IMF's country macroeconomic frameworks. Moreover, the relevant pension financial and welfare indicators change slowly, with a full impact of reform measures materializing long after their implementation. Therefore, using additional fiscal indicators, such as the "pension-adjusted" budget balance,[48] could help determine whether medium-term pension reforms would improve or worsen long-term fiscal or growth prospects. Where possible, economic gains associated with pension system reforms, for example, through reduced social security contributions and labor market disincentives should also be considered in macroeconomic projections. Staff should link formal assessments or benchmarks to a narrative on why timely policy action is needed and likely macroeconomic impacts that should be considered.

When should adequacy of pensions be discussed? Adequacy of pensions would be macro-critical when insufficient social protection by pensions is realized as an imminent issue or when governments plan to significantly strengthen their public pension systems (through coverage expansion and/or more generous benefits) because each of these cases means the current system does not achieve the country's economic and policy objectives and/or significant reforms are planned. The UN Sustainable Development Goals (SDGs) can provide a starting point for an analysis of adequacy, especially in terms of SDG 1 ("End poverty in all its forms everywhere") and SDG 8 ("Employment, decent work for all, and social protection").

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[47] Balance of payment and exchange rate considerations come into play especially in countries with large funded schemes, investing heavily overseas. Both the accumulation and the drawdown phase (in the latter of which foreign-denominated assets need to be converted into domestic annuity payments) may impact the balance of payments and the exchange rate.

[48] See "A Fiscal Indicator for Assessing First and Second Pillar Pension Reforms." This IMF Staff Discussion Note proposes a simple methodology for calculating the "pension-adjusted" budget balance, which captures the future impact of pension reforms on deficits and debt in a way that allows a more straightforward comparison of intertemporal policy choices.

How should financing of pension spending be considered? If pension spending is deemed *inadequate* relative to policy objectives and/or the government is proposing an expansion of the pension system, staff should identify and quantify the existing fiscal space and, if needed, identify possible measures to create additional fiscal space to finance the necessary expansion and ensure fiscal sustainability. Such recommendations can draw on technical assistance and cover complementary reforms such as domestic resource mobilization, expenditure rationalization, or strengthening of public financial management systems. If streamlining of the pension system is needed, staff should also discuss how the savings would be used. For example, the savings could be used to strengthen other elements of social protection, health, or education programs where appropriate, or to strengthen fiscal and debt sustainability as needed. In cases where staff deems pension spending to be *adequate*, staff can assess the risks of fiscal contingent liabilities of the system if it is inefficiently managed or underfunded.

Should efficiency considerations be the focus of policy recommendations? Comparison with regional or development peers is often insufficient to establish whether spending on pensions is inefficient. Differences in design details, policy objectives and administrative capacities may introduce such variance across pension systems to make comparisons difficult to translate into policy advice. However, efficiency considerations rank high in the analysis. Savings arising from improved efficiency could contribute to medium-term fiscal consolidation efforts or fund other priority spending items. In other cases, reallocation of resources within the current pension system may be appropriate. Specific measures can be recommended, such as improving methodology for identification of pensioners, enhancing pension funds' management frameworks, or improving data collection for better analysis and monitoring. In identifying specific measures, staff should leverage on IMF technical assistance and analyses by other institutions.

When are distributional effects of pension reforms relevant? Staff should generally consider the social and distributional impact of the pension system and recommended pension policy reforms. Depending on the nature of the reform, there could be adverse effects in terms of increase in the number of vulnerable and poor households[49] and staff should therefore identify how these unintended impacts can be addressed through mitigating policy measures, such as strengthening social assistance. Pension systems could also have implications for inter-generational equity, where high or increasing pension spending is crowding out social protection spending for the younger cohorts.

How should the extent and pace of pension reform be calibrated? Staff should calibrate proposed reforms to country-specific fiscal circumstances and policy objectives.

- *Fiscal sustainability is important in determining the appropriate scope of a pension reform—either when containing or expanding spending.* Ideally, pension reform should be gradual and spread across multiple years to avoid large increases to government spending over the short term and allow households time to adjust their earnings and savings behavior prior to retirement. However, at times pension adjustment may need to be frontloaded if fiscal imbalances place macroeconomic stability at risk or if financing constrains fiscal deficits. Where pension benefit cuts are being considered, measures to fulfill the basic poverty objective should be factored into reforms and assessment of fiscal impacts. When expanding coverage, the pace of reform should be consistent with a country's capacity to expand the contributions base or mobilize tax revenues over the short term without unduly crowding out other key public spending areas.

[49] Attention should also be given to which households are considered poor and vulnerable, since in times of economic turmoil these classifications can be especially dynamic.

- *Political economy considerations impact the appropriate pace and sequencing of reform*. Staff should recognize that implementation of structural measures to strengthen pension systems is often a lengthy process, requiring buy-in from a diverse set of stakeholders, including the public. Reforms that require multiple steps or are backloaded risk reversal if strong and durable buy-in is not secured ex ante.

What makes for an effective communications strategy on pensions? Clear communication of the IMF's policy concerns and recommendations is essential given the complex political economy surrounding pensions issues in most countries. Staff should clearly communicate why they are engaging with the country authorities on pension issues (that is, the channels through which public pension spending is seen as macro-critical), the main policy options and recommendations, and how these fit in with overall macroeconomic and inclusive growth objectives. Staff should also clarify if its recommendations draw on analysis of other institutions, including the government. Given the diversity of stakeholders on pension issues, teams should work closely with the IMF Communications Department to identify opportunities to engage with a broader set of organizations in dialogue, including legislators, public workers. and trade unions, and civil society organizations. Ownership of reforms by country authorities is crucial.

B. Surveillance

Engagement on pension issues in the context of surveillance should be timely and driven by an integrated assessment of macro-criticality. An issue or policy is considered macro-critical in bilateral surveillance if it affects, or has the potential to affect, domestic (for example, growth and inflation), external, or global stability. In the context of the Article IV consultations, staff should routinely assess whether there has been a material change to the pension system that raises policy concerns and warrants engagement (for example, changes to benefits, formulas or legislative reforms that could undermine sustainability, efficiency, or adequacy). The depth and breadth of the engagement would need to balance the macro-criticality of pension issues with the urgency of the issues and the internal resources available. In cases where staff has limited expertise on pensions, it is especially important to leverage resources within and outside the IMF early on.

Due to the long maturity of pension obligations and the slow but powerful trends underlying pension finances, long-term projections are critically important for identifying fiscal risks. Country authorities should be encouraged and, if necessary, assisted in regularly preparing long-term pension projections, as well as fiscal and distributional impact assessments of proposed policy reforms or regulatory changes. It is equally important to ensure that these analyses become integrated into fiscal legislation (for instance, in the form of annexes to annual budget laws), support the production of sustainability reports, and that procedural fiscal rules (such as mandatory, long-term impact assessments as formal preconditions to initiating legislation) create demand for such impact assessments.

Examples of past engagement on pension issues by the IMF in surveillance cases offer important insights for the nature and extent of engagement going forward. In recent decades, analysis and policy discussions of pension issues in surveillance cases increased markedly, although the depth of engagement and traction of IMF advice varied significantly across country cases. Box 6 illustrates this varied approach.[50]

[50] See IMF and Social Protection.

BOX 6. Examples of How to Address Pension Issues in Surveillance

The cases of Japan and Nicaragua in 2012 and Serbia in 2013 illustrate how country teams can approach engagement on a range of pension issues in countries in a surveillance context.

Japan 2012

Macro-criticality of pension issues. Rationalizing social security spending was key to securing fiscal sustainability. Japan's fiscal deficit stood at 10 percent of GDP in 2012. Social security spending was nearly 55 percent of total non-interest spending by the general government. Japan's old-age dependency ratio was the highest in the world (38 percent in 2010) and was expected to increase further (57 percent in 2050).

Public pensions play an important role in helping reduce old-age poverty as the system has a redistributive feature supported by a government subsidy of about 2 percent of GDP.

Efficiency considerations included the eligibility of dependent spouses for pension benefits without making contributions, resulting in an effective cross-subsidization of married employees by single employees as well as creating disincentives to work because a spouse would qualify for the benefit only when their income was below a certain threshold.

Policy recommendations. Staff discussed three main reform directions and their trade-offs in terms of fiscal sustainability, impact on growth and intergenerational imbalances.

- Increase the pension eligibility age to narrow the gap relative to life expectancy at retirement (a difference which is larger in Japan than in most other countries). In parallel, expand the social safety net to protect older workers. These reforms could also have a positive effect on growth through higher labor force participation and higher consumption due to higher lifetime earnings.
- Lower the pension replacement ratio as already planned under the 2004 macro-indexing, aiming to keep aggregate pension spending broadly constant despite population aging. According to staff, further reductions in the replacement ratio would undermine the pension system's ability to contain old-age poverty. Moreover, the fiscal savings would be offset by higher demand for social assistance. Instead of an across-the-board cut in the replacement ratio the team recommended a more targeted reduction by introducing a "clawback" from the most well-off retirees.
- Collect pension contributions from dependent spouses to generate fiscal savings and to address efficiency concerns. The team estimated that the alternative of increasing the contribution rate would generate fiscal savings but could have a negative effect on growth through lowering labor supply and aggravate intergenerational imbalances.

Nicaragua 2012

Macro-criticality of pension issues. The Nicaraguan defined benefit pension system had gradually become fully pay-as-you-go financed and fiscally unsustainable given its parameters and demographic and macroeconomic trends. It was projected to start recording deficits in 2015 and its trust fund to be depleted by 2021. This would have put the public debt on an unsustainable path in the longer term.

The low coverage of the pension system (23 percent of the labor force) raised concerns about adequacy and was linked with the high degree of informality in the economy.

Aiming to be progressive, the minimum pension was set not to be lower than the minimum wage, which in turn was relatively high compared to the average wage in the formal sector. More than 75 percent of pensioners received the minimum pension, and the formula did not reflect contribution histories. This indicated possible spending inefficiencies, depending on how the quasi-flat benefit distribution compared to the government policy objectives, how the guaranteed minimum benefit impacted labor participation and formalization, and whether this benefit level was necessary to respect both the government's anti-poverty objectives and fiscal constraints.

Policy recommendations. Staff advice focused on reforms essential for long-term fiscal sustainability and increased efficiency.

- Adopting a benefit formula to achieve actuarial solvency while increasing progressivity, while being mindful of not discouraging participation of higher-income workers.
- Gradually increasing the retirement age from 60 to 65. The team estimated this should not have substantial adverse effects on unemployment.
- Increasing the minimum number of years of contribution to qualify for a full pension to 30 years (at 15 years, Nicaragua was one of the lowest among Latin American countries). Below that, the pension would be proportional to years of contribution.
- Delinking the minimum pension from the minimum wage.
- Take steps to reduce labor market informality, broadening the base of contributors to the social security system. In the meantime, adopt moderate contribution rate increases to avoid deterring new entrants.
- Diversify the pension fund's portfolio of investment by considering alternatives to government bonds

Serbia 2013

Macro-criticality of pension issues. Serbia's public pensions accounted for about one-third of general government spending and 14 percent of GDP, among the highest shares in Europe. At the same time, contribution rates were high with the tax wedge of 38 percent seen as a significant obstacle to employment creation. The high deficit of the pension fund of 7 percent of GDP crowded out more productive public spending. Despite numerous reform efforts by the government, pension spending as a percent of GDP was steadily increasing and the fiscal sustainability of the public pension scheme was an important macroeconomic concern.

Public pensions had an important role in poverty alleviation and maintaining an adequate level of pension benefits was a priority. Importantly, public pensions were the only pension income of the elderly, as there were no mandatory private pensions and effectively no voluntary schemes. Overall, the pension system had been reasonably effective in limiting poverty; poverty among pensioners (13 percent) was lower than nationwide (18 percent).

Some aspects of the pension system raised concerns about efficiency, including lower

retirement age for women than for men despite the relative life expectancy differential being the reverse, disincentives for working longer as after a certain threshold additional tenure was not credited, and a significant weakening of social contribution collections over the past decades.

Policy recommendations. The focus of policy recommendations was on reducing overall public pension expenditure as a share of GDP. According to staff estimates, the following measures would yield savings of 0.8–0.9 percent of GDP per year and total cumulative savings of 31–35 percent of GDP by 2050;

- Raising statutory retirement age by five years for women to equate with that of men within 10 years (2013–22) followed by raising the statutory retirement age to 67 (2023–26)
- Raising the minimum early retirement age for both men and women from 58 to 60 (2024–27)
- Introducing penalties for early retirement and revenue neutral incentives for working longer. In Serbia, the effective retirement age was very low due to extensive options for early retirement (three-quarters of men and half of women retired early).

Serbia also continued reforms of the pension system in the context of an IMF-supported program (Box 5).

C. IMF-Supported Programs

Engagement on pension issues in the context of IMF-supported programs should aim to address the underlying pension-related macroeconomic problems. Pension-related issues identified as macro-critical during surveillance (due to concerns about fiscal sustainability, spending efficiency, adequacy for poverty reduction, or consumption smoothing) can also be critical for achieving the goals of IMF-supported program or for monitoring the implementation of the program. While pension reforms often extend beyond the span of a program, pension-related measures embedded in programs should explicitly contribute to achieving the overall program objectives, and program documents should clearly explain the linkages. Program design in relation to pension reforms should ideally draw on analysis and policy recommendations from Article IV Consultations. If not available, yet pension issues are crucial for the program design, then staff will need to develop such analysis or draw on expertise of other institutions.

Authorities' ownership and institutional capacity are important when considering a pension reform in a program context. The primary responsibility for the assessment of pension systems and design of pensions reforms lies with the authorities, with the success of the reforms hinging on their ownership. When assisting the authorities with designing a pension reform, staff should understand members' domestic social and political objectives, economic priorities, and circumstances. This will help ensure full ownership of the reform and increase its durability. Consideration of a pension reform in a program also needs to consider the overall reform agenda and the authorities' institutional capacity to avoid the likelihood of reform fatigue

Conditionality on pensions is warranted when pension reforms are deemed critical for program success. The establishment of program conditionality is subject to specific standards set forth in the Guidelines on Conditionality that apply to all IMF conditionality. The guidelines state that conditionality should only be set on measures that are (1) critical for meeting program objectives or for monitoring the program's implementation or (2) necessary for implementing specific provisions of the IMF Articles of Agreement or policies adopted under them. *Conditionality, including on pensions, should be parsimonious*. Quantitative targets are typically not set on pension spending per se, but pensions can be implicitly part of other targets. Key milestones of a pension reform can be set as structural benchmarks. Specifically:

- *Quantitative targets*, such as performance criteria (PC) or an indicative target (IT), do not tend to be set on pension spending directly (neither as floors nor ceilings). However, pension spending, or relevant elements of pension spending, can be included in the social spending floor, and should be built into the envisaged fiscal path and the fiscal deficit target, which is subject to conditionality, and supported by policy commitments laid out in the Letter of Intent/Memorandum of Economic and Financial Policies (MEFP).
- The coverage of pension spending as part of social spending floors can vary to reflect country-specific policy priorities and data availability. It can be narrowly focused on selected macro-critical pension programs. This approach is more effective for protecting specific priority pension programs in the event of adverse shocks or could be instrumental in focusing pension reform efforts during the program. In contrast, a broad focus on coverage would be appropriate where protecting all budgetary costs associated with pensions is seen as crucial. Staff should document and explain the approach taken in the country documents.
- *Structural benchmarks* can be set for key pension measures that are critical for the achievement of program objectives, either by themselves or because they represent important components of a broader reform. In the case of pensions, structural benchmarks could, for example, include conducting actuarial assessments of a new pension system to ensure actuarial balance (Greece 2009) or completing the fiscal costs estimates of a pension reform (Armenia 2010). Pension measures can be specified as prior actions when it is critical for the successful implementation of the program that such actions be taken to underpin the upfront implementation of important measures, including when there are significant doubts that the measure would be implemented later. Pension measures that are not critical for achieving the program goals or for monitoring implementation but that the authorities wish to highlight as their reform agenda, can be included as policy commitments under the Letter of Intent or Memorandum of Economic and Financial Policies with a clear implementation timeline (for example, a commitment to revamp the regulatory framework for pension funds as in Armenia in 2010). Structural benchmarks related to public financial management can play an important role in transparent policymaking. In this regard, procedural and substantive fiscal rules may be implemented to ensure that pension-related regulatory proposals are accompanied by long-term fiscal and welfare impact analyses. It is equally important to implement procedural rules that require the regular preparation and submission to legislature of long-term financial projections concerning the government's pension, health, and long-term care obligations.

Effective coordination with other multilateral institutions on pension issues is crucial. Pension reforms designed by other institutions can be included in the program if the reforms are critical to program success and monitorable. However, the IMF cannot delegate its responsibility in designing and assessing compliance with conditionality to other institutions but can seek advice from other institutions regarding the monitoring of pension reform-related conditionality in the program.

At times, other international organizations or nongovernmental organizations may be working to provide policy advice, technical assistance, or financing for reforms in areas that are deemed critical for program success—including, pension reforms. In those cases, staff could leverage the analysis and know-how of those organizations in designing conditionality. Additionally, where certain reform measures are indispensable for securing a donor disbursement critical to the success of the IMF-supported program, then those measures should be clearly identified in the staff report.

Pension issues, if included in the program design, should be a core part of the communications strategy. Staff should clearly communicate how pension-related measures support the overall program objectives, the role of IMF and justify any pension-related conditionality. Where pension measures have been informed by external analyses by the government or development partners, this should be recognized. In communicating with key stakeholders on pension issues, staff should also elaborate on how pension reform is considered in the formulation of policy advice and program design, and how policy recommendations would help the country achieve inclusive growth and its macroeconomic and development objectives. Joint communications with the authorities are preferable.

Engagement on pension issues has been long-standing and widespread in the context of IMF-supported programs. The IMF's advice on pensions seeks to accommodate country-specific preferences and social objectives, without compromising macroeconomic and growth objectives. The objective is to promote ownership by ensuring an active dialogue at all stages and tailored policy advice on pension reform. Engagement has varied significantly in its depth and breadth—Box 7 illustrates various approaches to pension issues and possible conditionality in IMF-supported programs. Overall, these approaches have been able to contribute to tangible outcomes, for example, containment of public pension spending in percent of GDP in Greece and Serbia, and timely implementation of pension-related structural benchmarks (Armenia, Tanzania), although in Greece, some of the reforms were subsequently reversed by court rulings.

BOX 7. Examples of How to Address Pensions Issues in IMF-Supported Programs

Greece 2010 Stand-By Arrangement

Why pension reform? Greece's fiscal position had deteriorated significantly in the decade prior to 2010, largely due to an expansion of social spending, particularly on health and pensions. The pension system was deemed unsustainable, with spending projected to increase by 12½ percentage points of GDP in four decades and would become insolvent if corrective measures were not taken.

Reform measures. A comprehensive multiyear adjustment program was adopted to lower the fiscal deficit and the debt ratio. As part of the fiscal package, the pension reform aimed to strengthen the link between contributions and benefits, with uniform rules and benefits indexed to prices. This also included a means-tested social pension for all citizens above the normal retirement age to provide an important safety net, consistent with fiscal sustainability. The Stand-By Arrangement-supported program was also designed with provisions to shield low-income households from the impact of the adjustment, including exempting those living on the minimum pensions from benefit reductions. To explain and forge broader public consensus on policies, the government invited representatives of businesses and labor to sign a social pact for the duration of the program.

Analysis. The pension system had been analyzed in previous IMF Article IV Staff Reports and Selected Issues Papers (SIPs), which identified significant underfunding of the public pension system and the long-term fiscal pressures associated with mounting pension and healthcare costs of population aging and proposed reform measures to address these problems.

In preparing this reform, staff consulted with European Commission/IMF/European Central Bank experts and used a report by the National Actuarial Authority to conduct an initial assessment on whether the parameters of the new system could significantly strengthen long-term actuarial balance.

Conditionality. Given the critical importance of pension reform for fiscal consolidation, upfront implementation of relevant pension measures was important. Hence at the time of the program request in May 2010, a prior action for the government to reduce public sector wage bill and pension bonuses, except for minimum pensions, was completed at the program request. This measure helped reduce fiscal pressures and had signaling effects to the private sector wage setting.

To ensure the long-term sustainability of planned comprehensive pension reforms and assess whether further adjustments beyond the planned reforms would be needed to contain pension spending, a structural benchmark (SB) under the Stand-By Arrangement was set for the National Actuarial Authority to produce a report to assess whether the parameters of the new system significantly strengthened long-term actuarial balance. The SB was scheduled to be completed shortly after program initiation and was later modified to allow a bit more time to complete a first report for the main social security funds by end-2010, and another report for remaining supplementary funds early 2011, in recognition of the size of task and to allow more data collection. The Parliament's adoption of the comprehensive pension reform was then established as a subsequent SB.

Greece 2012 Extended Fund Facility

Why pension reform? While Greece made progress under the previous Stand-By Arrangement-supported program in advancing pension reforms, the share of pensions in per capita GDP had been rising and remained high by European standards. More time and effort were needed to further reduce pension spending to a level that Greece could afford to finance internally, and thereby to improve the fiscal position, while avoiding cuts that would bear disproportionately on the most vulnerable. Therefore, the 2012 the successor EFF-supported program also incorporated pension reforms.

Reform measures. The earlier pension reforms under the 2010 Stand-By Arrangement focused on the long-term pension issues but did less for pension savings in the near term. To help achieve the 2012 fiscal target, a cut in pension spending of about 2½ percent was included among other new spending measures. Beyond that, a 1–2 percent of GDP pension spending reduction was needed to support the planned the 5½ percent of GDP fiscal adjustment through 2014.

Conditionality. Upfront measures to reduce pension spending by about 0.2 percent of GDP were discussed in the MEFP, which included reducing supplementary pensions with a

progressive schedule by reducing main pensions that exceeded a certain threshold. Measures to eliminate arrears and deficits in lump sum pension funds were also discussed in the MEFP of the program request.

Additional pension spending measures were planned as part of measures to reduce non-wage costs and foster employment by reducing social security contribution rates for employers accompanied by fiscal measures to ensure a neutral budgetary impact. Following structural conditionality on relevant legislation on social security contributions, a structural benchmark was established for the government to adjust pensions (with protections for low-income pensioners) and the base for contribution collections.

Other reform commitments were included in the MEFP, such as eliminating seasonal bonuses for supplementary and main pensions, increasing the statutory retirement age to 67 and postponement of retirement eligibility by two years in all other cases including early retirement, and removing all remaining ineligible pensioners from the pension rolls.

Armenia 2010 Extended Credit Facility/Extended Fund Facility

Why pension reform? The Government of Armenia noted that strengthening and expanding Armenia's pension system had an important poverty reduction aspect. Before the request for Extended Credit Facility/ Extended Fund Facility, the government was already in the process of designing a new pension system. For example, in August 2007, the government prepared a new Draft Framework Law on Pension Reform to strengthen the pension system in Armenia.

Reform measures. Before the onset of the Extended Credit Facility/Extended Fund Facility program, in response to the global economic crisis, the Armenian government had already increased pension spending. In 2010, when the program started, pension spending was maintained at the same nominal level of 2009 with additional planned increases in 2011 to be accompanied by measures to improve targeted delivery of pension outlays and to improve efficiency.

Based on their previous preparation work, the authorities decided to introduce a new, mandatory funded pension system, to be operational by 2014. They recognized these reforms were complex and needed to be well managed and that pension reform costs would need to fit within the overall fiscal envelope.

Analysis. In the combined 2006 IMF Article IV Consultation and program review document, staff discussed the authorities' preparation work for the Draft Framework Law on Pension Reform, which was conducted with assistance from the World Bank and outlined a comprehensive overhaul of the pension system. The staff report also noted that the envisaged increases in the minimum pension and pension contribution rates would necessitate significant capacity increases in asset management and insurance. To analyze the implications of an increase in the pension contribution rate, staff prepared a 2006 SIP on the financial system and capital market development, where such implications were discussed.

The pension-related issues were further analyzed in the combined 2008 Article IV Consultation and the Poverty Reduction and Growth Facility program request document,

which presented analysis of the fiscal costs associated with the authorities' plans to raise average pensions. Staff reiterated the need to keep the costs of the reform within manageable levels, implement the pension reform gradually, and consider the advantages and disadvantages of the planned unification of the personal income tax with social insurance contributions.

Conditionality. To support the introduction of the new mandatory funded pension system by 2014, a SB was set on the completion of estimates of the fiscal cost associated with the planned pension reform at the time of the 4th review in 2012, to ensure that the planned reforms were effective and sustainable. To ensure feasibility of the pension reform and set up needed procedures for managing pension funds that were being established, the authorities agreed on a new benchmark on two key pension regulations at the 5th review to be submitted by government to Cabinet to establish (1) procedures for managing the guarantee fund for mandatory, funded contributions and (2) quantitative and currency restrictions on investing mandatory funded pension assets in financial instruments.

Other policy commitments on pension-related issues were included in the MEFP, including laying out the regulatory framework in which the pension funds operate, and establishing adequate prudential norms based on an analysis of financial stability risks and recommendations from the Financial Sector Assessment Program Update. The authorities also prepared other separate decrees on pension reform issues and created a special fund for public relations and increasing awareness on the pension reforms.

Serbia 2015 Stand-By Arrangement

Why pension reform? The authorities recognized that curbing the sizable spending on pensions was critical for a durable fiscal adjustment. To address fiscal sustainability concerns, the authorities introduced a parametric pension reform in July 2014 prior to the approval of the IMF-supported program and following up on issues identified during 2013 IMF Article IV Consultations. These efforts continued in the program context.

Reform measures. Pension-related measures focused on reducing pension spending to a fiscally sustainable level. A progressive cut in nominal pensions (22 percent for pensions between 25,000 and 40,000 dinars and 25 percent for higher pensions) was legislated from November 2014, prior to the program, to yield an effective 5 percent of GDP reduction in the pension bill. At the time of the program request, the authorities also agreed to include a modification to the pension indexation formula among amendments to the Budget System Law, which would freeze nominal pension increases until spending fell to sustainable levels estimated to be less than 11 percent of GDP. The parametric pension system changes implemented in mid-2014—a higher statutory retirement age for women, increased minimum retirement age, and introduction of actuarial penalties for early retirement—supported the longer-term fiscal sustainability of the pension system.

Analysis. Engagement on pensions and program design drew on analytical work undertaken in the context of the 2013 Article IV consultation, prior to the program request.

Conditionality. The parametric pension reform took place prior to the program approval, so no conditionality was needed. Following the nominal reduction in pensions prior to the program, the authorities also committed to a nominal pension freeze in the MEFP as part of

the overall fiscal consolidation package. No additional structural conditionality was deemed necessary.

Tanzania 2010 Policy Support Instrument and 2014 Policy Support Instrument

Why pension reform? Drawing on the recommendations of the 2009 Financial Sector Assessment Program, the 2010 Policy Support Instrument (PSI) program planned to make the necessary steps to operationalize the Social Security Regulatory Authority (SSRA). Absence of effective regulation and supervision of the social security funds—which held assets of 10 percent of GDP or one-quarter of the financial system—added considerable risk to the financial system and public finances. The 2014 PSI program aimed to further strengthen the pension guidelines to limit contingent liabilities.

*Reform measure*s. Measures focused on operationalizing the SSRA. The first step was to appoint the Board and Director General, since the SSRA was nominally established in June 2008, but the Board and Director General had yet to be appointed as of 2010. Other key measures to contain fiscal risks and facilitate capital markets development, including the introduction of investment guidelines for pension funds and implementation of comprehensive governing legislation, were also delayed as a result. The program sought to enhance data collection, monitoring, and reporting of pension fund financial activities. To limit contingent liabilities, harmonized pension guidelines were needed.

Conditionality. The 2010 Policy Support Instrument program introduced three structural benchmarks on pension reforms: (1) appoint Head of Social Security Regulatory Agency and issue investment guidelines for pension funds, (2) introduce data collection and reporting system for pension funds, and (3) issuance of investment guidelines for pension funds. The 2014 PSI program introduced another structural benchmark on the approval of pension harmonization guidelines, that is, that pension benefits should be calculated along the same rules, irrespective of occupation.

The authorities' efforts to reform the pension system were also supported by a multiyear World Bank program, which supported successful implementation.

Lesotho 2010 Extended Credit Facility

Why pension reform? The program sought to support the authorities' objectives of achieving broad-based growth and poverty reduction, as set out in the National Development Framework. Maintaining adequate old-age pension benefits throughout the implementation of the program was deemed critical to meeting the poverty reduction objective.

Reform measures. In this case, the program did not call for a reform of the existing pension system. Instead, it sought to protect the adequacy of pension benefits by including the old-age pension benefit in the definition of the social spending floor.

Conditionality. The program had an IT defined as the floor on the central government social expenditures, which included spending on old-age pensions primarily targeted at vulnerable households.

D. Dialogue with Country Authorities

This section provides considerations that country teams may find useful in their communication with authorities in the context of public pension spending. The focus is specifically on *communication of analytical results and policy advice*. The relative emphasis placed on any specific issue will, of course, depend on country-specific circumstances regarding macroeconomic conditions and public pension spending pressures. Regarding communication to the public, ultimately it is the authorities who have the most detailed knowledge of local conditions and who should decide their preferred communication strategies.

Communication of policy advice should be clearly embedded within the macro-fiscal context of the country. The discussion below provides examples of how to communicate policy advice drawing on specific instances of IMF analytical work and country-level engagement on pension issues. A key feature of these communications is that country teams typically engage on pension issues from some combination of the three macro-critical perspectives: fiscal sustainability, spending adequacy, and spending efficiency. Moreover, it is important that advice recognizes the nature of trade-offs that are encountered in different country contexts and a recognition that the appropriate choice of reforms will reflect government preferences and constraints.

Policy advice should be presented in a manner that helps the authorities develop their own communication efforts. Pension reforms are politically very difficult, even in the presence of generous grandfathering of entitlements and expectations. Often the main obstacle for designing and implementing pension reform measures is not that governments would be unaware of the issues and the options available to address them but the difficulty of presenting the arguments for reform without risking unwanted political consequences. While properly identifying a window of opportunity will improve the chances of a successful reform, it is also important to explain—and quantify, to the extent possible—the cost of delay. It is equally important to present the case for reform in both technical terms and using arguments which the government itself can incorporate into its dialogue with stakeholders and, through media, the electorate.

While it is often the case that the IMF's involvement in structural reforms is triggered by pressing fiscal necessities, analytical work and policy advice is equally concerned with adequacy and equity considerations. Public pension systems are natural targets for critical assessment if only for their sheer weight within government spending. Such reviews should not necessarily lead to proposals to cut pension spending: indeed, programs often require protecting social spending levels while increasing their effectiveness and efficiency. When formulating communication strategies around pension reforms, it is important to emphasize the need to focus not only on spending levels (adequacy) but also on spending better (efficiency). Better spending can, in turn, lead to improved adequacy and additional fiscal space, which can be used address spending needs elsewhere, mitigate tax burdens, reduce deficits, or arrest debt dynamics.

The fiscal context of pension reforms needs to be explained in terms of trade-offs within the constraints of government's financing capacity. Financial sustainability issues—and, especially, the projected increase in pension spending—should be presented in terms of additional financing translated into contribution rates or incremental deficits, while the adjustment needs should also be translated into retirement ages and replacement rates that would keep current pension deficits from growing (or, alternatively, would eliminate deficits). It is also useful to compare future financing needs of the pension system to the resource needs of other large, publicly financed spending, such as

public education or healthcare, especially if there are projections available in these areas regarding future financing needed to maintain current service levels or to reach SDG objectives. This helps to clarify the opportunity cost of no policy reforms.

The poverty context of pension reforms needs to be nuanced to avoid generalizing and mischaracterizing the income positions of pensioners. It is a commonly held belief that the poorest people in a society are the elderly. While this is often true—especially in countries with underdeveloped social welfare (including pension) schemes—it is far from a generally applicable rule of thumb. In times of crises, many pensioners often enjoy better protection than younger cohorts: negative wage growth, unemployment, and other hardships do not directly affect retirees. Consequently, it is advisable to review poverty assessments, household budget surveys, and similar reports to establish the income position of pensioners. It is also important to differentiate between pensioners and the elderly—especially when public pension eligibility is not universal. Pension benefits themselves have a distribution, and there may be large numbers of poor pensioners. It is crucial, therefore, to design reform measures in a way that pensioners at the bottom of the benefit distribution are sufficiently protected and to clearly communicate this design feature.

Pension reforms can alter the system's equity characteristics, which can be used to build support for the proposed measures. The three reforms with the most profound direct impact on the system's equity features are broadening coverage, extending the benefit calculation base, and altering the shape of the accrual schedule. Other reforms also impact equity: retirement age increase is more easily accommodated by people with higher life expectancy and who also tend to have better labor market prospects, higher lifetime income, educational attainment, and health status. Measures reducing deficits may change both intra- and intergenerational redistributive features, depending on the reform parameters, the extent of relying on revenue or expenditure measures, and the actuarial fairness of the reforms. Coupling higher starting pensions with a more conservative indexation regime will benefit people with shorter life expectancies. Discontinuing the special treatment of certain occupational groups (that is, awarding them higher pensions than standard pension calculation rules would dictate) make the system more horizontally equitable, that is, the same contributions will earn the same implicit rate of return. Introducing basic pensions, minimum top-ups and other anti-poverty elements strengthen the systems' vertical equity. Limiting survivor pensions to spouses and direct descendants makes redistribution less dependent on factors outside policymakers' control.

BOX 8. Selected Examples of Communicating Policy Advice

Algeria (2019)

Algeria's pension system is facing sustainability and efficiency issues. An analysis undertaken as part of a technical assistance mission helped the government inform the general public about the difficulties facing the two major pension schemes and of the design shortcomings underlying the sustainability and efficiency problems. To underline the need for reform and to help the government communicate the diagnostic findings, the technical assistance report:

- Presented long-term projections both for a baseline (no policy change scenario) and for the various reform options offered. The present value of future deficits was also estimated to make the financing gap comparable to reported debt figures

- Estimated the retirement ages, contribution rates, and accrual rates that would be consistent with improved financial sustainability
- Estimated, by income deciles, the subsidy implied by pension benefit and contribution rules, highlighting the redistribution from low-income and informal sector workers toward better-paid scheme members
- Benchmarked pension regulations against best practice and provided international comparisons relevant to Algeria's level of economic development.

Cyprus (2013)

In response to the financial crisis that also had major fiscal spillovers, the authorities already started implementing various reforms prior to requesting technical assistance from the IMF. While the technical assistance report commended these reform efforts, it also urged the authorities, for equity and efficiency considerations, to:

- Equalize retirement ages across schemes and to revise the rules governing early retirement and gratuity payments to civil servants. The report explained the labor market and public wage bill consequences of the proposed measures.
- Expand the pension calculation base to full career earnings and discuss the equity implications of final salary vs. full career calculation rules.

The report also presented the baseline and the expected fiscal impact of the proposed measures to clearly identify the magnitude of the fiscal challenges.

Estonia (2019)

The IMF supported the Bank of Estonia convene a technical assistance workshop to generate a broader debate on the causes and consequences of the poor performance of private pension schemes and to help put the new government's reform proposals into a broader policy context. The resulting workshop offered a series of presentations and panel discussions concerning:

- The underlying reasons for funded reforms and the preconditions materially impacting net investment returns and transparent operations
- International experience with the regulation and performance of private pension schemes, including the critical factors of success
- Possible reform options that may help improving the Estonian funded schemes' performance.

Presentations and comments focused on the pros and cons of various measures, as well as the likely capital market, welfare and fiscal consequences of the original reform, its possible improvements, and the option of reversing the structural pension reform. This helped reinforce the IMF's advisory role.

Ukraine (2010–)

The IMF Fiscal Affairs Department (FAD) has been intensely involved in the pension policy dialogue for more than 10 years. During this time, both the area department and FAD established close working relations with the authorities, especially the Pension Fund of Ukraine, the Ministry of Social Policy, the Ministry of Finance, and the National Bank of

Ukraine (as financial sector regulator) and with the World Bank. Despite the long and intense dialogue, the experience of Ukraine is a lesson in the importance of continuous and flexible engagement. Retirement-age increases, an important area in which Ukraine lagged behind other European transition economies, have taken time to materialize, despite the clear evidence of its importance from a financial sustainability perspective. Instead, only weaker incentives (through higher service time criteria) could be introduced. The IMF also raised concerns about the government proposals for a substantial contribution rate reduction, which failed to result in improved compliance. The gains from the introduction of systematic benefit indexation rules were also offset by discretionary measures regarding the timing of annual pension increases. Ukraine is among the best examples of World Bank–IMF cooperation with regular, technical level consultation between the two institutions, coordination of messages, and development of a clear understanding of which institution should lead the dialogue in which technical area.

Panama (2015)

Technical assistance support focused on the system's deteriorating financial sustainability driven by generous eligibility and benefit rules. The technical assistance report, in addition to costing both the baseline and the reform options over a 40-year period, provided:

- The estimated fiscal impact of delaying reforms
- Scenario analyses of operating the existing scheme separately or merging their reserves
- Standard parametric reforms.

The mission also advised governments on issues such as portfolio allocation of reserves and administrative constraints in monitoring pension scheme finances. The broader scope of FAD pension work—the inclusion of portfolio management issues among the topics covered—was appreciated by the authorities and point to the importance of relying on team members expertise even if it implies expanding a technical assistance report's scope. The report was used extensively by the government when communicating the need for pension reforms.

Three years after the mission, the authorities decided to start gradually implementing the reforms proposed by FAD. This success emphasizes the need for area departments—as well as other capacity development activities—to keep referencing earlier recommendations and ensuring that authorities, when there is a window of opportunity, reach back to earlier advice provided by the IMF or other development partners.

ANNEX 1. TYPICAL PENSION POLICY REFORMS

General Considerations

The design and implementation of pension reforms need to consider *existing conditions*—such as accrued pension liabilities, financial sector development, debt sustainability, and expected demographic and labor market developments—and potential *trade-offs across changes in sustainability, adequacy, and efficiency*. When discussing pension policy issues and considering reform options, it is also important to recognize the inherent choices and trade-offs reflecting social factors and political realities.

From the perspective of short- to medium-term macroeconomic and fiscal constraints, the most frequent pension policy trade-off is between addressing *short-term fiscal adjustment needs, long-term policy objectives (such as expanding coverage or maintaining benefit adequacy), and the need to maintain the pension systems' credibility* in the eyes of taxpayers (contributors) and benefit recipients. As mentioned earlier, the pension system does not lend itself to short-term expenditure cuts, as most reform options only make their impact felt at the margin, that is, for new retirees or newly accrued pension entitlements. At the same time, given the magnitude of public pension spending, even small adjustments can result in sizable short-term fiscal savings. In all cases, caution must be exercised since fiscal adjustments that call for lowering pension expenditures may lower expected returns to contributions or alter the distributional features of the system with regard to different income groups, people covered, or those outside the system. Any reform proposal—including changing the sources of funding—needs to consider whether the proposed changes can be reconciled with those features of the system (for instance, earnings-related, defined benefit pensions) that remain unchanged.

Pension systems design and reform can impact household *savings behavior*: Expanding coverage and enhancing the adequacy of pensions can dampen household propensity to save; or low coverage and inadequate pension benefits can lead to higher precautionary savings. Not all pension systems and reforms are equal in this respect. For example, whereas the expansion of pay-as-you-go defined benefit schemes (including universal social pensions) is more likely to negatively impact long-term savings rates, fully funded pension schemes (where contributions are accumulating in individual accounts or scheme reserves) may simply replace one form of savings with another, with economy-wide aggregate savings left unchanged.[51] In this respect, it is important to note that precautionary savings are likely an inferior substitute for formal pension systems and the protection they offer since, with the former, the amount of private savings is not linked to cash flow needs in old-age and their use is also unconstrained. Nevertheless, when considering the expansion of pension coverage and increasing average benefit levels, the possible behavioral impact on domestic savings should be factored in.

[51] Design features and financial sector conditions—comparative returns, perceived safety and security of investments and savings, access to savings before retirement, the quality of regulations, macroeconomic, monetary, exchange rate, political stability, etc.—will also influence the impact of the pension system (and its reforms) on savings and, by extension, on growth.

Pension parameters can also influence *labor supply decisions*, especially among late-career workers, through such features as early retirement rules and the conditions under which remunerated work is permissible while drawing a pension. Regarding working pensioners, that is, whether employment should be permitted while drawing an old age pension, it is important not to discourage labor supply and to avoid blanket prohibitions of earning a wage and receiving a pension in parallel. This raises a number of important issues, including whether (1) working pensioners should pay pension contributions, (2) working pensioners should be allowed to defer receiving pensions under certain conditions, and (3) there are any sectors where a prohibition may still be reasonable. To avoid disadvantaging younger workers in the labor market, the best option is to permit work while receiving pension while requiring continuing pension contributions. Deferment of pension benefits should also be permitted, that is, while regulations should not force working pensioners to forgo or defer their benefits while in employment, pensioners themselves should be allowed to delay receipt of their pension benefit.[52]

In terms of policy implementation, correctly calibrating *the pace and timing of reforms* can be as important as the substance of the reforms. In this regard, three considerations should enter the policy dialogue. First, pension reforms take a long time—often, decades—to make their fiscal and welfare impact felt. For this reason, it is important to consider the sustainability, adequacy, and efficiency of pension systems over a sufficiently long horizon and introduce reforms as soon as future issues are detected. Second, front-loaded measures may help to build commitment and reduce the risk of reform reversals. At the same time, not all reforms lend themselves easily to speedy introduction as the cohorts impacted need time to adjust to the new realities. For this reason, it is important to appreciate the difference between the timeframes of legislation, effectiveness, and implementation. When is a reform "implemented"? When the relevant legal changes are passed by legislature? Or when the new regulations become effective—which is not necessarily the same as the date when the affirming vote takes place? Or at the time when the provisions first have to be applied—which may be years away (as in the case of most retirement age increases)? It is advisable that in the course of policy dialogues, attention is focused on the date at which the reformed regulations are actually applied, and that the front- or back-loading of reforms is understood in this context. Third, in systems where individual choice and behavioral incentives play a large role, announcement effects also need to be considered. For instance, tightening early retirement rules (which will be known to the public well before the reform becomes applicable) may trigger an immediate inflow of early retirees, thereby potentially undermining short- and medium-term fiscal objectives of the reform itself. Such effects therefore present challenges that policymakers need to be aware of.

Finally, when recommending pension reform, it is important to recognize that pension spending and pension systems have unique features that set them apart from other public expenditures. Importantly, contributory pension entitlements are viewed in many jurisdictions as "earned rights" deserving legal protection not unlike property rights. This makes the retroactive revaluation of pension benefits legally challenging. Beyond legal considerations, pensions are often the most important—and, for many elderly people, the only—source of income in old-age. Scheme members in or close to retirement have little time to adjust their labor supply, consumption, and savings patterns in response to changing rules. This feature implies that grandfathering of pension rights is the rule

[52] An argument can be made for treating public sector workers differently, especially those working at government agencies. In this sector (unlike for the private sector), the potential for continuing employment may not necessarily reflect labor market conditions but the advantages of incumbency. This is often addressed through special retirement provisions that require mandatory retirement at a certain age.

rather than the exception, which means that the impact of most reform measures is felt only over a long period that may expand beyond two decades. Also, since beneficiaries remain in the system for most of their working lives, rules only impacting new retirees take a long time to take full effect.

Policy Options

A range of policy reforms are available to address the various pension challenges discussed above related to fiscal sustainability, spending adequacy and spending efficiency. These reforms can be categorized into parametric adjustments, structural reforms, and paradigm shifts.

- *Parametric adjustments* leave a pension system's overall objectives and basic features (for example, DB or DC characteristics, level of funding, mode of financing) intact, while adjusting important parameters regulating eligibility, benefit rules and contribution levels. As a general rule, where fiscally feasible, reforms should adjust fundamental system parameters gradually to allow individuals to adapt their own behavior and to not undermine individuals' past resource allocation decisions.
- *Structural reforms* also leave a pension system's overall objectives (in terms of coverage, targeted benefit levels) in place while it changes the mix of fundamental features such as public and private management; mode of financing; risk-sharing in terms of defined benefit and defined contribution arrangements; and the role of the state as regulator, provider and explicit underwriter. Examples include the partial replacement of public DB schemes with privately managed, funded DC schemes, point systems or NDCs.
- *Paradigm shifts* are much rarer and change the overall objectives of pension systems, including the role of the state. Examples include replacing earnings-related, contributory, defined benefit pension schemes with a general revenue financed flat pension focused solely on poverty alleviation (for example, as in Kosovo in 2002 or Georgia in 2004). Expanding a system of purely earnings-related schemes by adding a dedicated poverty alleviation scheme (or "zero pillar") is another example (for example, as in Chile in 2008).

The implications of these reforms for fiscal sustainability, spending adequacy and spending efficiency will depend on the precise mix of reforms across these dimensions.

Examples of Common Parametric Adjustments

Tightening eligibility criteria

Retirement age increases are among the most common parametric reforms. Increasing the statutory retirement age delays the date at which beneficiaries can retire and receive pension benefits. A common reform is to increase the statutory retirement age for women by more than that for men to bring them closer together.[53] When implemented in isolation from other parameters, this reduces the overall generosity of the pension system since beneficiaries contribute for longer and, on average, receive benefits for a shorter time period. However, it avoids the need to reduce pension benefits in retirement. This in turn can improve the fiscal sustainability of the pension system. If retirement increases are done in an actuarially neutral manner, where longer contributions histories and a

[53] Lower retirement ages for women compared to those of men do not typically reflect differences in life expectancy or health status since women tend to have higher life expectancy and better health status in retirement.

shorter period of benefit receipts results in commensurately higher benefits in retirement, then this can enhance the efficiency of the system by increasing protection in old-age. Alternatively, in the absence of commensurately higher benefits, lowering contributions can incentivize labor supply if the tax wedge is deemed too high. To be effective at addressing pension challenges, it is important that higher retirement ages are translated in longer productive years in employment, which may require complementary employment policies. It is equally important that such reforms are supported by strong social safety nets that protect any individuals who face significant income loss in later working years.

Automatic retirement age increases can also play an important role in supporting fiscal sustainability and late-career labor supply. This involves linking standard retirement ages to improvements in life expectancy at retirement or some other indicator.[54] Reliance on automatic adjustment rules can contribute to promoting sustainable pension spending and can also be attractive in a political economy context by relieving legislature from having to regularly revisit (and increase) retirement ages. Whether such an approach indeed functions better than discrete legislative actions remains to be seen since while automatic adjustments have been introduced in a number of countries (Cyprus, Denmark, Estonia, France, Greece, Italy, Portugal, United Kingdom), they have yet to be triggered.

Policy advice also needs to focus on *tightening early retirement* options where they are overly generous or where monitoring is lax. "Tightening" may take the form of benefit reductions for those who retire early to levels that are at least actuarially neutral and of limiting the maximum number of years of early retirement. Occupational early retirement is often based on outdated lists of occupations which should be periodically reviewed, although it should be noted that some jobs are indeed hazardous and negatively impact morbidity and mortality. In such cases, best practice involves: (1) ensuring that employers absorb the full cost of these activities by paying higher contributions that are sufficient to bridge the gap between the lower lifetime contributions and higher lifetime benefits resulting from retiring earlier and (2) putting a system in place for retraining employees to pursue a second career after leaving their hazardous or arduous jobs. This latter approach is particularly important in accommodating people retiring from the armed forces and the police but who are still too young and capable for retiring into the pension system. Early retirement may also be conditioned on long service periods or making allowance for women having raised children—although many social security schemes already recognize the time spent home raising children (maternity leave) as service time. Tightening early retirement rules is especially important in ensuring that increases in the statutory retirement age do not result in unwarranted increases in early retirement (including on disability grounds).

Complementary policies may be needed to address unintended side-effects of increases in the retirement age. To be effective, increasing the retirement age should translate into additional years of productive employment. However, in practice it can result in higher unemployment, increased uptake of other benefits (disability pensions or social assistance) or higher poverty among people with poorer labor market prospects. Given the relationship between life expectancy, lifetime income, health status,

[54] The objective of retirement-age increases is to address the balance between an individual's—or cohort's—working life and the years when his or her consumption is mostly supported by pension income. Since the time spent in formal education has been expanding in most countries, which delays entry into the labor market, automatic retirement-age increases may be linked not only to changes in life expectancy but also to a combination of life expectancy and expected entry into the labor force. Other automatisms include, for instance, adjusting initial pensions to life expectancy, or adjusting contribution rates and pension point values to the development of a sustainability indicator.

educational attainment and labor market prospects, a retirement age increase is a measure that the better-off can accommodate more easily than people of lower socioeconomic status. Measures to strengthen the labor market prospects of lower socioeconomic groups or to provide income support as needed in later working years may therefore be warranted.

Minimum "vesting periods" and eligibility for minimum pensions. Minimum contributory periods (or "vesting periods") is a common feature of many DB schemes and defines the minimum time members need to contribute before becoming eligible for any pension (that is, before their rights are vested). People who do not meet this criterion may be denied any pension, receive a lump-sum payment, or forgo certain protections (such as minimum benefit levels) enshrined in pension regulations. Originally this was meant to encourage loyalty to employers (including the civil service) but in recent decades it has become controversial since, depending on labor market conditions, vesting regulations can discourage certain groups from contributing and is typically highly inequitable. However, there is often room for tightening eligibility for a minimum pension within contributory schemes in a way that does not curtail individuals' right to a pension they earned through contributions but simply limit eligibility for additional benefits such as top-ups to the minimum pension.

Tightening eligibility for survivor and disability pensions. Survivor and disability pensions can make up a large segment of pension spending, up to 20 and 30 percent of the total, respectively. Best practice suggests limiting survivor pensions to immediate dependents and to periods when the surviving beneficiary is unable to adjust their labor supply to the new realities. This argues for paying permanent survivor benefits only to spouses who themselves are close to retirement and to orphans until they can be expected to enter the labor market. Under special conditions, such as when a surviving parent has no other sources of income, additional beneficiaries may be eligible and pension systems also often provide for temporary survivor benefits to ease survivors' adjustment. Generosity beyond these limits warrants further analyses. The uptake of disability pensions can be best controlled at entry since once a person exits the labor market on account of a disability pension award, the probability of reemployment (even after re-training and in the presence of supportive labor regulations) is typically small. In evaluating current practices, useful areas of scrutiny should include: whether disability assessment is based on lost or retained work capacities, the extent to which remaining employability is included in the assessment (as opposed to strictly medical assessments), the quality of control over medical professionals and organizations involved in determining the path from short-term disability (sickness) to long-term or permanent disability status, and the presence of labor market regulations promoting the re-training and employment of people living with disabilities.

Changing the level and distribution of benefits

Adjustments to accrual rates, that is, the rate at which pension rights are accrued over an individual's working or contributory life (the accrual rate), are a common feature of many pension reforms. Such adjustments affect pension spending through their impact on the replacement rate. Accrual schedules can involve constant (linear), increasing (convex), or decreasing (concave) accrual rates over a participant's working life. While many social security schemes in advanced economies have, in the pursuit of slowing down the growth of pension expenditures, reduced their accrual rates as part of their parametric reforms in recent years, these still tend to be high in both social security and civil service pension schemes in low-income countries. As a simple rule of thumb, accrual rates[55] higher than 1.8 call for further scrutiny, although lower accrual rates may still be problematic if

[55] The "accrual rate" is the percentage of the pension calculation base added to existing pension entitlements in return for an additional period (typically expressed in years) of contributions. The series of (not necessarily linear) accrual rate is often referenced as an accrual schedule.

accompanied by high life expectancy at retirement and incommensurately low contribution rates. A concave accrual schedule performs better in addressing poverty among people with short contribution histories, while a convex schedule provides stronger incentives for longer contributory careers.

Adjustments to the length of the calculation base can help improve fiscal sustainability and spending efficiency through changing the level and progressivity of pension benefits. Different occupations and career paths offer varying age-earning profiles. Final salary schemes benefit people with upward sloping age-earning profiles, including those who can receive large near-retirement promotions and salary increases. These earning profiles are typical of civil servants, public employees, and professionals. People in physically more demanding jobs requiring lower skills and offering fewer opportunities of promotions tend to have less steep, flat, or even downward-sloping age-earnings profiles. While two persons may have similar lifetime average earnings and contribution performance, a final salary scheme will reward the one with the higher final salary with higher pensions.[56] For these reasons, expanding the calculation bases toward full career is seen as good practice.

Benefit indexation. Changing the benefit indexation formula is a primary parametric reform option which, depending on wage and price dynamics, can contain spending pressures over the short term. This option can be relied on, however, only if current rules (or observable practices, in the absence of systematic indexation rules) prescribe benefit indexation that goes beyond adjustment to prices (such as wage-indexed schemes).[57] The two most important issues to address are ensuring (1) a legally described, regular, indicator-driven indexation rule and (2) the choice of indexation rule. The past three decades have seen a clear trend in benefits moving from wage indexation to price indexation. While recognizing its long-term impact on the relative value of pensions, price indexation is advisable for not only fiscal but also political economy reasons. It is fiscally more prudent to make the default indexation rule less generous and rely on discretionary pension adjustments if increases are warranted from a welfare perspective and permissible from a fiscal angle. However, the choice of benefit indexation regime should also consider accrual rates and the resulting level of starting pensions to ensure that they reflect a consumption path aligned with social norms, typical consumption patterns, and the cost of other service sought by elderly people.[58]

Adjusting contribution rates and bases

Increasing or reducing contribution rates is a matter of both tax policy and the design of the pension system. While the objective of reducing the labor tax wedge to encourage labor demand and reduce labor supply disincentives can be important, different types of payroll taxes need to be considered separately. Pension policy is driven by target replacement rates or benefit levels which require financing. In earnings-related, contributory schemes, which are the most common type of public

[56] This is inequitable and often benefits occupational groups already enjoying better-than-average access to public services such as healthcare, good quality education, and to access public transportation, aggravating perverse redistribution from the worse-off to the more affluent.

[57] Whereas partially or selectively freezing pensions at their nominal values (or reducing their real value by an index falling short of consumer price index) may be a workable short-term solution in extremely dire fiscal circumstances, these should not be considered part of sustainable fiscal and welfare policy. Furthermore, such gains may prove temporary if earlier under-indexation or freezing of pensions leads to compensatory increases in later years.

[58] For instance, free healthcare (of an appropriate quality) for the elderly reduces the need for precautionary savings or relatively higher incomes to offset private healthcare costs. Under such circumstance, a higher starting benefit combined with a lower rate of indexation may better correspond to pensioners' likely consumption pattern.

pensions, contribution rates need to reflect pension promises and cannot be divorced from benefit obligations and social objectives. For this reason, any proposals to reduce the labor tax wedge through reducing payroll taxes needs to take account of the need to ensure the fiscal sustainability of the pension system through either enhancing spending efficiency, reducing benefit generosity (for example, via increasing the retirement age) or more fundamental structural or paradigmatic reforms.

Examples of Structural and Paradigmatic Reforms

The most common structural reforms are the introduction or—more recently—the partial or full discontinuation of *privately managed, funded, defined contribution schemes*. The partial privatization of social security took place mostly in the 1990s and early 2000s in European transition economies and in many Latin American countries. These reforms typically reduce contributions to existing public defined benefit schemes and redirect payments to privately managed defined contribution schemes. In evaluating such reforms, it is important to assess their short- and long-term fiscal impacts including (1) the size, financing, and maturity of the so-called transition deficit resulting from honoring entitlements in the old scheme while reducing its revenues and (2) the impact of the reform on long-term net public pension liabilities, that is, whether the reduction of the contributions to the remaining DB scheme is accompanied by actuarially fair reductions to the benefit entitlements. A comprehensive assessment should also consider welfare consequences, that is, whether benefit annuities expected from the private pillar are based on realistic assumptions. For such reforms to be successful, the appropriate capital market preconditions—especially in terms of a diversified and sufficiently large and liquid supply of investment grade securities—need to be present and the state of financial sector intermediation conducive to introducing mandatory private pension savings.

Reversing "funded reforms" should be assessed based on their medium- and long-term fiscal and welfare impacts, as well as their effect on the credibility of other structural reforms. While newly established private pension schemes have often underperformed relative to expectations, the wave of pension reform reversals in European transition economies has been mostly driven by fiscal considerations. Nationalizing private pension assets has an immediate positive fiscal effect (lower net public debt and deficits) and growth effect (when nationalized assets are liquidated and the proceeds are used to finance higher public or private investment or consumption), while the higher public pension liabilities resulting from retroactively increased pension entitlements only mature in the distant future. Since public pension schemes do not produce balance sheets presenting their long-term financial position, a reversal's net impact is not obvious from standard public financial reporting. A comprehensive evaluation of these short- and long-term effects is needed when considering such reforms.

Merging the constituent schemes of a fragmented public pension system. Pension schemes of varying sustainability, adequacy and efficiency may be merged with the objective of developing a more integrated and transparent pension system. While existing entitlements may be grandfathered, it is important to ensure that new entitlements generated in the uniform, new pension scheme are in line with best practice. However, it may be the case that the more generous predecessor schemes are the ones that necessitated reform in the first place to address fiscal sustainability issues.

Paradigm shifts usually take the form of augmenting or replacing earnings-related schemes with flat non-contributory schemes or introducing, for the first time, a public pension scheme. In such cases, all three aspects of macro-criticality need to be assessed. From a sustainability perspective, long-term projections, which also consider growing uptake as driven by aging, are critically important to ensure that newly introduced schemes remain viable. In terms of adequacy, universal coverage, and benefit

levels sufficiently high to alleviate old-age poverty are important objectives and achieving them may require an incremental approach in light of fiscal, administrative and other constraints. Note that such paradigm shifts often de facto result from reforms that progressively reduce benefit levels to address severe short-term fiscal pressures while protecting the poorest beneficiaries, since such reforms weaken the earnings-related dimension of the system and move it gradually toward a flat-rate system focused on poverty alleviation.

BOX A1. Funded Reforms: Enabling Conditions

For governments wishing to introduce privately managed, funded pension arrangements, either as mandatory or as supplementary components of the pension system, it is necessary to ensure that critical preconditions exist before introducing such schemes. These conditions fall into four broad categories: the existence of a comprehensive pension policy, a healthy macroeconomic outlook, financial sector readiness, and implementation capacity.

In terms of *pension policy*, governments need to have a clear vision on which segments (or pillars) of the reformed pension system will fulfill the objectives of poverty alleviation, consumption smoothing, and risk pooling. It is equally important to have a broad-based social and political agreement on the underlying social objectives and the instruments needed to provide old age income security so as to avoid the need for risk of policy reversals or major policy revisions. If consumption smoothing is given greater emphasis (for instance, by re-enforcing the contribution-benefit link), it is important to ensure that the system's poverty alleviation objectives are achieved for low earners and people with shorter employment histories. It should also be remembered that while funded reforms can address certain risks, they are also potentially undermined by coverage gaps, benefit inadequacy, or demographic (aging) risks.

In terms of *macroeconomic conditions*, the most important precondition is the required fiscal space and a financing strategy to accommodate the so-called “transition deficit” generated by the need to channel pension contributions to individual accounts instead of applying them toward paying current pensions. Macroeconomic stability—including manageable levels of public debt, government deficits, inflation—is also crucial for creating an enabling environment for the operation of funded schemes. Sound fiscal policies and debt financing strategy contribute to a stable investment environment and predictable debt financing strategy, while exchange rate policies and capital controls permitting international diversification of pension fund portfolios also need to be in place.

Efficient, transparent, *liquid capital markets*, and well-regulated *financial service providers*, are also indispensable. These require the following to be in place prior to the introduction of funded reforms: reliable trading and settlement platforms, sufficiently deep and liquid capital markets, ready supply of equity and private debt securities, banks capable of providing custodial services, qualified asset managers, and an effective regulatory and supervisory framework.

ANNEX 2. INTERNAL AND EXTERNAL RESOURCES SUPPORTING ANALYTICAL WORK AND POLICY ENGAGEMENT

In establishing whether pension spending is macro-critical, identifying the issues in need of addressing and the actual reform measures, staff can rely on a rich set of internal and external resources. These resources include quantitative data, such as time series and projections, analytical papers and toolkits that can assist in performing standardized analyses. Development partners—most importantly: The World Bank and International Labour Organization—and other international agencies— Organisation for Economic Co-operation and Development (OECD) , the European Commission (EC) and the European Union (EU) agencies—are also important sources of information. The IMF Fiscal Affairs Department maintains a list of contacts in the broader social protection sphere and is available to assist non-specialist staff in identifying pension experts at development partners if the need arises for interagency discussions.

In addition to existing information and analyses, staff can also request input from the IMF Fiscal Affairs Department. This may take the form of ad hoc consultation, desk studies and technical assistance reports—the latter two of which need to be reflected in departmental work programs.

A. Internal Resources

Papers and books discussing global and regional pension policy issues include:

- Pension Reform and the Fiscal Policy Stance (December 2001)
- The Role of Private Sector Annuities Markets in a Private Pension System (May 2002)
- Pension Reform, Investment Restrictions and Capital Markets (September 2004)
- Pension Reform and Macroeconomic Stability in Latin America (May 2007)
- Pension Privatization and Country Risk (August 2008)
- Public Pension Reform: A Primer (February 2007)
- Fiscal Monitor (semiannual, with annex on pension and health spending projections)
- Stress Test for Defined Benefit Pension Plans – A Primer (February 2011)
- Pension Reforms in Emerging Europe (April 2011)
- A Fiscal Indicator for Assessing First and Second Pillar Pension Reforms (April 2011)
- Private Pension Systems in Europe: The Uncertain Road Ahead (June 2011)
- The Challenge of Public Pension Reform in Advanced and Emerging Economies (December 2011)
- Equitable and Sustainable Pensions: Challenges and Experience (June 2014)
- Automatic Adjustment Mechanisms in Asian Pension Systems? (December 2016)
- Long-Run Biological Interest Rate for Pay-As-You-Go Pensions in Advanced and Developing Countries (April 2017)
- The Future of Savings: The Role of Pension System Design in an Aging World (January 2019)
- Demographics, Pension Systems and the Saving-Investment Balance (December 2018)

Country-specific papers. There are country-specific technical assistance reports covering numerous countries: Afghanistan, Angola, Antigua and Barbuda, Argentina, Azerbaijan, Barbados, Belarus, Bolivia, Brazil, Bulgaria, Chile, China, Colombia, Czech Republic, Cyprus, Dominica, Ecuador, El Salvador, Fiji, Greece, Grenada, Honduras, Hungary, Iran, Jamaica, Japan, Jordan, Kenya, Kosovo, Macedonia, Malawi, Malta, Mexico, Moldova, Mozambique, Nepal, The Netherlands, Nicaragua, Oman, Panama, Russia, Paraguay, Poland, Portugal, Romania, Rwanda, Serbia, Slovenia, Spain, Sudan, Swaziland, Tanzania, Thailand, Trinidad and Tobago, Zambia, Zimbabwe, Ukraine, Uruguay, Vanuatu, etc.[59]

Data and projections. FAD regularly publishes long-term projections of public pension expenditures as annexes to the *Fiscal Monitor*. These pension expenditures projections are based on data obtained from development partners—primarily the World Bank, OECD, ILO, and EC—and assumptions reflecting historic trends. Projections are regularly updated when new data become available (base year expenditure and the main drivers of future trends: demographics, labor force participation, benefit levels, etc.). In case of EU member states, the triannual EC Aging Report[60] provides detailed projections that are then reflected in the *Fiscal Monitor* tables; for all other countries, it is FAD estimates that are presented in the tables. The projections reflect the impact of demographics and policies that have already been legislated but whose impact on spending manifests itself over a longer time horizon. FAD also has a tool that allows staff to identify how reforms to benefit levels, retirement ages and contributions would impact baseline financial sustainability projections (see below).

Analytical Toolkits. The *Pension Template* allows the user to examine broad pension reform options using a simple model.[61] The Template provides a bird's eye view of a complex system and can illustrate tradeoffs among policy options (reform in retirement ages, benefit generosity, and contribution rates, etc.). The Template has a user-friendly interface with pull-down menus and produces long-term fiscal and welfare (replacement rate) projections—at the same time, its results are simply indicative of the directions and scales of the impact of common reform and cannot substitute for more in-depth analyses and more granular projections. The *Expenditure Assessment Tool* (EAT) is a tool that provides information to assess public expenditures in international comparison. EAT is a user-friendly Excel-based tool, offering a choice of target countries and comparator groups. The tool is not a substitute for an in-depth spending review but provides a starting point to guide a more detailed and refined sectoral analysis.

Pensions Knowledge Exchange website. The Knowledge Exchange pension page presents basic regulatory information and country-specific indicators, as well as a simple framework for analyzing pension expenditures and their drivers. It also offers answers to common questions encountered during the cooperation between FAD and other departments, as well as short technical notes discussing the most important features of public pension systems.

[59] Please note that some of these reports are confidential or strictly confidential. Access, in these cases, can be granted only by the ministry identified in the report as the IMF's counterpart.

[60] For further details and reports, see EU Working Group on Ageing Populations and Sustainability.

[61] The Template is undergoing final revisions and is expected to become available in May 2021.

B. External Resources

Regulatory Information

Regulatory, descriptive information concerning the structure of pension systems and their basic features (covered groups, contribution rates, benefit rules, indexation, risks covered, minimum and maximum provisions, etc.) can be obtained from the following sources.

Social Security Programs Throughout the World. At this website, standardized, country-specific information is available for all social security programs (pension and health insurance, maternity, childcare, workers' compensation and unemployment insurance). Monthly summaries of legislative changes are also published, as well as topical studies.

International Labour Organization – International Social Security Association. The ISSA website provides country-profile, that is, brief descriptions of regulatory features, recent reforms and links to relevant papers and studies.

European Commission – Ageing Report Country Fiches. The triannual Ageing Report comprises segments, including the so-called country fiches, which present an in-depth description of social security regulations and their changes since the last report. The most recent vintage is 2018.

Pension Watch is a website managed by HelpAge International with its main focus on averting old-age poverty. The website offers country-specific descriptions (eligibility, amounts, uptake, cost) of social pensions.

Data Resources

The data and the following resources are freely accessible and are, in most cases, regularly updated. Regulatory information should be consulted prior to engaging country authorities in pension policy discussions and baseline projections and expected demographic, labor market and other developments, available from FAD, the United Nations, ILO, and the EC, can also provide useful background information for country work.

UN Population Division. Historic and projected population data by gender and by five- and single-year age groups until 2100, according to various assumptions. Age-specific and aggregate fertility, mortality, and migration data are also available as well as an archive of earlier vintages (useful for checking revisions).

International Labour Organization. ILO compiles numerous databases related to labor markets and social protection. The databases are internally consistent (that is, they correspond to the same definitions), but the vintages are often old. Important data sets include (1) Social Security Expenditure Database (old-age, disability, survivor pensions, family allowance, unemployment benefit expenditures, by country, year) and (2) Labor force data: employment, informality, labor force participation, etc. by age, gender, and country and in cross-country tabulations; and the World Social Protection Database. ILO also sets forth a broad range of principles covering social, economic, and human rights in its various policy documents. The ILO World Social Protection Report presents a broader universe of social protection programs that may help to place pension schemes in a more holistic policy context,

Eurostat. Eurostat's ESSPROS (European System of integrated Social Protection Statistics) database collects quantitative information from member states concerning social protection, including pensions, which covers expenditures, beneficiaries, and benefits, by gender, age, and covered risk, etc. Detailed labor market information—relying on labor market surveys and administrative data—is also available here.

European Commission Ageing Working Group. The Ageing Report includes country-specific projections and cross-country comparative tables about four demographically sensitive topics: pensions, health, education, and long-term care. The tables present estimates for all the variables used in the projections, covering demographics (fertility, mortality, migration), labor market and employment, coverage and compliance, beneficiary numbers by type of risk and gender, replacement rates and benefit ratios.

World Bank Pensions Data. The World Bank collects pension data globally and makes them available at their topical webpage. The data sets cover expenditures, contribution rates, DB scheme parameters, structure (integrated vs. separated), qualifying conditions, contribution rates, and coverage.

The World Bank ASPIRE (Atlas of Social Protection Indicators of Resilience and Equity) database is a rich data set covering a broad range of social protection functions, providing both aggregate and distributional data. It covers labor markets and labor market programs, various forms of social assistance (including social pensions), and contributory and non-contributory pensions by country, gender, year, income quintile, etc.

OECD website, at its statistics subpage, presents various pensions-related data sets, covering design, replacement rates, demographics, pension wealth, income, and poverty among the elderly. The site also makes all tables and data underlying its pension publication available and downloadable.

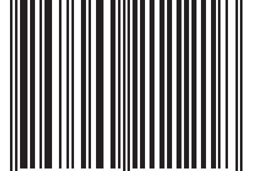
Selected External Publications

The publications below fall into two broad categories. First, they discuss global trends, emerging practices, and reform options. Second, they may be regular publications summarizing country- or region-specific developments, offer comparative analyses and time series.

- Beyond Contributory Pensions: Fourteen Experiences with Coverage Expansion in Latin America
  (Rofman, Rafael, Ignazio Apella, Evelyn Vezza, World Bank, Washington, DC, 2015)
- Live Long and Prosper: Aging in East Asia and the Pacific
  (World Bank, Washington, DC, 2016)
- Extending Pension Coverage to the Informal Sector in Africa
  (Guven, Melis, World Bank, Washington, DC, 2019)
- The Inverting Pyramid: Pension Systems Facing Demographic Challenged in Europe and Central Asia
  (Schwarz and others, World Bank, Washington, DC, 2014)
- Pensions for Public Sector Employees: Lessons from OECD Countries' Experience
  (Whitehouse, Edward, World Bank, Washington, DC, 2016)
- Arab Pension Systems: Trends and Challenges an Options for Reform
  (World Bank and Arab Monetary Fund, Washington, DC, 2017)

- Pension Funds, with Automatic Enrollment Schemes: Lessons for Emerging Economies
  (Heinz, Rudolph, World Bank, Washington, DC, 2019)
- Pension Patterns in Sub-Saharan Africa
  (Dorfman, Mark, World Bank, Washington, DC, 2015)
- Pension Panorama: Retirement-Income Systems in 53 countries
  (Whitehouse, Edward, World Bank, Washington, DC, 2007)
- Enabling Conditions for Second Pillars of Pension Systems
  (Heinz, Rudolph, and Roberto Rocha, World Bank, Washington, DC, 2009)
- Pension Markets in Focus 2019 (series)
  This series presents regulatory information, analyses, and data concerning private pension schemes, including their investment strategies, payout products and emerging challenges.
- Pension Outlook 2018 (series)
  The series review entire pension systems with a changing topical focus for every vintage.
- Pensions at a Glance (series)
  Pensions at a Glance offers quantitative cross-country comparisons regarding public and private pension systems main features and outcomes.
- Ageing and Pensions: The Challenges Facing Pension Systems
  (Pablo Antolín-Nicolás, Organisation for Economic Co-operation and Development, Paris, 2015)
- Pension Reform in Central and Eastern Europe: In Times of Crisis, Austerity and Beyond
  (International Labour Organization, Geneva, 2011)
- Reversing Pension Privatizations. Rebuilding Public Pension Systems in Eastern Europe and Latin America
  (International Labour Organization, Geneva, 2018)
- Better Pensions, Better Jobs: Towards Universal Coverage in Latin America and the Caribbean
  (Bosch, Mariano, Ángel Melguizo, and Carmen Pagés, Inter-American Development Bank, Washington, DC, 2013)
- The Taxation of Pensions
  (Holzmann, Robert, and John Piggott (editors), MIT Press, 2018)
- Building Social Protection Systems: International Standards and Human Rights Instruments
  (International Labour Organization, 2021)
- Good Intentions, Bad Outcomes: Social Policy, Informality, and Economic Growth in Mexico
  (Levy, Santiago, The Brookings Institution, Washington, DC, 2008)
- Do Payroll Tax Cuts Boost Formal Jobs in Developing Countries?
  (Pagés, Carmen, IZA – Institute of Labor Economics, 2017)

PUBLICATIONS



IMF Engagement on Pension Issues in Surveillance and Program Work

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