Pension Diagnostic Assessment
Pensions Core Course
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The World Bank
Organization

I. Pension Diagnostic Assessment –
   A. Evaluation Process & Criteria
   B. Data
   C. Indicators
   D. Tools

II. Conceptual Framework & Design Typology
   a.

III. Questions for discussion
Pension Diagnostic Assessment
Diagnostic Assessment 1. – Evaluation Process & Criteria

**Initial Conditions & Inherited System**
- **Demand** (Objectives)
  - consumption smoothing & elderly poverty protection
- **Supply** - mandatory & voluntary pension & social security schemes
- Family & community support

**Enabling environment**
- Existing design
- Demographic profile
- Macro-economic environment
- Institutional Capacity
- Financial market status
- Political economy

(Motivating reform, framing & constraining reform options)

**Reform objectives**
- **Primary**: improving coverage, adequacy, & sustainability for the long-term
- **Secondary**: improving labor markets, macro/fiscal position, & contributing to financial market development.

**Reform Design & Implementation Options**
- Design reforms - introduce new schemes, parametric & structural reforms
- Governance, Institutional and regulatory reforms
- Strengthening institutions & implementation
What are two key objectives of social security systems?

A. Smooth consumption in old age
B. Protect the elderly against poverty
C. Develop financial markets
D. Improve labor markets
E. Improve the rate of return on savings
F. A through E
G. A, B, C, D.
H. A and B
I. None of the above
Diğer değerlendirmeyi 2. – Veri, İndikatörler ve Araçlar

**Information/Data**
- Country HH survey data
- ADEPT-SP x/country data

**Indicators**
- Environment
  - Demographic
  - Economic
  - Financial
  - Informal Support

- Design
  - Structure of pension system
  - Qualifying conditions
  - Parameters

- Performance
  - Coverage
  - Adequacy
  - Financial sustainability

**Initial conditions**
- Elderly incomes, vulnerability & poverty

**Mandatory & voluntary pension systems & social security schemes**
- Administrative data from social welfare schemes, housing, health provision.
- HH survey data.

**Tools**
- ADEPT-SP
- Apex
- PROST
- ASPIRE & ext. x-country data
# Diagnostic Assessment 3. Indicators

## Indicators

<table>
<thead>
<tr>
<th>Environment</th>
<th>Design</th>
<th>Performance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td><strong>Structure</strong></td>
<td><strong>Coverage</strong></td>
</tr>
<tr>
<td>- Old-age &amp; system dependency ratios (historical &amp; projected)</td>
<td>- Pillars (benefit design, financing, institutional structure)</td>
<td>- Contributors/labor force or working-age population</td>
</tr>
<tr>
<td>- Life expectancy at retirement age (projected)</td>
<td>- Civil service (integrated vs. separate)</td>
<td>- Recipients (% total &amp; % age 65+)</td>
</tr>
<tr>
<td>- Fertility (historical &amp; projected)</td>
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</tr>
<tr>
<td><strong>Economic</strong></td>
<td><strong>Qualifying conditions</strong></td>
<td><strong>Adequacy</strong></td>
</tr>
<tr>
<td>- Labor force participation</td>
<td>Eligibility ages</td>
<td>- Replacement rates</td>
</tr>
<tr>
<td>- Public &amp; Publicly guaranteed debt (% GDP)</td>
<td>Vesting</td>
<td>- Pension income/elderly expenditures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Elderly incomes</td>
</tr>
<tr>
<td><strong>Financial &amp; Institutional</strong></td>
<td><strong>Parameters</strong></td>
<td><strong>Sustainability</strong></td>
</tr>
<tr>
<td>- Financial sector development indicators</td>
<td>- Pension contribution rates + caps</td>
<td>- Pension spending (% GDP)</td>
</tr>
<tr>
<td></td>
<td>- Social insurance contribution rates</td>
<td>- PV of financing gap (% GDP)</td>
</tr>
<tr>
<td></td>
<td>- Target replacement rates</td>
<td>- PV spending/PV contributions (%)</td>
</tr>
<tr>
<td><strong>Government effectiveness</strong></td>
<td>- Target pension wealth</td>
<td></td>
</tr>
<tr>
<td>- Informal support</td>
<td></td>
<td></td>
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<tr>
<td>- Co-residence rates</td>
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</tbody>
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What are key **design** features of public pension schemes?

A. Structure (defined-benefit, defined-contribution, hybrid)
B. Demographic profile
C. Parameters – contribution rates, accrual rates, indexation.
D. Governance
E. Qualifying conditions
F. A, C, E
G. All of those A-E
What are key criteria for measuring performance of public pension schemes?

A. Sustainability from a system and fiscal perspective.
B. Development of financial markets.
C. Improving labor market efficiency
D. Adequacy – replacement rates and elderly poverty protection.
E. Coverage – Elderly and labor force coverage

F. A, D, E
G. A, B, E
H. A-E
## Diagnostic Assessment – 4. Tools

### ADEPT-SP
- Elderly welfare
- Elderly poverty
- Co-residence
- Elderly income generation
- Comparisons of welfare, poverty across elderly, non-elderly & household types.

### PROST
**Baseline.** Long-term projections of *financing gap* for existing schemes + *replacement rates* for current and future retirees

**Reform scenarios.** Long-term projections *financing gap* + *replacement rates* for parametric and/or structural reforms

Outputs to simulate *other instruments* (social pensions, voluntary savings)

### APEX
Evaluation of individual level benefits across instruments + for different income groups.

Individual replacement rates

Replacement of average wage

Pension wealth

### WB Database & External X-Country Data
*Cross-country comparisons*

- Demographics
- Coverage
- Adequacy
- Affordability
- Sustainability
Which modeling tools employ Household Survey Data?

A. PROST
B. ADEPT
C. APEX
D. Cross-country comparisons
E. B, D
F. B, C, D
G. All of those A-D
CONCEPTUAL FRAMEWORK – DESIGN TYPOLOGY
**Objective**

- Voluntary savings to smooth consumption
- Mandatory savings to smooth consumption
- Mandatory co-insurance against consumption shocks
- Elderly poverty protection
- Protection against poverty & consumption shocks

**Instrument**

- Third pillar - Voluntary occupational & individual pension arrangements
- Second pillar – Mandatory contributory earnings-related pension savings
- First pillar – Mandatory contributory earnings related pension insurance
- Zero pillar – Non-contributory elderly social assistance
- Fourth pillar - other assistance programs (eg. health or housing) assisting elderly income protection
How would you characterize the pillar design in your country?

A. Mandatory contributory pension insurance + non-contributory elderly assistance (pillars 1 & 0)
B. Mandatory contributory pension insurance only (pillar 1)
C. Mandatory pension savings only (pillar 2)
D. Mandatory contributory pension insurance + mandatory pension savings + non-contributory elderly assistance (pillars 1, 2 & 0)
E. Voluntary civil service and occupational schemes and non-contributory elderly assistance (pillars 3 and 0)
F. Other
Mandatory, contributory scheme – DB, DC; PAYG, funded.

Social assistance for households &/or elderly.

Special incentives for pension savings for informal sector (eg. MDC, ex-post subsidies)

Occupational & Individual Pensions Savings

Mandatory, contributory scheme – DB, DC; PAYG, funded.

Stylistic Illustration of potential pension design from an individual perspective

Stylistic Illustration of Possible Multi-pillar design
The coverage challenge

Stylistic Illustration of current benefits from an individual perspective

Uncovered Population

Individual retirement benefit as a % of average retiree income

Social Assistance or Elderly Assistance

Retirees’ Income as a % of Average Retiree Income

Minimum Pension

Pension Insurance Scheme
What are the factors to consider in determining the redistribution through the pension system?

A. The combined redistributive effect of all the pillars on retiree incomes

B. The distribution of worker incomes and retiree incomes
A. Design options – Non-Contributory Schemes

**Instrument Types**

1. *Elderly social assistance*
   - Universal
   - Pensions-tested
   - Resource/means tested
   - Subsidized minimum social insurance benefit

2. *Household social assistance*

**Benefit Parameters**

- Qualification criteria - eligibility age, means testing, pension testing
- Targeting method
- Benefit level
- Indexation
- Clawback or other benefit adjustments

**Design Considerations**

- Universal vs. targeted
- Integration w/contributory schemes
- Elderly assistance vs. household assistance
- Targeting methods – weighing targeting effectiveness
- Benefit level considerations - Reconciling coverage vs. adequacy & fiscal envelope
- Incentive effects of different designs & benefit levels
B. Design options – Earnings-related Contributory Schemes

**Contributions**
- Mandatory
- Quasi-voluntary
- Voluntary

**Benefit Design**
- Earnings related
  - 1. Defined benefit (Conventional DB Points)
  - 2. Defined contribution
  - 3. Hybrid (Non-earnings related)

**Financing**
- Pay-as-you go
- Partially funded
- Fully funded

**Institutional Design**
- Centralized account and financial management
- Decentralized account and financial management
Weighing the Tradeoffs in Pension Design Parameters

Long-term affordability
(Long-term contribution rate & fiscal costs)

Adequacy
(Target Replacement Rate)

Work-retirement balance
(Retirement Age)

Life expectancy at age 60 (2010) 17.6 years (men), 21.9 years (women).
## B. Weighting the Advantages & Disadvantages of PAYG DB & FDC Schemes

### PAYG Defined Benefit Schemes

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplicity</td>
<td></td>
</tr>
<tr>
<td>Limited information/infrastructure requirements</td>
<td>• Parameters need to be adjusted over time</td>
</tr>
<tr>
<td></td>
<td>• Changes in parameters can result in an effective partial default.</td>
</tr>
<tr>
<td>Longevity risks covered by plan sponsor. Indexation risks may be covered</td>
<td>Unsustainable benefits can lead to partial default in pension promises + severe fiscal burdens.</td>
</tr>
<tr>
<td>Scaled premium financing enables more generous benefits for initial generations.</td>
<td>Poor designs can have weak incentives for working &amp; regressive benefits for higher income workers</td>
</tr>
<tr>
<td>Can compensate for risks of individual myopia, inappropriate planning, &amp; financial market risks.</td>
<td>Central management can contribute to weak disclosure and accountability, poor service standards and weak investment returns.</td>
</tr>
<tr>
<td>Advantages</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Address population aging (compared to PAYG-DB)</td>
<td>Transitioning requires the payment of both current benefits and contributions on behalf of current workers resulting in a financing challenge for “transition costs”</td>
</tr>
<tr>
<td>Can improve benefits for retirees if returns after fees greater than wage growth.</td>
<td>Administrative costs of individual choice materially affect pension benefits.</td>
</tr>
<tr>
<td>Can insulate members from political risk - ensure that pension benefits are fully delivered</td>
<td>Requirements for sufficient enabling conditions - fiscal conditions; depth, breadth and contestability of financial markets; regulation and supervision of financial markets &amp; pension providers.</td>
</tr>
<tr>
<td>Eliminates a contingent fiscal obligation to make good on pension claims</td>
<td>Significant institutional requirements including information systems, regulation and supervision.</td>
</tr>
<tr>
<td>Strong incentives for work and contributions (benefits linked to contributions and life expectancy).</td>
<td></td>
</tr>
<tr>
<td>Incentives for strong investment and account management through consumer choice &amp; regulation.</td>
<td>Subjects participants to financial market risk yet under a mandatory regime. Regulators need to oversee investment choices of members</td>
</tr>
<tr>
<td>Can assist in achieving secondary objectives of labor market efficiency and financial market development</td>
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B. Weighting the Advantages & Disadvantages of PAYG DB & FDC Schemes (3)

Hybrid approach of 1\textsuperscript{st} & 2\textsuperscript{nd} pillars can diversify risks

Well designed PAYG DB schemes & NDC schemes can
• align contributions & benefits (long-term)
• ensure appropriate indexation
• ensure long-term sustainability
• establish automatic adjustment mechanisms.

PAYG schemes still
• Require buffer funds & pre-funding (aging + ensure payment in the face of shocks)
• Still face challenges of adequacy in the face of aging

And FDC components still pose challenges.
What are key considerations in considering an FDC schemes to replace PAYB schemes?

A. Ability of pension system or treasury to finance transition costs
B. Enabling conditions including fiscal, financial markets, regulatory and supervisory capacity.
C. Credibility of existing PAYG scheme
D. Inherited system, country needs, objectives.
E. All of the above.
F. Other
C. Voluntary Occupational & Individual Schemes – Policy Considerations

*Occupational schemes* - important for formal sector employees –
- compensate design rigidities of other schemes
- enables deferred compensation which supports investments in human capital

*Individual schemes* - important role for middle and upper income self-employed
- Both entail financial and agency risks resulting from private pension management
- Strong regulation essential
- Tax incentives requires income limitations.
C. Occupational Schemes for Civil Servants – Policy Considerations

- **Harmonization & integration** w/national schemes for labor mobility - portability losses and labor market effects

- **Fiscal cost.** Tension between deferred compensation for non-wage benefits & other fiscal priorities. *Consider in context of compensation review.*

- **Final pay schemes** - weak incentives & higher effective income replacement for the highest paid workers.

- **Weak/discretionary indexation** leaves retirees insufficiently protected.

- **Technical issues** – commutation, annuity factors, wage base.
## D. Institutional Issues

<table>
<thead>
<tr>
<th>Administrative Infrastructure and Institutional Arrangements</th>
<th>Governance and Accountability</th>
<th>Legal and Regulatory</th>
<th>Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-contributory pensions or old age assistance</strong></td>
<td></td>
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</tr>
<tr>
<td>• Unique identification</td>
<td>• Rules, roles and controls.</td>
<td></td>
<td>• External audit and evaluation</td>
</tr>
<tr>
<td>• Means-testing infrastructure</td>
<td>• Transparent disclosure</td>
<td></td>
<td>• Periodic independent assessment</td>
</tr>
<tr>
<td>• Application and eligibility certification</td>
<td>• Complaint redress</td>
<td></td>
<td>• M&amp;E evaluation processes</td>
</tr>
<tr>
<td>• Record-keeping and data management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Disbursement mechanisms</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>1st Pillar Mandatory Defined-benefit scheme</strong></td>
<td><strong>Above</strong></td>
<td><strong>Legal framework specifying the rights &amp; resp. of contributors, beneficiaries, employers, agents, managers etc.</strong></td>
<td></td>
</tr>
<tr>
<td>• Unique ID</td>
<td>+ Governing body &amp; policies for managing institutions</td>
<td></td>
<td>• External oversight of managing institution useful.</td>
</tr>
<tr>
<td>• Record-keeping and data management</td>
<td></td>
<td></td>
<td>• External audit and accountability processes.</td>
</tr>
<tr>
<td>• Funds management infrastructure and governance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Contribution and disbursement mechanisms + payment systems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2nd Pillar funded defined benefit scheme</strong></td>
<td><strong>Governance policies &amp; oversight to address principle-agent issues</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative systems + infrastructure for competitive individual choice of fund managers &amp; custodians</td>
<td>• Accounting, audit and valuation infrastructure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Depth, breadth and contestability for pension fund</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;</td>
<td></td>
<td>Competent, empowered &amp; independent pension supervisory authority authorizing &amp; supervising all necessary agents, instruments and processes.</td>
</tr>
</tbody>
</table>
Multi-pillared pension systems - *elements with varying risk characteristics*.

*Portfolio approach* can accommodate the diversity of societal needs and economic characteristics. Multiple instruments can optimize desired individual and societal benefits while minimizing relative risks.

*Mix of instruments* (& pillars) depends upon:
- Objectives (income replacement & poverty protection)
- Inherited policies and institutions
- Environmental conditions (demographic, fiscal, admin systems, financial markets)
- Policy choices who bears what risks
E. Combining Multi-Pillar Design Options

- Earnings-related 1\textsuperscript{st} & 2\textsuperscript{nd} pillar schemes most effective for formal sector wage-based workers

- Occupational schemes (3\textsuperscript{rd} pillars) generally cover established firms & often the least poorest workers

- Individual schemes (3\textsuperscript{rd} pillars) for workers of all incomes (formal & informal) though often only cover workers with relatively high and/or stable incomes.

- Non-contributory schemes (Zero pillars) generally aim to assist at least the poorest elderly.
Conclusions

*Diagnostic assessment* – existing programs, reform needs & reform scenarios based on:

- Coverage
- Adequacy
- Sustainability

*Simulation and modeling tools* are employed to ensure an evidence base for policy evaluation including ADEPT, PROST and APEX; comparative data is also reviewed.

*Menu of mandatory and voluntary instruments* - appropriate to needs and enabling conditions.

*Elderly social assistance* – can address gaps in coverage but needs to be considered against other needy populations.