Pensions Diagnostic Assessment and Conceptual Framework

Pensions Core Course
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The World Bank

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1. Diagnostic assessment process
2. Conceptual framework – design typology
Diagnostic Assessment
Diagnostic Assessment (1) – Evaluation Process & Criteria

Initial Conditions & Inherited System
- Demand - Need for consumption smoothing & elderly poverty protection
- Supply - mandatory & voluntary pension & social security schemes
- Family & community support

Enabling environment (Motivating reform, framing & constraining reform options)
- Existing design
- Demographic profile
- Macroeconomic environment
- Institutional Capacity
- Financial market status
- Political economy

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

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Diagnostic Assessment (2) – Data, Indicators and Tools

Initial conditions

Elderly incomes, vulnerability & poverty

Mandatory & voluntary pension systems & social security schemes

Additional state support

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

Tools

• ADEPT-SP
• Apex
• PROST
• ASPIRE & ext. x-country data

Environment –

• UN Population Projections
• Country admin data
• Financial market data
• Macro & fiscal data (country/IMF)

System design –

• Admin data/country laws
• WB database comparators

Performance –

• Admin data/country laws
• WB database comparators
• HH survey data

Additional state support

• Administrative data from social welfare schemes, housing, health provision.
• HH survey 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</td>
<td>- Pillars (benefit design, financing, institutional structure)</td>
<td>- Contributors/labor force or working-age population</td>
</tr>
<tr>
<td>dependency ratios</td>
<td>- Civil service (integrated vs. separate)</td>
<td>- Recipients (% total &amp; % age 65+)</td>
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<tr>
<td>(historical &amp; projected)</td>
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<tr>
<td>Life expectancy at</td>
<td></td>
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</tr>
<tr>
<td>retirement age (projected)</td>
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<td></td>
</tr>
<tr>
<td>Fertility (historical &amp; projected)</td>
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<td></td>
</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><strong>Financial &amp; Institutional</strong></td>
<td><strong>Parameters</strong></td>
<td>- Elderly incomes</td>
</tr>
<tr>
<td>Financial sector</td>
<td>- Pension contribution rates + caps</td>
<td>- Elderly poverty (before &amp; after benefits)</td>
</tr>
<tr>
<td>development indicators</td>
<td>- Social insurance contribution rates</td>
<td></td>
</tr>
<tr>
<td><strong>Government effectiveness</strong></td>
<td><strong>Target replacement rates</strong></td>
<td><strong>Sustainability</strong></td>
</tr>
<tr>
<td>Informal support</td>
<td>- Target pension wealth</td>
<td>- Pension spending (% GDP)</td>
</tr>
<tr>
<td>Co-residence rates</td>
<td></td>
<td>- PV of financing gap (% GDP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PV spending/PV contributions (%)</td>
</tr>
</tbody>
</table>

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## Diagnostic Assessment – 4. Tools

### Tools

<table>
<thead>
<tr>
<th>ADEPT-SP</th>
<th>PROST</th>
<th>APEX</th>
<th>WB Database &amp; External X-Country Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Elderly welfare</td>
<td>▪ <strong>Baseline.</strong> Long-term projections of <em>financing gap</em> for existing schemes + <em>replacement rates</em> for current and future retirees</td>
<td>Evaluation of individual level benefits across instruments + for different income groups.</td>
<td><em>Cross-country comparisons</em></td>
</tr>
</tbody>
</table>
| ▪ Elderly poverty | ▪ **Reform scenarios.** Long-term projections *financing gap* + *replacement rates* for parametric and/or structural reforms | Individual replacement rates | - Demographics  
| ▪ Co-residence    | ▪ Outputs to simulate *other instruments* (social pensions, voluntary savings) | Replacement of average wage  
| ▪ Elderly income generation | | Pension wealth | - Coverage  
| ▪ Comparisons of welfare, poverty across elderly, non-elderly & household types. | | | - Adequacy  
| | | | - Affordability  
| | | | - Sustainability  

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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**

1. **Third pillar** - Voluntary occupational & individual pension arrangements
2. **Second pillar** – Mandatory contributory earnings-related pension savings
3. **First pillar** – Mandatory contributory earnings related pension insurance
4. **Zero pillar** – Non-contributory elderly social assistance
5. **Fourth pillar** - other assistance programs (eg. health or housing) assisting elderly income protection

**Design typology**
Mandatory, contributory scheme – DB, DC; PAYG, funded.

Social assistance for households &/or elderly.

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

Occupational & Individual Pensions Savings

Stylistic Illustration of possible multi-pillar design

Pension benefit as a percent of individual pre-retirement wage

Individual pre-retirement wage as a % of the average wage in the economy

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Redistribution in Pensions – OECD Illustrations

- Individual earnings, multiple of economy-wide average
- Gross relative pension level
- Gross relative pension value

Countries included:
- Australia
- Canada
- Denmark
- United Kingdom
- Finland
- Luxembourg
- Austria
- Sweden
- France
- Japan
- United States
- Switzerland
- Germany

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The coverage challenge

Stylistic Illustration of current benefits from an individual perspective

Individual Pre-retirement Income as a % of Average

- Social assistance /elderly assistance
- Minimum Pension
- Contributory pension
- Occupational Pension Scheme
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

Benefit level

Indexation

Clawback or other benefit adjustments

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A. Design considerations – non-contributory schemes

- Universal vs. targeted
- Integration w/contributory schemes – minimum benefit
- Elderly assistance vs. household social assistance
- Targeting methods – weighing targeting effectiveness
- Benefit level considerations
  - Reconciling coverage vs. adequacy & fiscal envelope
  - Fiscal affordability w/aging.
- 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
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 of design</td>
<td></td>
</tr>
<tr>
<td>Limited information and infrastructure requirements</td>
<td>Parameters need to be adjusted over time to respond to and anticipate demographic changes. Changes in parameters can result in an effective partial default in pension promises.</td>
</tr>
<tr>
<td>Longevity risks covered by plan sponsor; indexation risks may be covered in benefit formula</td>
<td>Unsustainable benefit promises invite both partial default in pension promises and severe fiscal burdens.</td>
</tr>
<tr>
<td>Scaled premium financing enables more generous benefits for the current generation than would be the case for an immature scheme.</td>
<td>Poorly designed DB schemes have weak incentives for working longer and can inequitably provide somewhat regressive benefits for higher income workers.</td>
</tr>
<tr>
<td>Can compensate for risks of individual myopia, inappropriate planning, and financial market risks.</td>
<td>Central management can contribute to weak disclosure and participant accountability, poor service standards and weak investment returns.</td>
</tr>
</tbody>
</table>
B. Weighing the Advantages and Disadvantages of PAYG DB vs FDC Schemes (2)

## Funded Defined Contribution Schemes

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<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 as 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 volatility and risk yet under a mandatory regime. Regulators generally need to constrain the 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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Hybrid approach of 1st & 2nd pillars can diversify risks to individuals.

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

Yet PAYG schemes still
- Require substantial buffer funds & pre-funding (aging + ensure payment in the face of shocks)
- Face challenges of adequacy in the face of aging
Weighing the Tradeoffs in Pension Design

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

Adequacy (Target Replacement Rate)

Work-retirement balance (Retirement Age)
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** with national schemes for labor mobility - portability losses and labor market effects

- **Fiscal cost**. Often substantial deferred compensation with a high *fiscal cost* the expense of other critical 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>
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<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> + Governing body &amp; policies for managing institutions</td>
<td>Legal framework specifying the rights &amp; resp. of contributors, beneficiaries, employers, agents, managers etc.</td>
<td></td>
</tr>
<tr>
<td>• Unique ID</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>• Record-keeping and data management</td>
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<td></td>
<td></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>
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</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>Competent, empowered &amp; independent pension supervisory authority authorizing &amp; supervising all necessary agents, instruments and processes.</td>
</tr>
<tr>
<td>Administrative systems + infrastructure for competitive individual choice of fund managers &amp; custodians</td>
<td><strong>Accounting, audit and valuation infrastructure.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Depth, breadth and contestability for pension fund investments.</td>
<td><strong>Depth, breadth and contestability for pension fund investments.</strong></td>
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</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 (2)

- Earnings-related 1\textsuperscript{st} & 2\textsuperscript{nd} pillar schemes generally only been effective for formal sector workers with wages or in countries with strong tax net coverage.

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

- Individual schemes (3\textsuperscript{rd} pillars) considered 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
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 pensions savings and insurance instruments** - appropriate to its needs and enabling conditions.

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