

Pension Indicators

**Reliable statistics to improve
pension policy-making**

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Axia Economics

The need for reliable and up-to-date data

- ❑ Valuable lessons to be learned from other countries
- ❑ More countries address pressures of population ageing and maturing of pension systems
- ❑ Rapid change and widespread pension reform
- ❑ Need for timely information about increasingly diverse retirement-income provision
- ❑ Move away from narrow focus on financial sustainability
- ❑ Greater emphasis on a 'results-based' policy-making
- ❑ Impact of policy changes needs to be identified, measured and assessed

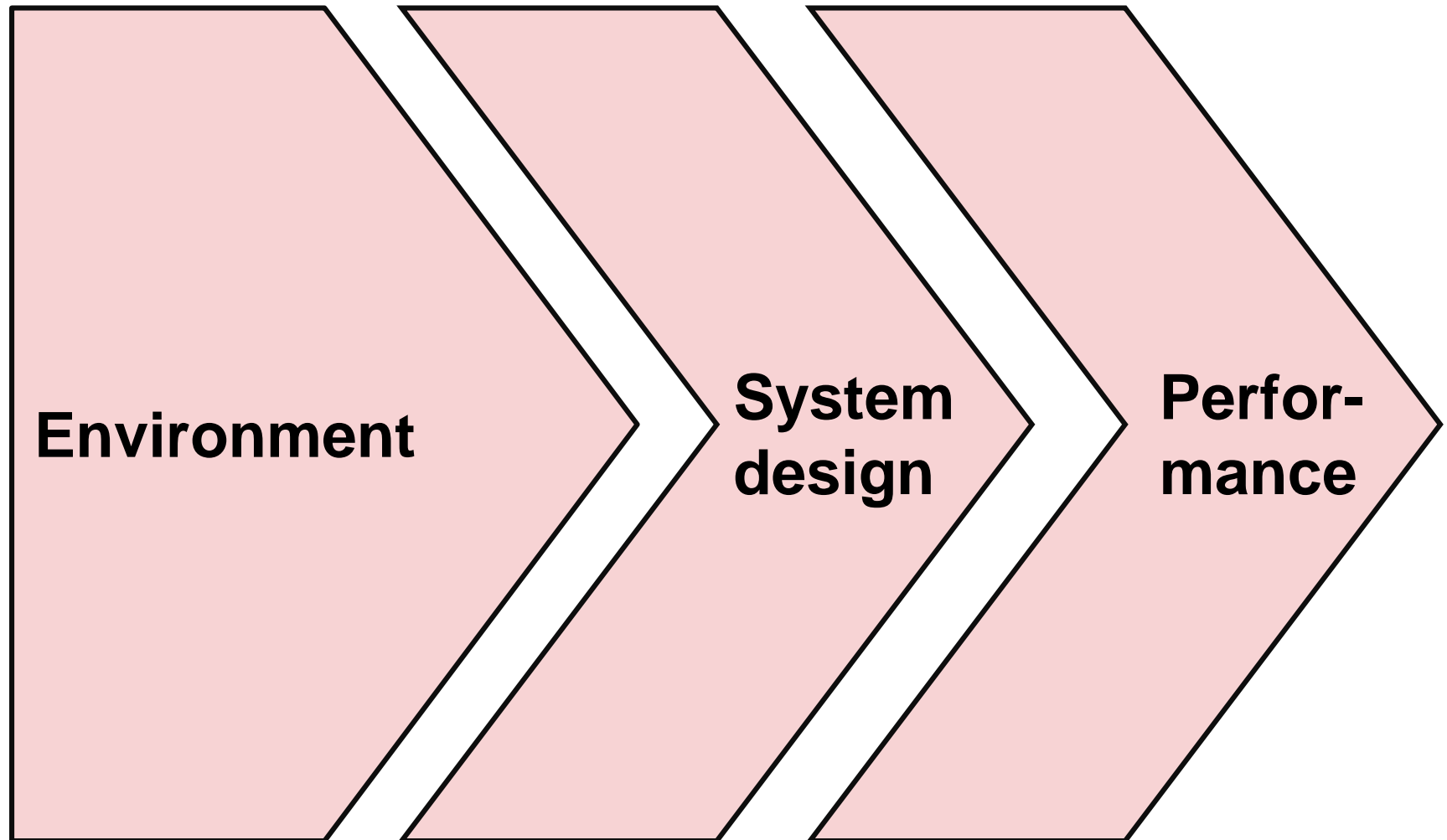
Data sources

- ❑ Primary sources: national
 - ❑ administrative: published or databases
 - ❑ household surveys
 - ❑ labour-force surveys
- ❑ Secondary sources: international organisations
 - ❑ World Bank
 - ❑ OECD (Organisation for Economic Co-operation and Development)
 - ❑ Regional development banks
 - ❑ ILO (International Labour Office/Organisation)
 - ❑ United Nations
 - ❑ ISSA (International Social Security Organisation)

Database: Constraints and challenges

- ❑ Capacity and resources on the national level
- ❑ Co-ordination between national agencies
- ❑ Missing or wrong information of individual records
- ❑ Corruption, evasion and abuse of systems
- ❑ Comparability in secondary sources
- ❑ Applicability of key concepts

Organising the indicators



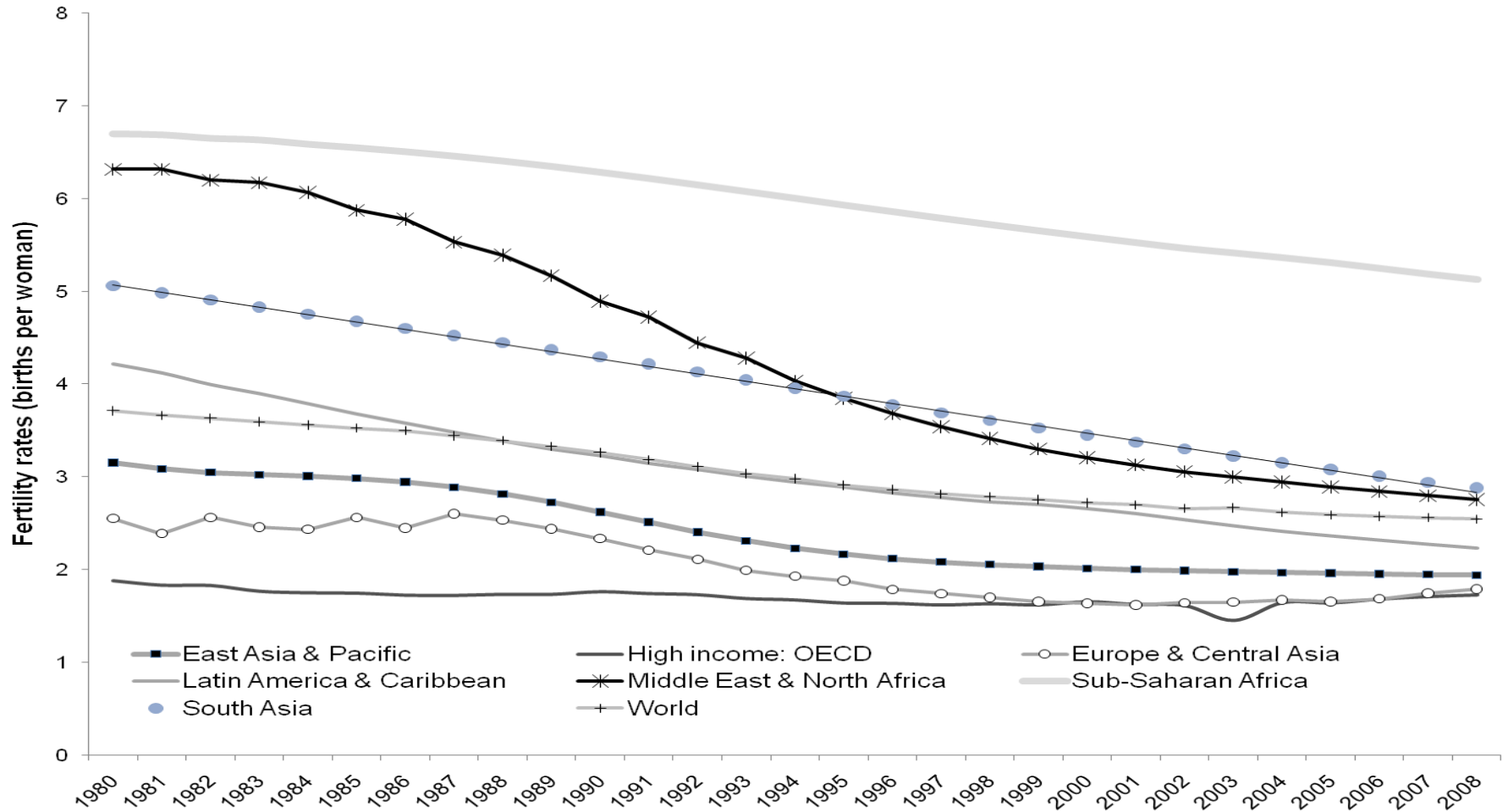
Environment Indicators

**Demographic, economic and
social context**

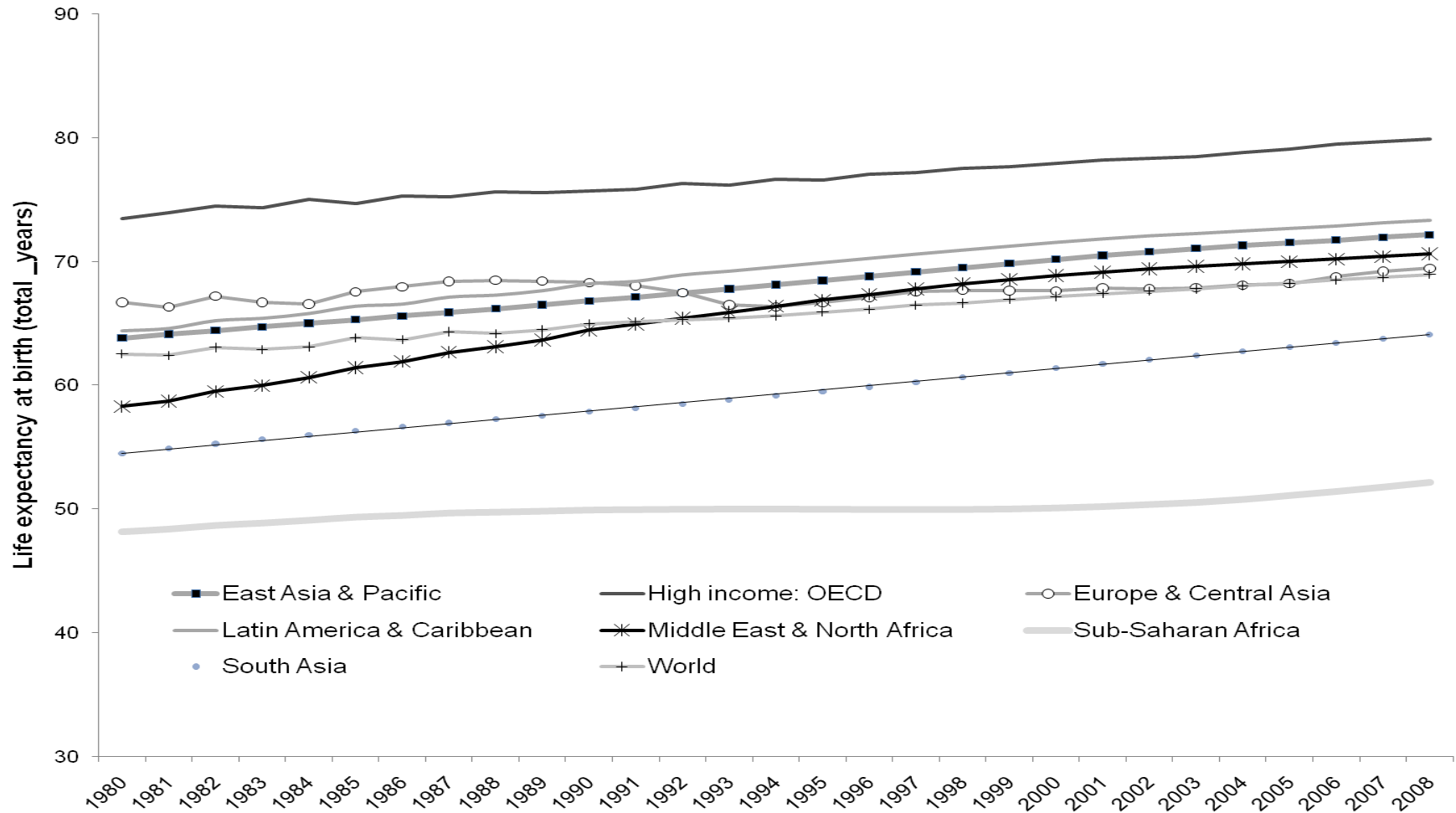
Demographic, economic and social context

- Well known phenomenon of population ageing
 - Lower fertility
 - Longer life expectancy
- Patterns of labour-force participation by age
- Public finances: a constraint on pension-reform options
- Financial-sector development: a constraint on the direction of pension reform?

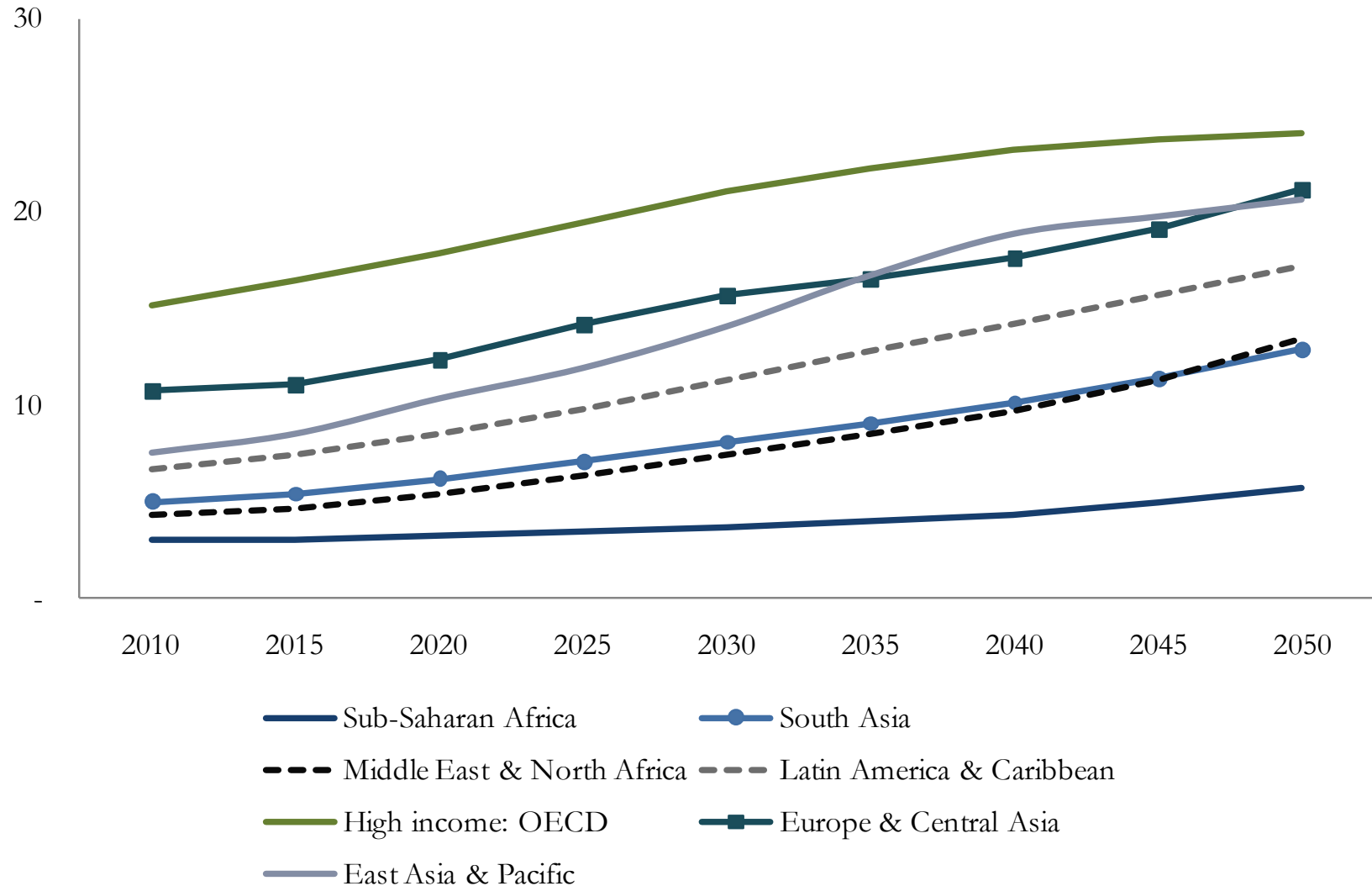
Demographic change: Fertility



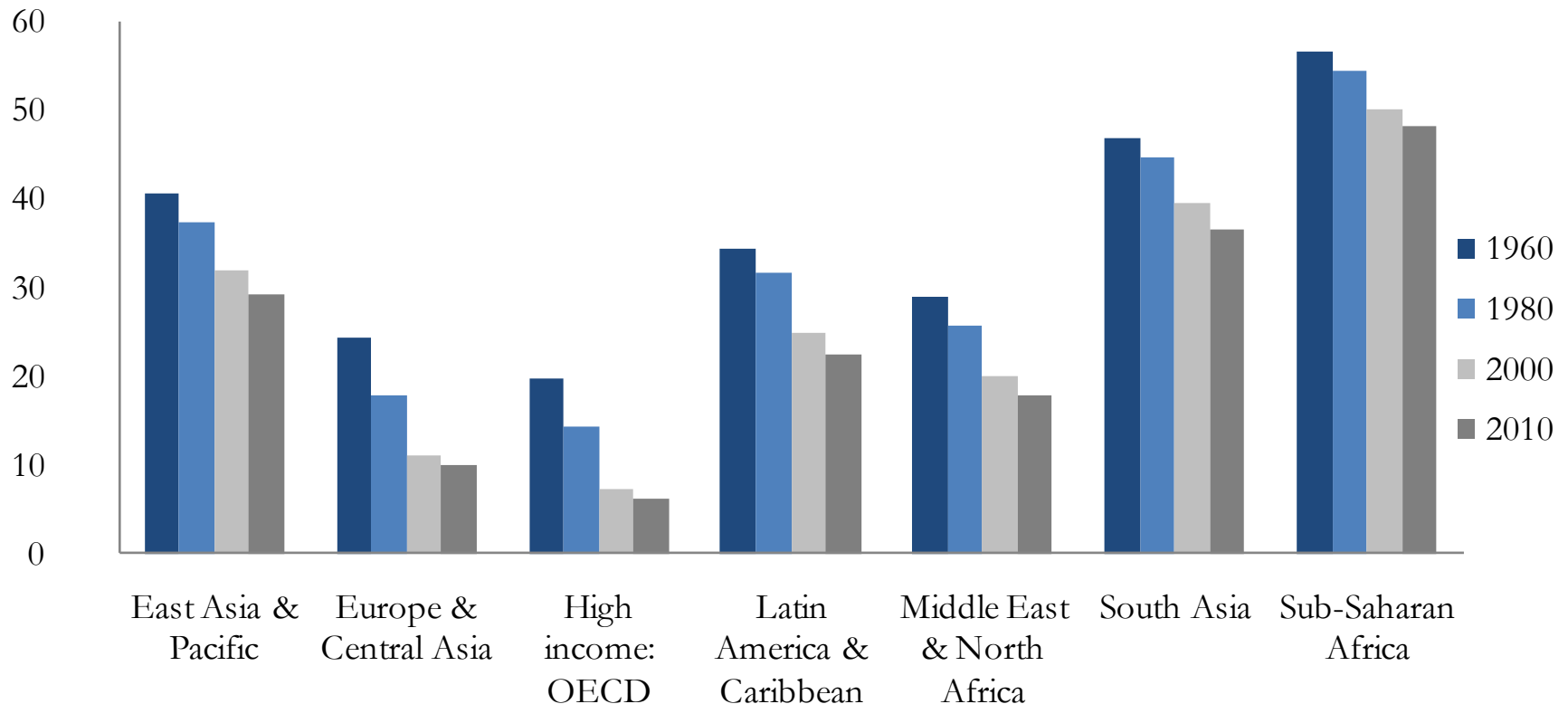
Demographic change: Life expectancy at birth



Demographic change: Population ageing, projections



Economic context: labour-market participation of over 65s



Source: ILO

Other environment indicators

- ❑ Fiscal situation: a constraint on reform choices?
 - ❑ budget deficit
 - ❑ government debt
- ❑ Financial-market development
 - ❑ to be developed using World Bank indicators
- ❑ Institutions
 - ❑ to be developed using World Bank governance indicators

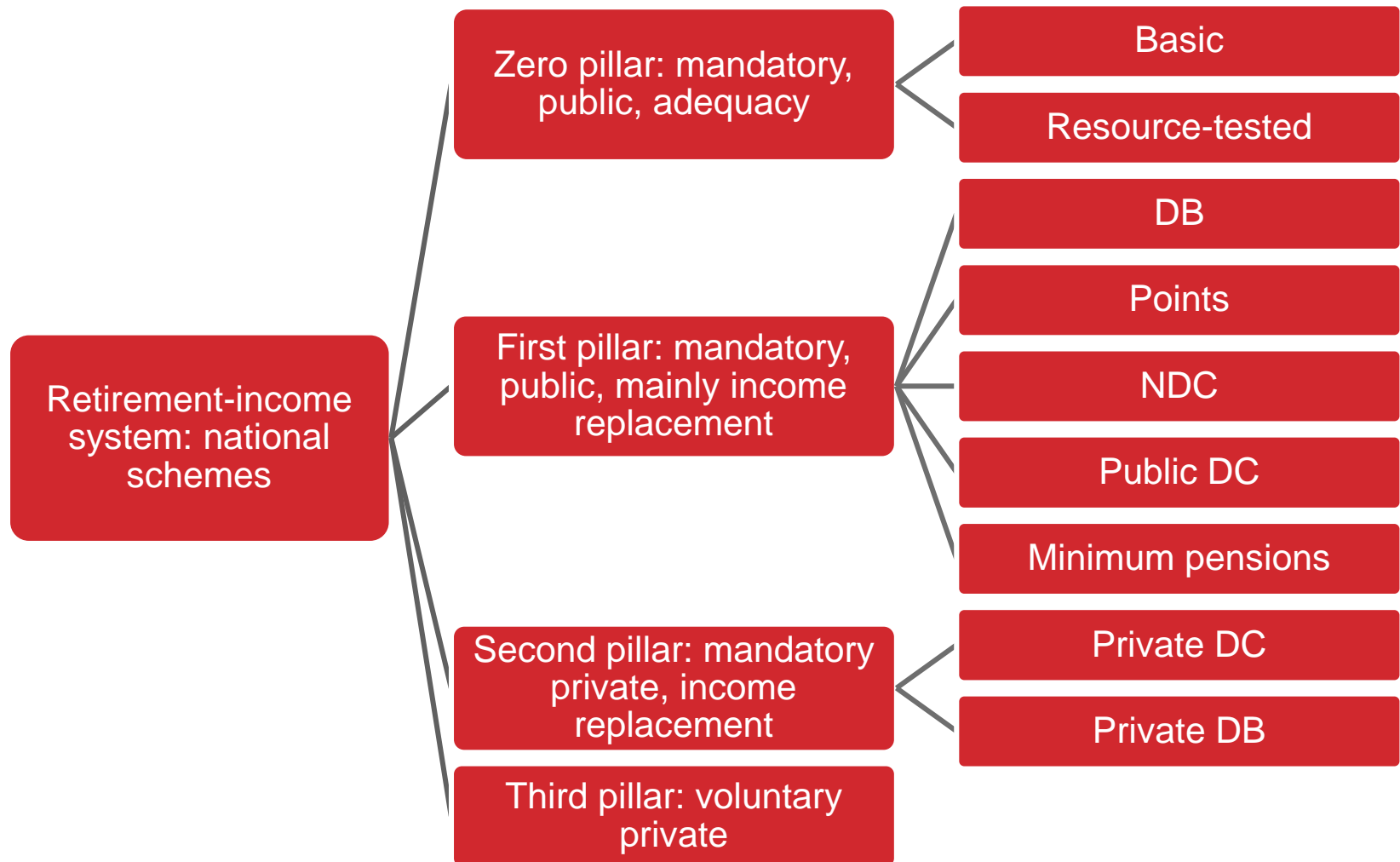
Kaufmann, D., A. Kraay, M. Mastruzzi (2009), 'Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996-2008', Policy Research Working Paper no. 4978, World Bank, Washington, D.C.

Beck, T. and A. Demirgüç-Kunt (2009), 'Financial Institutions and Markets across Countries and over Time: Data and Analysis', World Bank, Washington, D.C.

Design Indicators

**Structure of the pension system,
key parameters and rules**

World-Bank multi-pillar framework: simplified version



Performance Indicators

**Assessing pension systems
against key objectives and
principles**

Six principles and objectives

- ❑ **Coverage** of the pension system, by both mandatory and voluntary schemes
- ❑ **Adequacy** of retirement benefits
- ❑ **Financial sustainability** and affordability of pensions to taxpayers and contributors
- ❑ **Economic efficiency**: minimising distortions on economic behaviour, such as labour supply and saving
- ❑ **Administrative efficiency**: keeping costs low (collecting contributions, paying benefits, managing investments)
- ❑ **Security** of benefits in the face of different risks and uncertainties

Coverage

How much of the labour force is covered by the pension system?

Coverage

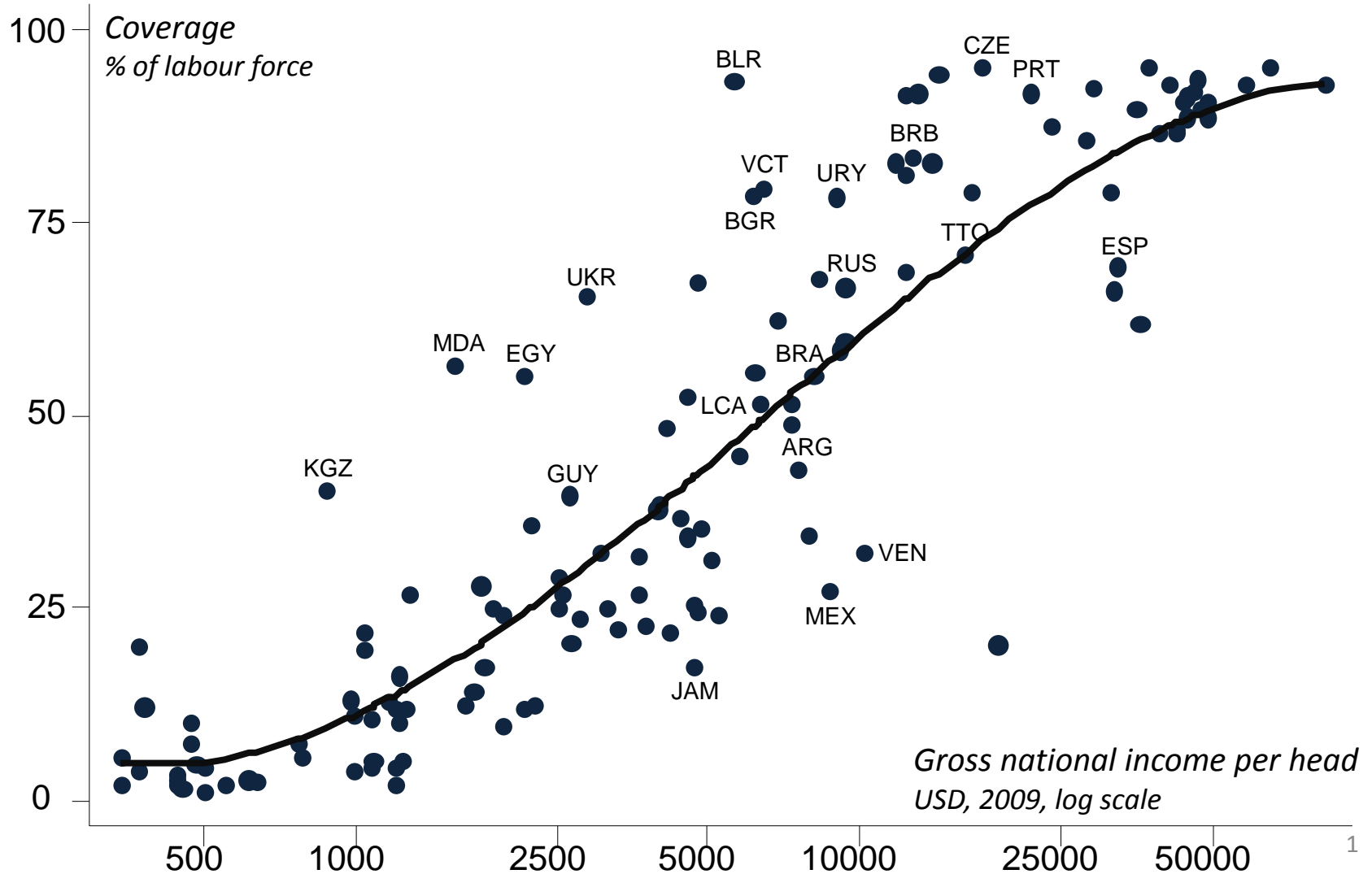
- ❑ Low coverage of formal pension systems may lead to widespread old-age poverty
- ❑ Retirement-income systems can affect people at all stages of their adult lives (as contributors or beneficiaries)
- ❑ Focus here in people of working age
- ❑ Measuring coverage: affiliates or members?
 - ❑ but risk of double-counting people in multiple schemes or with multiple accounts/records
 - ❑ also, dormant accounts/records of people no longer actively contributing
 - ❑ people registered for social security but not covered by pension component

Defining coverage:

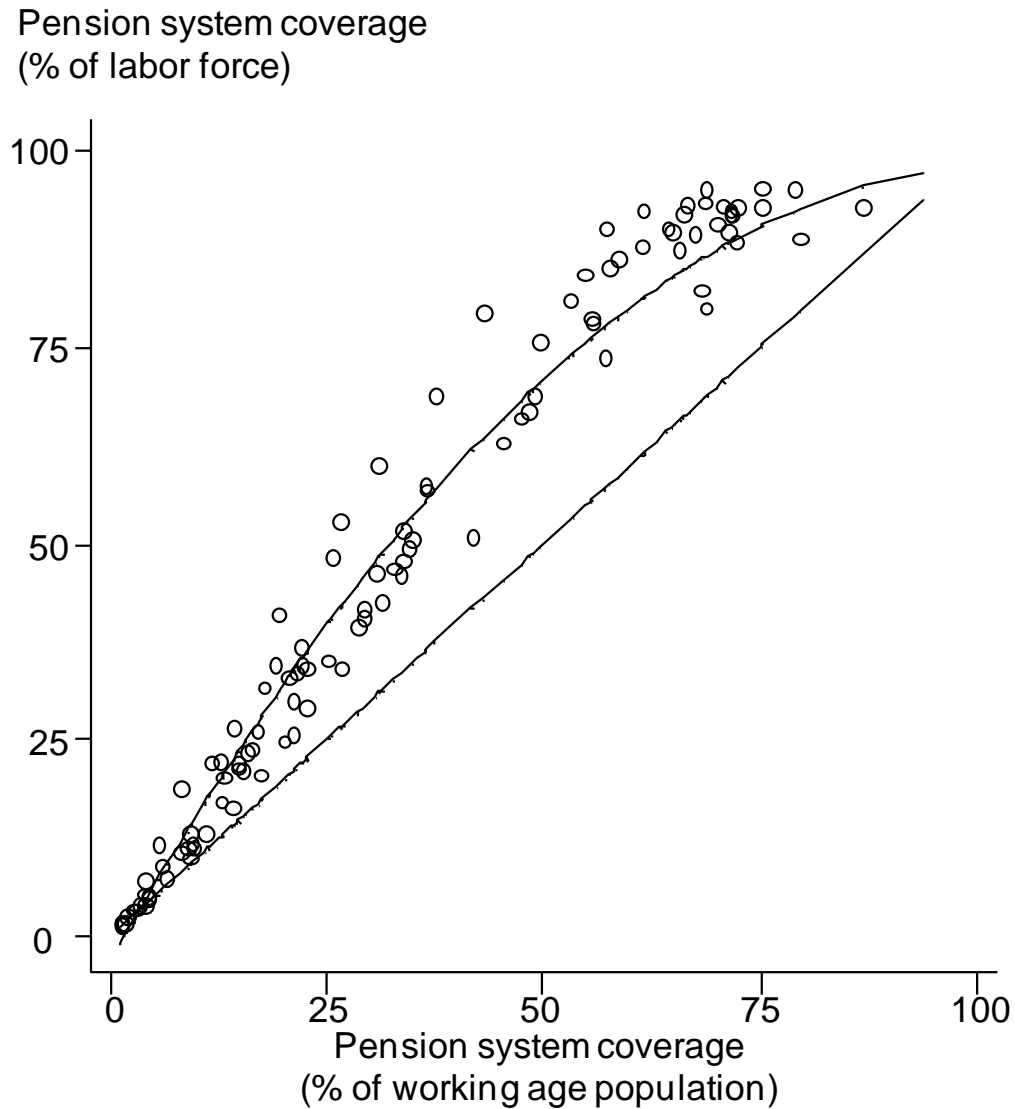
The active member concept

- ❑ Someone who contributed to or accrued rights in a formal pension scheme
- ❑ Concept clearest when pensions are contributory, but active members of non-contributory schemes are also 'covered'
- ❑ Also, people who receive credits for periods of unemployment, caring for children, full-time education, military service *etc.* can be covered
- ❑ Note: active member concept only applies to mandatory income-replacement pensions (first and second pillars) and rarely to zero pillar schemes (universal basic, means-tested)
- ❑ Comparators:
 - ❑ working-age population
 - ❑ labour force

Coverage and national income



Coverage: different measures



Adequacy

**Pension entitlements,
replacement rates and pension
wealth**

Three approaches to assessing adequacy

- ❑ Empirical information on pension entitlements of recent retirees
- ❑ Evidence from household survey data on income and poverty of older people
- ❑ Models of future pension entitlements of today's workers

Modelling pension entitlements

- ❑ Uses 'Apex' model (Analysis of Pension Entitlements across Countries)
- ❑ Results published in OECD *Pensions at a Glance* and World Bank *Pensions Panorama*

Pension entitlements of current retirees

- ❑ **Current** rather than **expected** entitlements
- ❑ These depend on
 - ❑ past parameters and rules of the pensions system
 - ❑ past social and economic circumstances
- ❑ Average benefit levels: whose benefits?

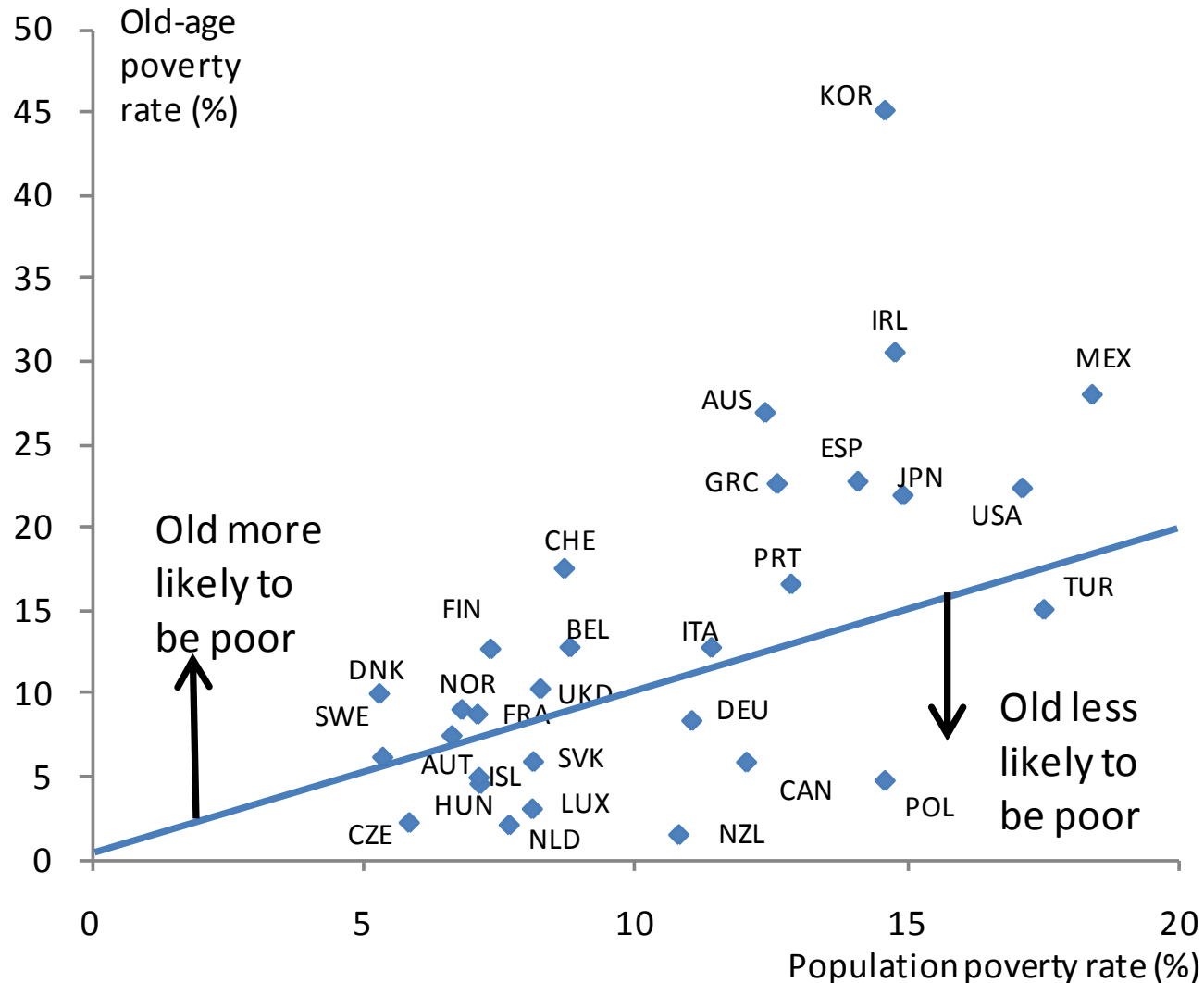
	Lithuania	Brazil
All beneficiaries	100	100
Old-age	128	131
Male old-age	145	144
New male old-age	170	154
Survivors	27	99
Disabled	122	–
Disabled below pension age	96	–
Civil servants	–	357
Farmers	–	75

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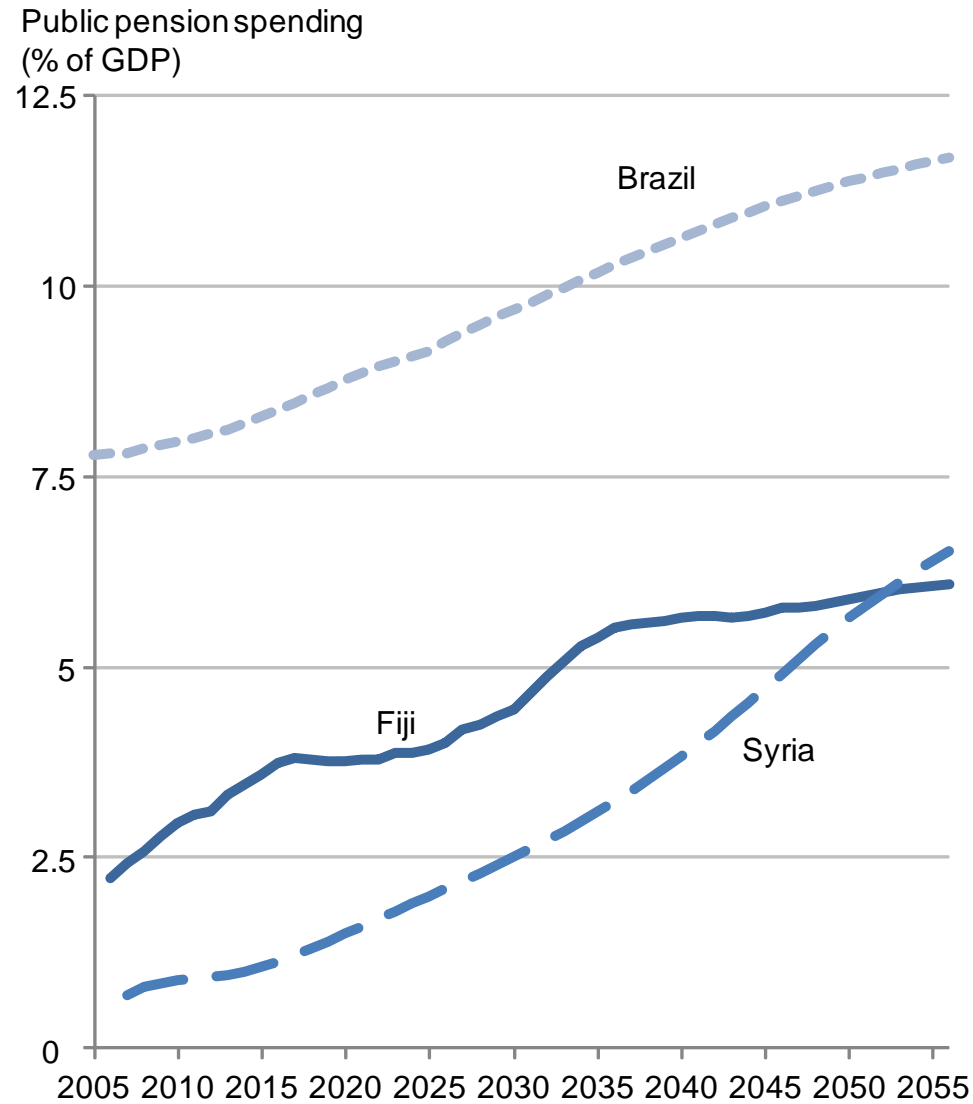
Old-age poverty: OECD countries



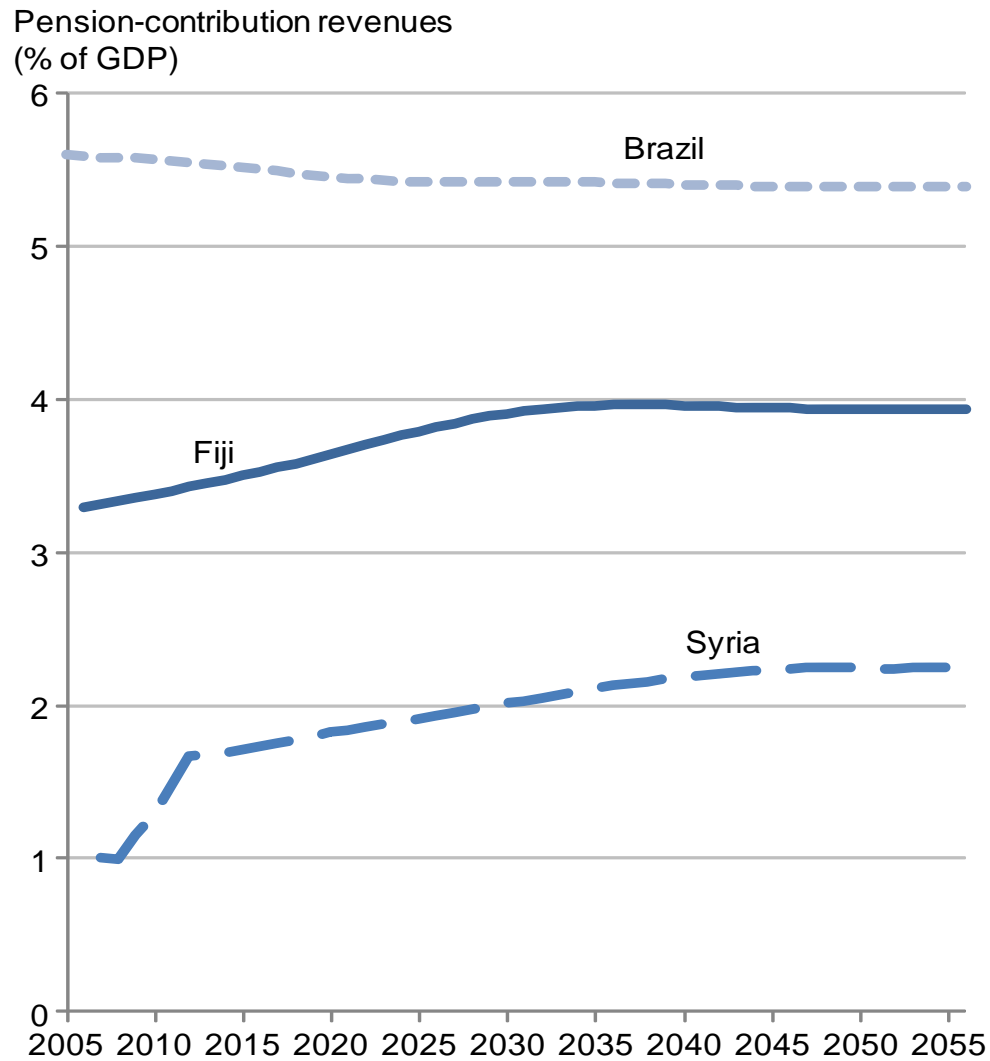
Financial sustainability

**Assessing the finances of pension
systems over the long term**

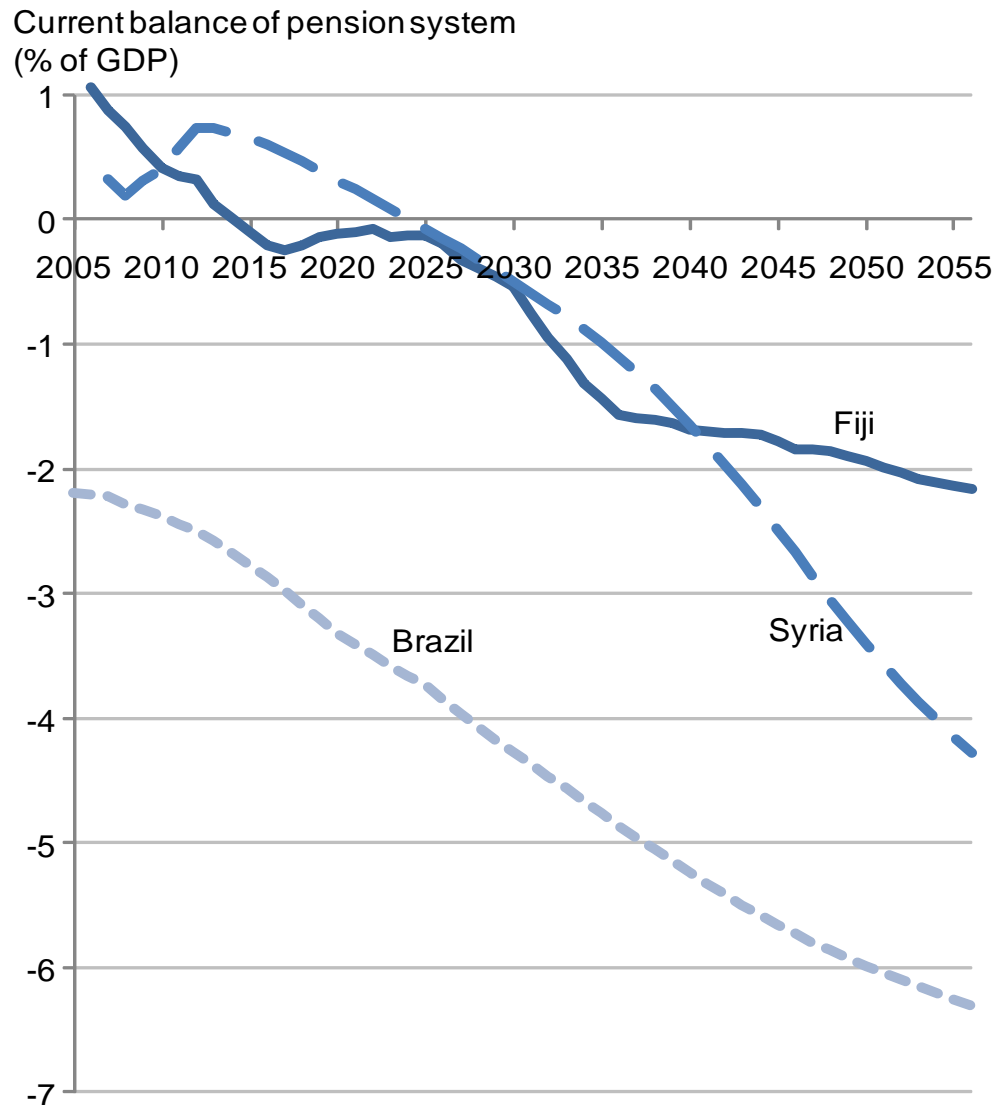
Expenditures



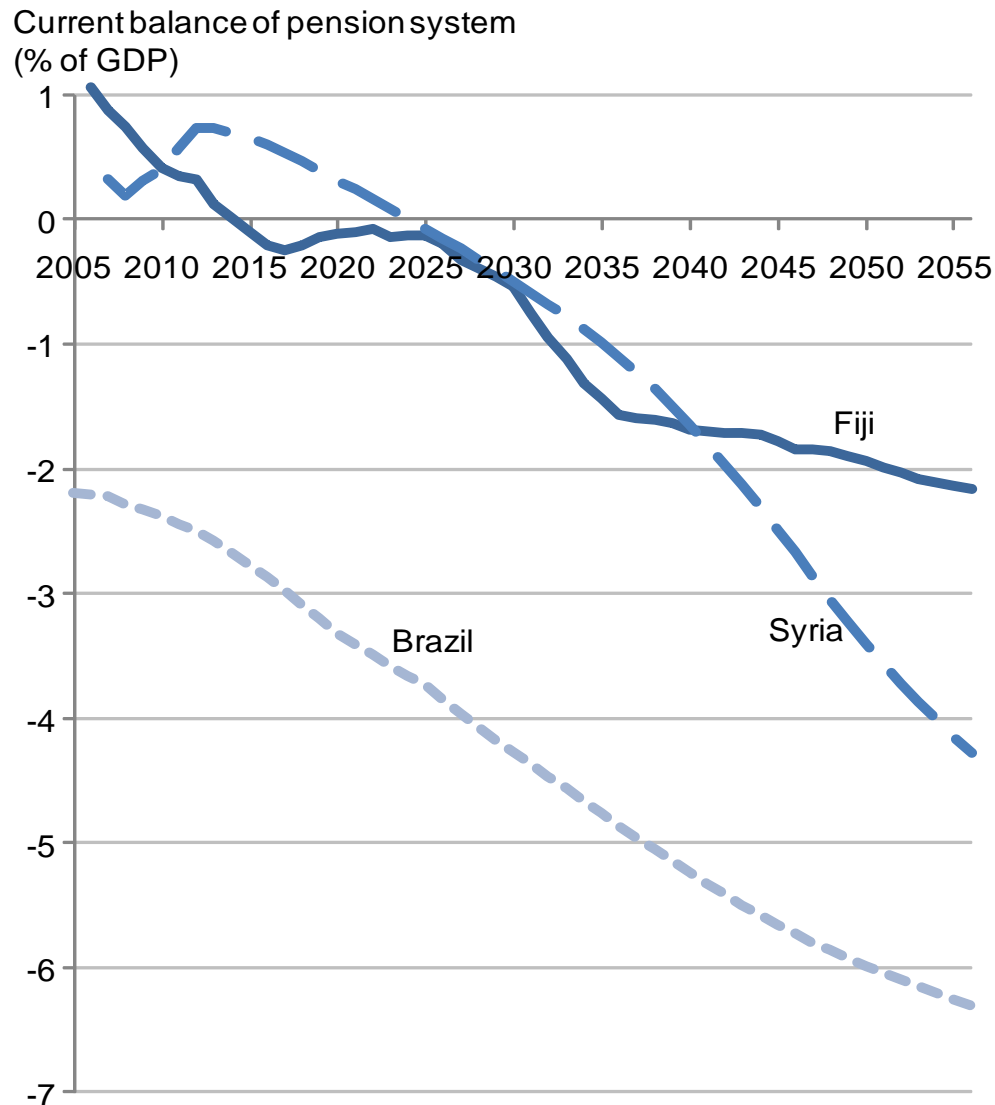
Contribution revenues



'Current balance': Expenditures minus revenues



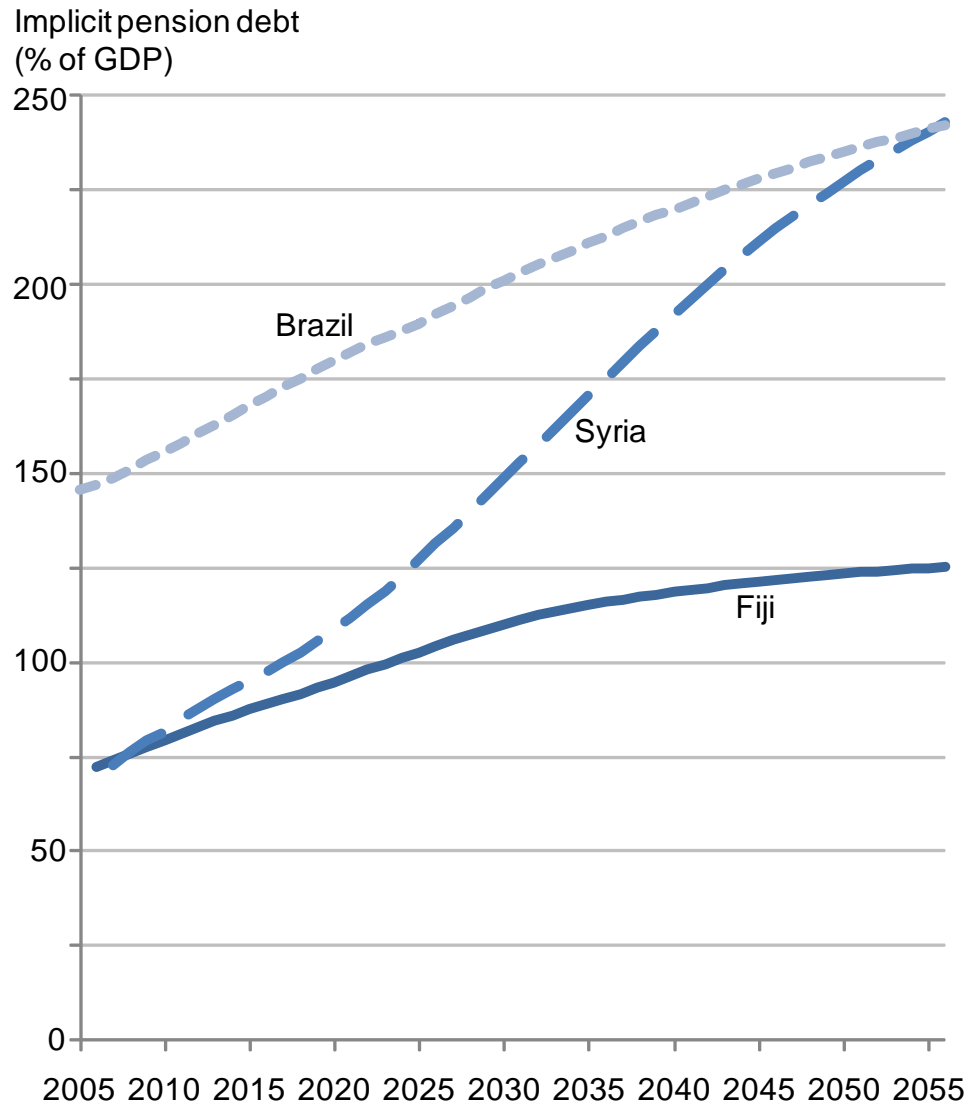
‘Current balance’: Expenditures minus revenues



‘Stock’ indicators

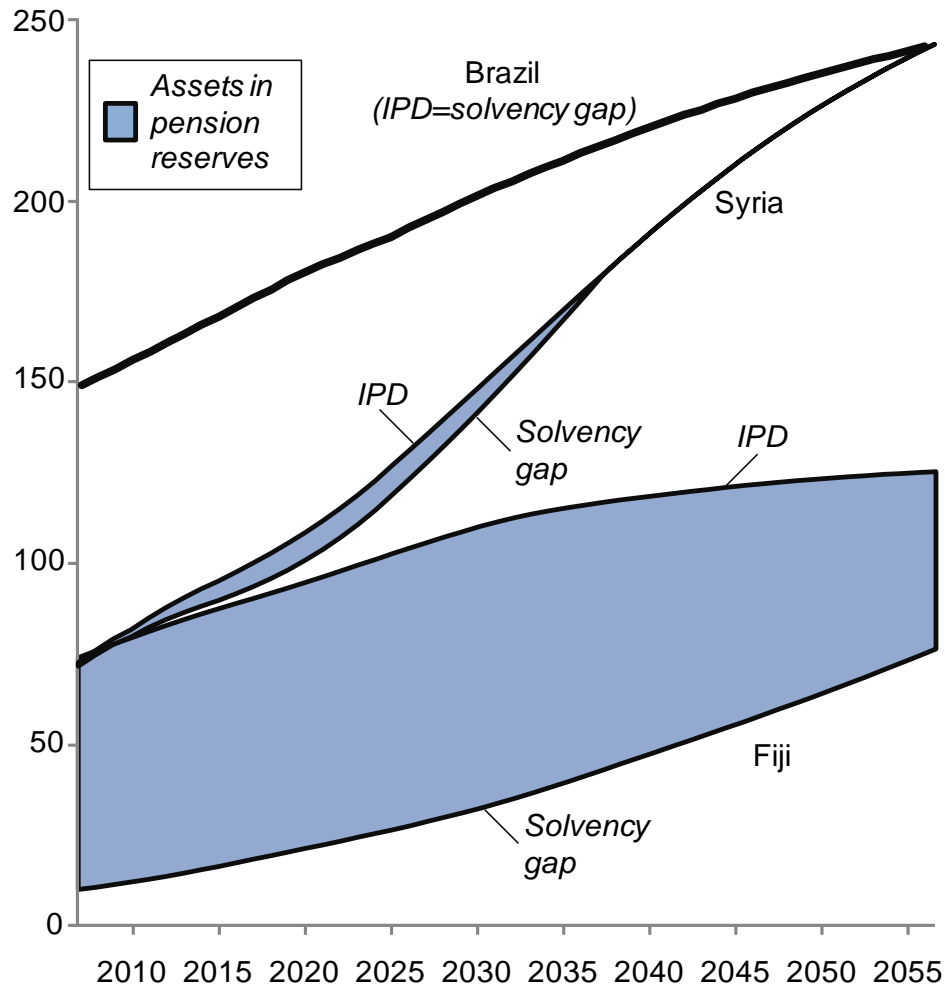
% of GDP	Brazil	Fiji	Syria
Present value pension spending (2007-2056)	489.7	233.3	152.2
Present value contributions (2007-2056)	271.9	189.0	97.7
Financing gap (2007-2056)	217.7	44.3	54.5
Implicit pension debt (2007)	148.6	73.9	72.5
Pension-reserve assets (2007)	0.0	63.8	1.1
Solvency gap (2007)	148.6	10.1	71.5
Implicit pension debt (2055)	241.0	124.9	240.4
Pension-reserve assets (2055)	0.0	50.5	0.0
Solvency gap (2055)	241.0	74.4	240.4

Implicit pension debt



Solvency gaps

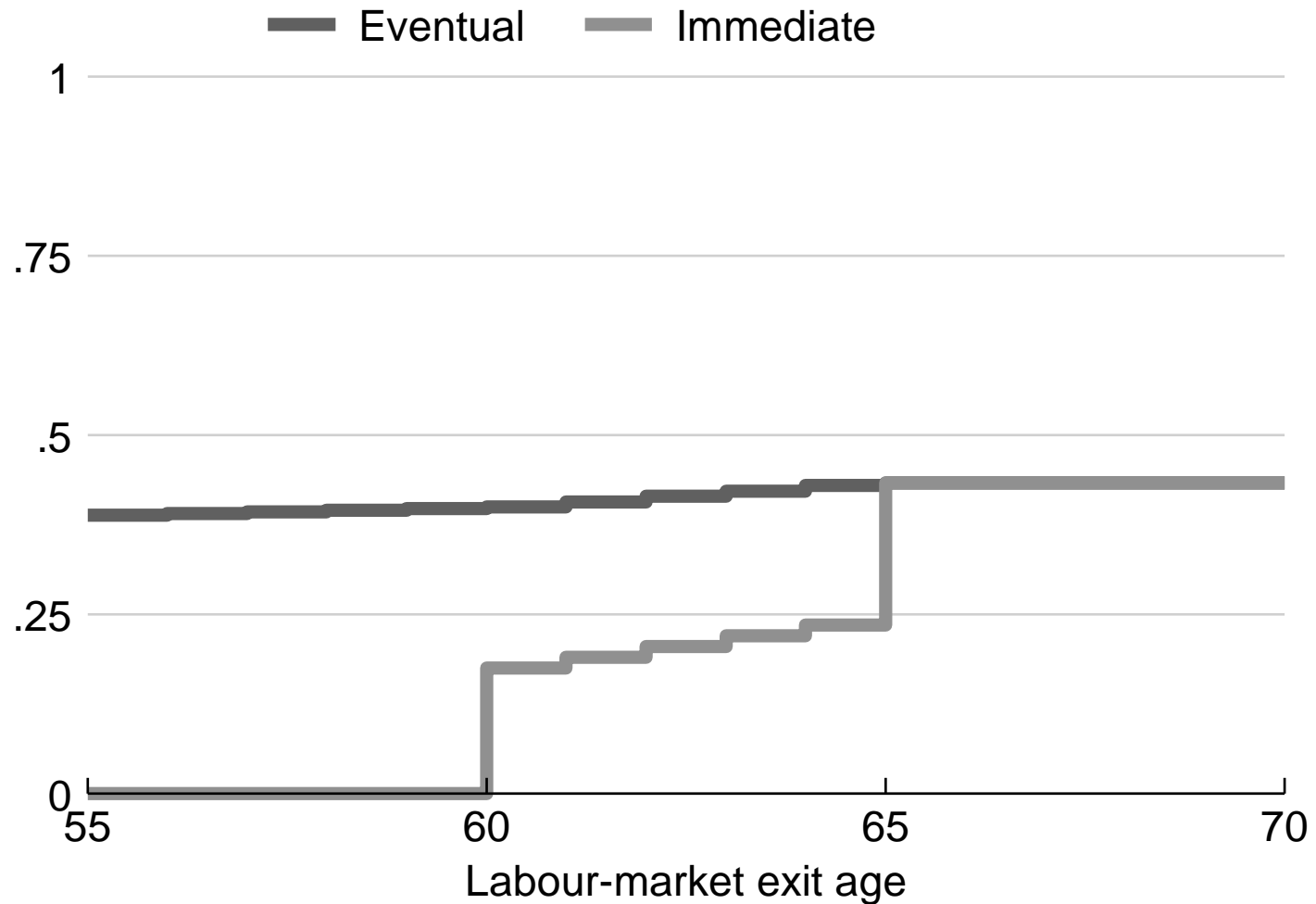
Implicit pension debt, assets in pension reserves and solvency gap (% of GDP)



Economic efficiency

**Minimising the pension system's
distortions of individual choices**

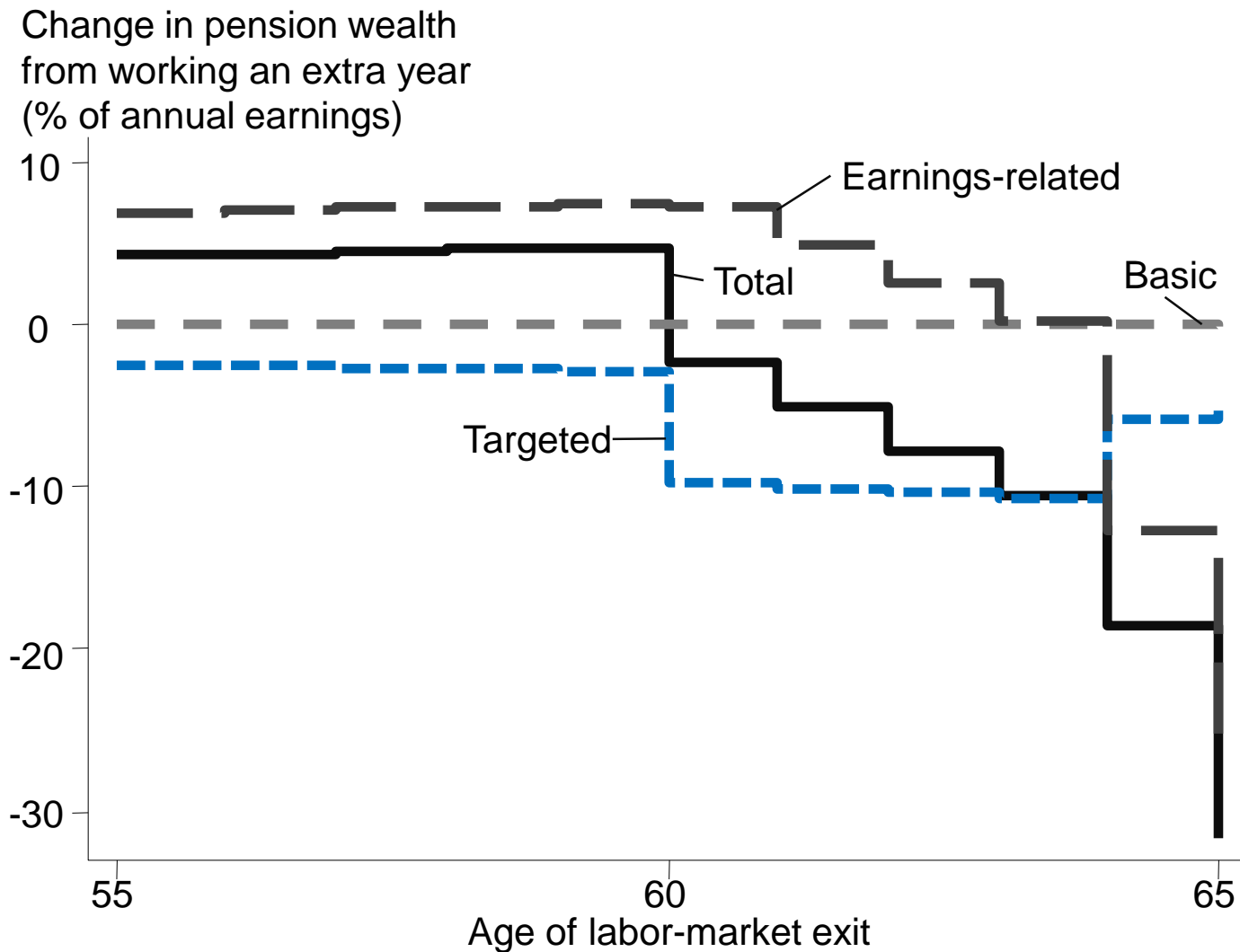
Retirement incentives: simple approach, Canada



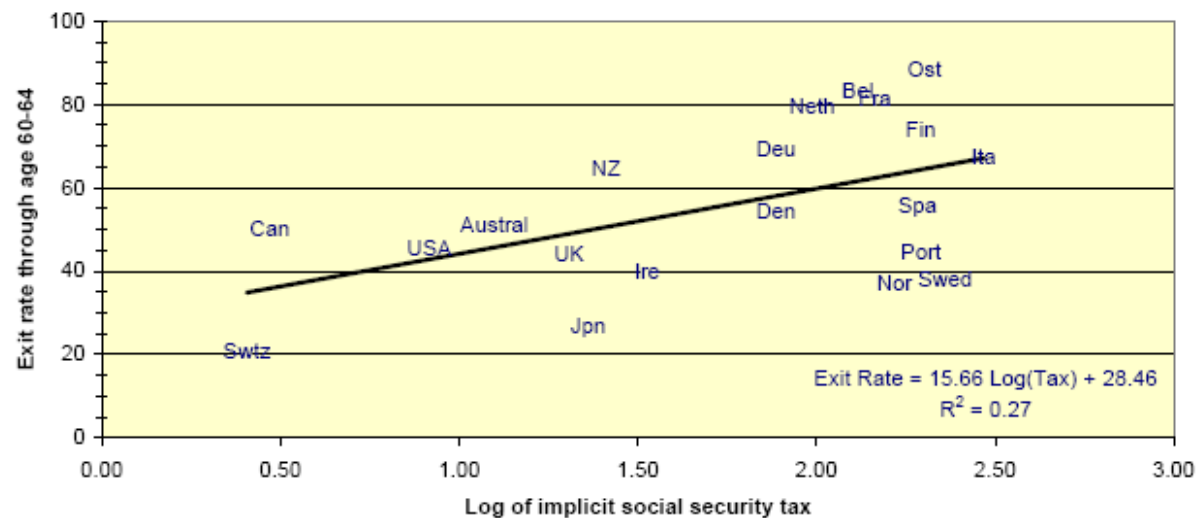
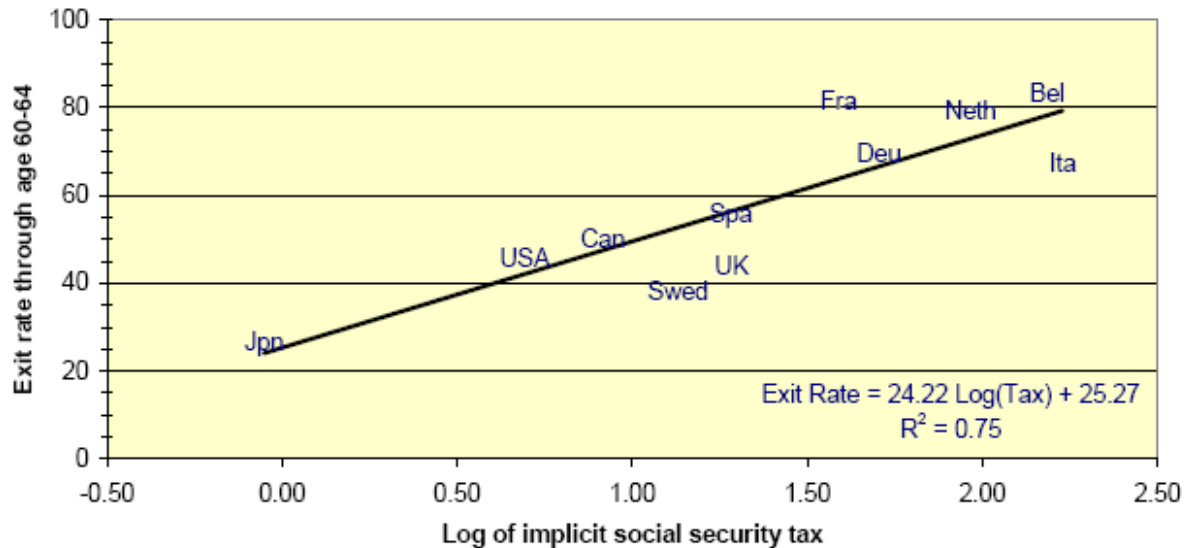
Retirement incentives: measurement

	<i>Defined benefit</i>	<i>Defined contribution</i>	<i>Points</i>	<i>Notional accounts</i>
Longer working period	<p>Extra year's entitlement</p> <p>Extra year towards qualifying conditions</p> <p>Valorisation of earlier years' earnings</p> <p>Higher earnings replace earlier, perhaps lower, earnings in benefit formula</p>	<p>Extra year's contributions</p> <p>—</p> <p>Investment returns on accumulated balance</p> <p>—</p>	<p>Extra year's entitlement</p> <p>Extra year towards qualifying conditions</p> <p>Uprating of pension-point value</p> <p>Higher earnings replace earlier, perhaps lower, earnings in benefit formula</p>	<p>Extra year's entitlement</p> <p>Extra year towards qualifying conditions</p> <p>Notional interest on accumulated notional capital</p> <p>—</p>
Shorter retirement duration	<p>Forgo a year's benefits</p> <p>"Actuarial" adjustment</p>	<p>Forgo a year's benefits</p> <p>Lower annuity factor</p>	<p>Forgo a year's benefits</p> <p>"Actuarial" adjustment</p>	<p>Forgo a year's benefits</p> <p>Lower annuity factor</p>
Delay in claiming	<p>Probability of dying</p> <p>Discounting</p>	<p>Probability of dying</p> <p>Discounting</p>	<p>Probability of dying</p> <p>Discounting</p>	<p>Probability of dying</p> <p>Discounting</p>

Retirement incentives: complete picture, Canada



Retirement incentives matter: Effect on behaviour



Administrative efficiency

**Assessing the cost of running
public pension systems**

Security

**Risk and uncertainty in
retirement-income systems**
