National Transfer Accounts: Key Results

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Asia's Dependency Transition: Intergenerational Transfers, Economic Growth, and Public Policy
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Project Goals

- Develop new methods for measuring aggregate intergenerational transfers;
- Construct historical estimates and projections of intergenerational transfers in varying social, economic, and policy contexts;
- Analyze the inter-relationships between public policy, familial support systems, and [demographic and] economic conditions;
- Analyze the macroeconomic and generational effects of public policy.

Source: Lee and Mason, A Research Plan for the Macroeconomic Demography of Intergenerational Transfer, National Transfer Accounts Working Paper No. 1

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Progress

- Developed National Transfer Accounts
  - Comprehensive system for measuring economic flows across age groups in a manner consistent with SNA
- Varying social, economic, and policy contexts
  - 23 economies in 6 continents
  - Wide variation in income, resources, political and social systems, and data availability.

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Progress II

- Application to important issues
  - Research on demographic dividends
  - Presentations at NUPRI conference

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NTA: Key Results

- Economic lifecycle – changes over the lifecycle in the production and consumption of economic resources
- Reallocation systems - Interage flows that shift resources from the working ages to the dependent ages.
- How do these economic systems vary across countries? What might account for the observed patterns? What are the implications?
- All results are preliminary and subject to change.
- Sources are provided at the end.

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Economic Lifecycle

- Fundamental feature of all societies
  - Extended period during which children are consuming more than they are producing
  - In all contemporary societies we have studied, the elderly consume more than they produce through their labor over an extended period.

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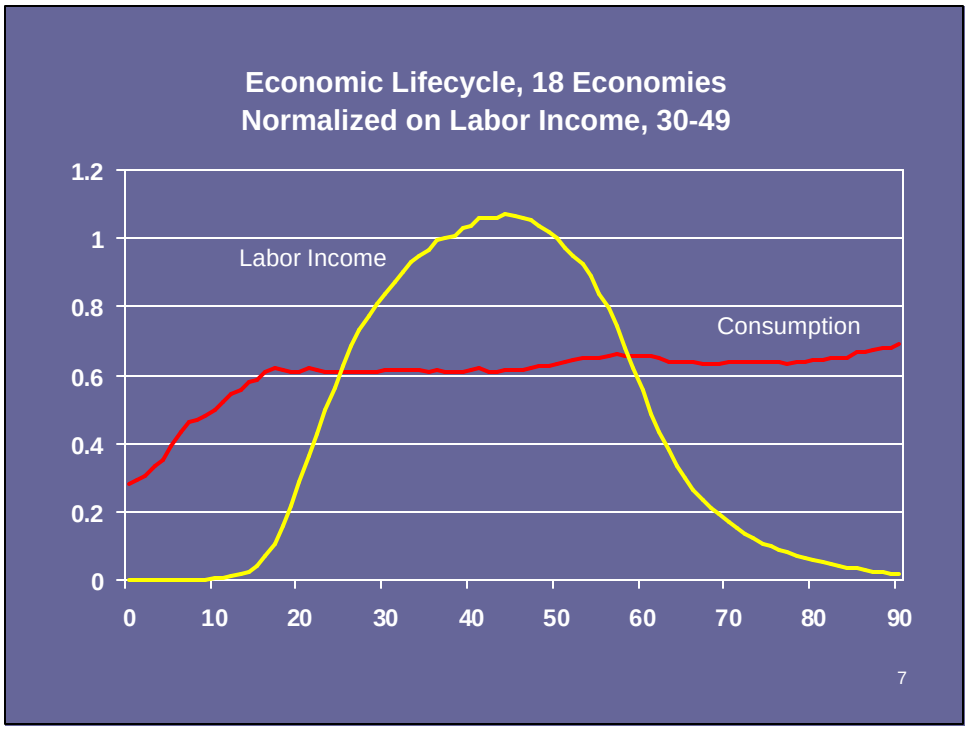
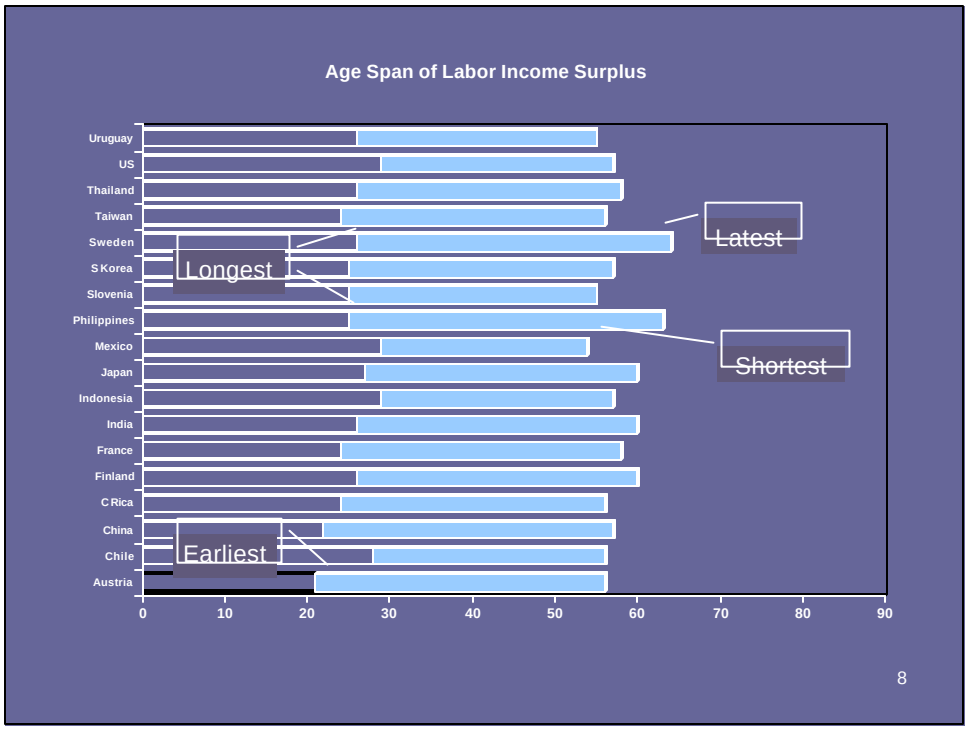

Economic Lifecycle, 18 Economies
Normalized on Labor Income, 30-49
1.2
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
Labor Income
Consumption
7


Age Span of Labor Income Surplus
Uruguay
US
Thailand
Taiwan
Sweden
S Korea
Slovenia
Philippines
Mexico
Japan
Indonesia
India
France
Finland
C Rica
China
Chile
Austria
0
10
20
30
40
50
60
70
80
90
Longest
Earliest
Latest
Shortest
8

Age Span of Surplus Labor Income

	First surplus age	Span	Last surplus age
Austria	21	35	56
Chile	28	28	56
China	22	35	57
Costa Rica	24	32	56
Finland	26	34	60
France	24	34	58
India	26	34	60
Indonesia	29	28	57
Japan	27	33	60
Mexico	29	25	54
Philippines	25	38	63
Slovenia	25	30	55
S Korea	25	32	57
Sweden	26	38	64
Taiwan	24	32	56
Thailand	26	32	58
United States	29	28	57
Uruguay	26	29	55

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What determines the surplus years?

- Labor income patterns
  - Early or late entry
  - Early or late retirement
  - Age profile of wages
  - Female labor force participation
- Consumption patterns
  - Private preferences
  - Public programs
  - Lifecycle budget constraint
- Macroeconomic conditions
  - Age structure
  - Non-labor income: asset income, remittances
  - Saving rates

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Interpreting the Economic Lifecycle

- Per capita profiles of labor income and consumption can be multiplied by population to describe the aggregate life-cycle in a particular year.
- Interpreting the per capita values difficult because in some populations few survive to age 90 and in others many do. Choice of age 90 is arbitrary.
- Interpretation is possible if the profiles are weighted by the probability of surviving to each age (actually expected years lived at each age).
- Choice of survival rates depends on the purpose
  - Higher survival rates to consider implications of aging
  - Lower survival rates to interpret economic lifecycle in low income countries

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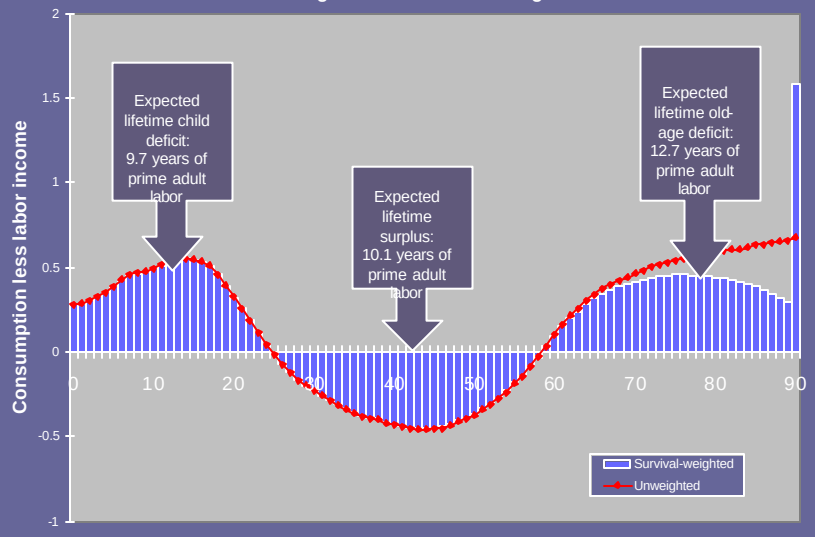
Per Capita Lifecycle Deficit, Average of 18 Economies, Unweighted and Survival-Weighted



Note. All values normalized on average of per capita labor income for persons of age 30-49. Survival weights based on 2005 Japan female life table (CEDA Human Mortality Database).

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Two Interpretations of Survival Weighted Lifecycle Deficit

- Synthetic cohort: Expected per capita deficits and surpluses given current cross-sectional age profiles of consumption and labor income.
- Stationary population: Expected per capita deficits and surpluses of a population with constant survival rates, no immigration, and zero population growth.

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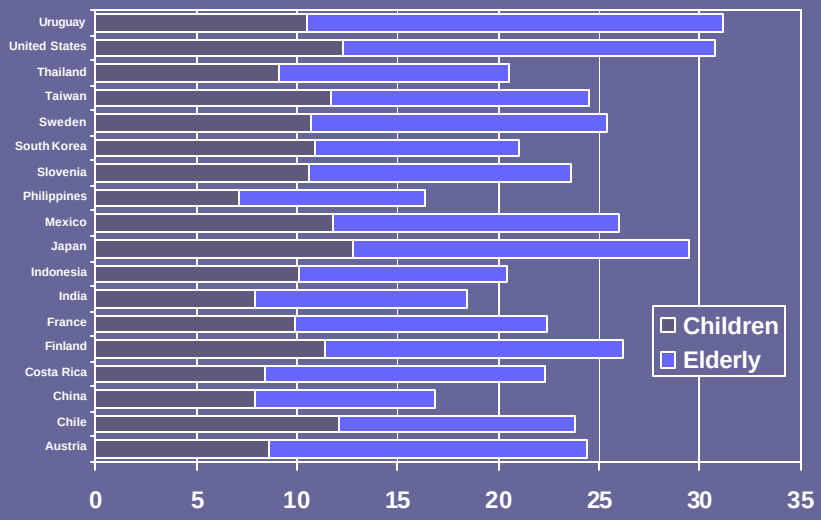
Expected Lifetime Surplus

Note. Values normalized on average of labor income for 30-49 year olds. Expected lifetime surplus is the difference between the expected labor income and consumption summed over the surplus 14 years.

Expected Lifetime Deficits



Note. Values normalized on average of labor income for 30-49 year olds. Expected lifetime deficits are the differences between expected consumption and labor income summed over the deficit years – childhood and old-age.

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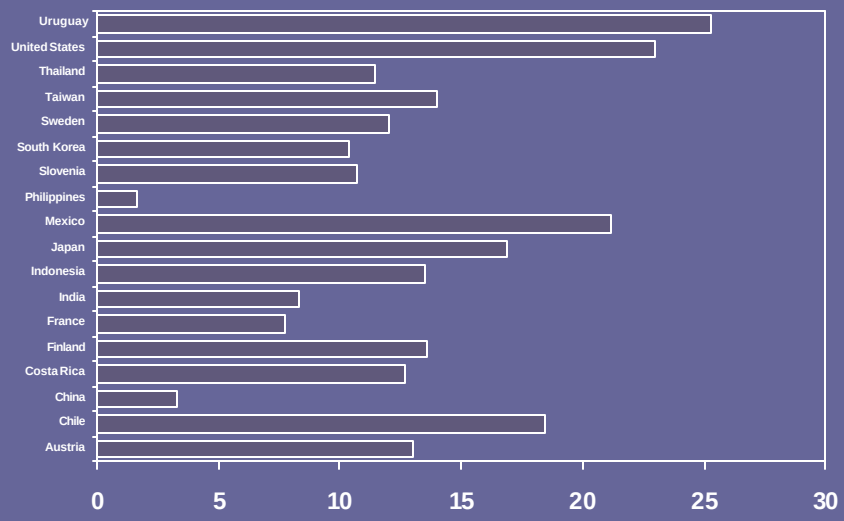
Expected Lifetime Net Deficit



Note. Values normalized on average of labor income for 30-49 year olds. Expected lifetime net deficit is the expected lifetime deficit less the expected lifetime surplus. Also equal to the survival weighted sum of consumption less labor income.

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What are the implications of a substantial net deficit?

- Net deficit is 12.4 years for the average
- For Uruguay net deficit is 25 years.

- For a consumption-loan economy with a stationary population, surpluses and deficits must be equal.
- Demographic dividend – if population is concentrated in surplus ages, deficits can exceed surpluses.
- Capital yields income that can finance excess deficits.
- Other income, e.g., income from natural resources, remittances, interest on loans to the ROW can finance excess deficits.
- Size of deficit will also vary with saving rates (China)

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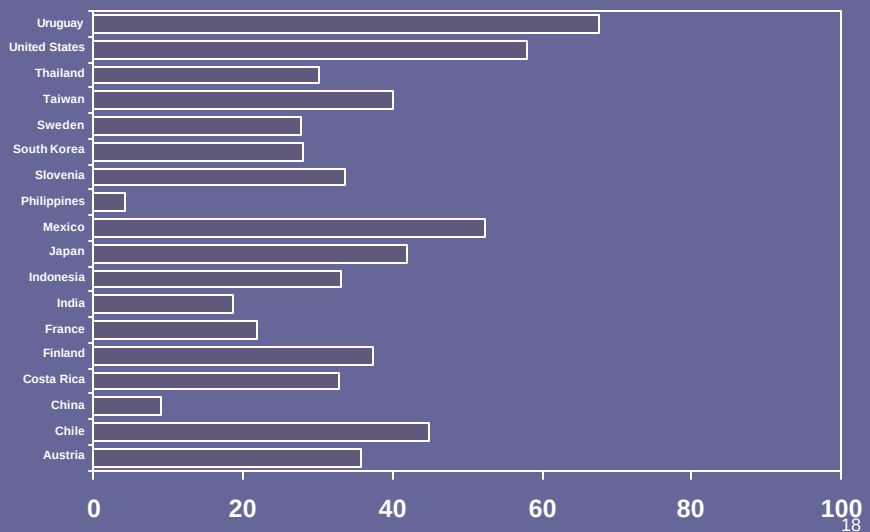
Expected Lifetime Net Deficit as a Percentage of Expected Lifetime Labor Income



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Deficits in Rapidly Aging Societies

- Calculation above is for a population with replacement fertility (TFR = 2.1)
- Many countries have much lower fertility and may experience much more substantial population aging.
- How large would their deficits become if the cross-sectional per capita economic lifecycle does not change?

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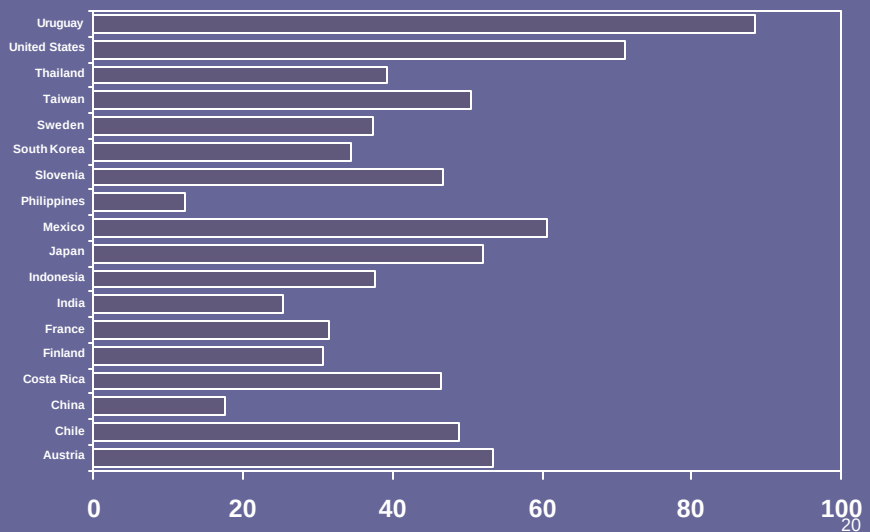
Net Lifetime LCD as a Percentage of Expected Lifetime Labor Income, Steady State (TFR=1.4)



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Summary

- Current economic lifecycles are not sustainable if countries rely excessively on transfer programs to fund the needs of the elderly.
- As saving rates decline in some high-saving countries, LCDs will rise.
- The LCD at old ages does not seem to be declining as countries age.
- Importance of other economic resources – capital in particular.

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Intergenerational Flows

- Flows to children and the elderly are both important.
- Transfers dominate flows to children but the relative importance of the state and the family vary from country to country.
- The elderly rely on public and familial transfers and asset-based flows – income from assets and dis-saving.
- The systems for the elderly vary among countries and are changing substantially over time
  - Public policy (pension and health care reform).
  - Role of the family – decline in extended family.
  - Development of financial sector.

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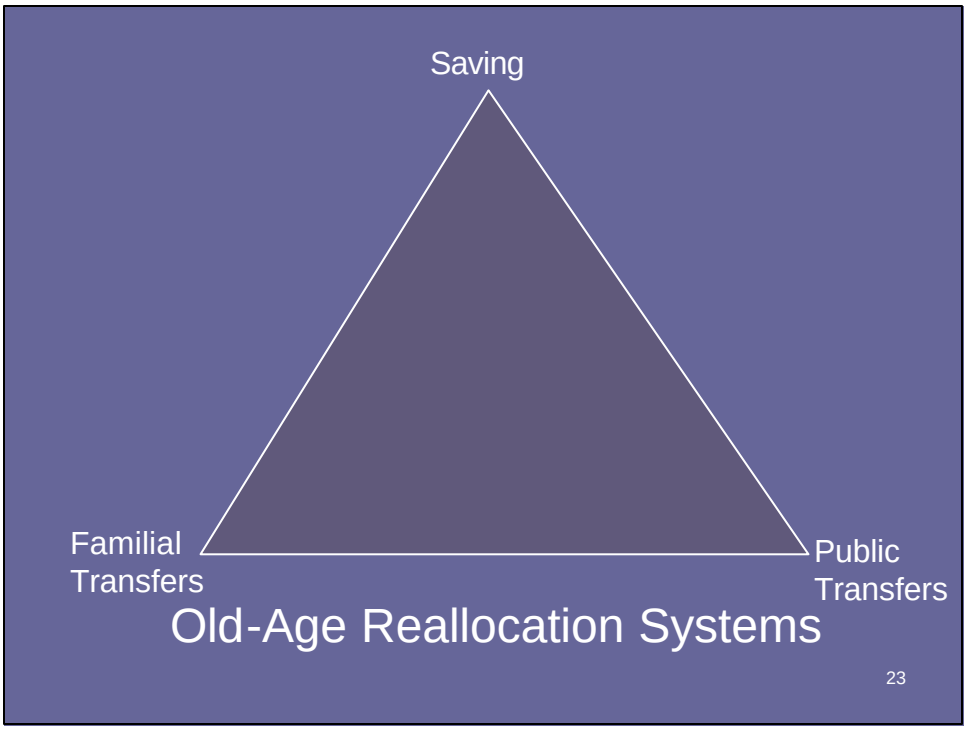

Old-Age Reallocation Systems

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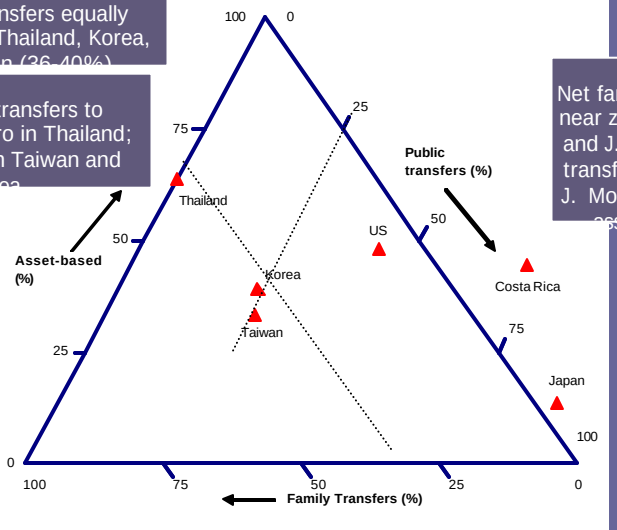
Old-age Reallocation System, Selected Countries.

Familial transfers equally important in Thailand, Korea, and Taiwan (36-40%)

Net public transfers to elderly are zero in Thailand; about 25% in Taiwan and Korea

Net familial transfers near zero in US, CR, and J. Large public transfers in CR and J. More reliance on assets in US.



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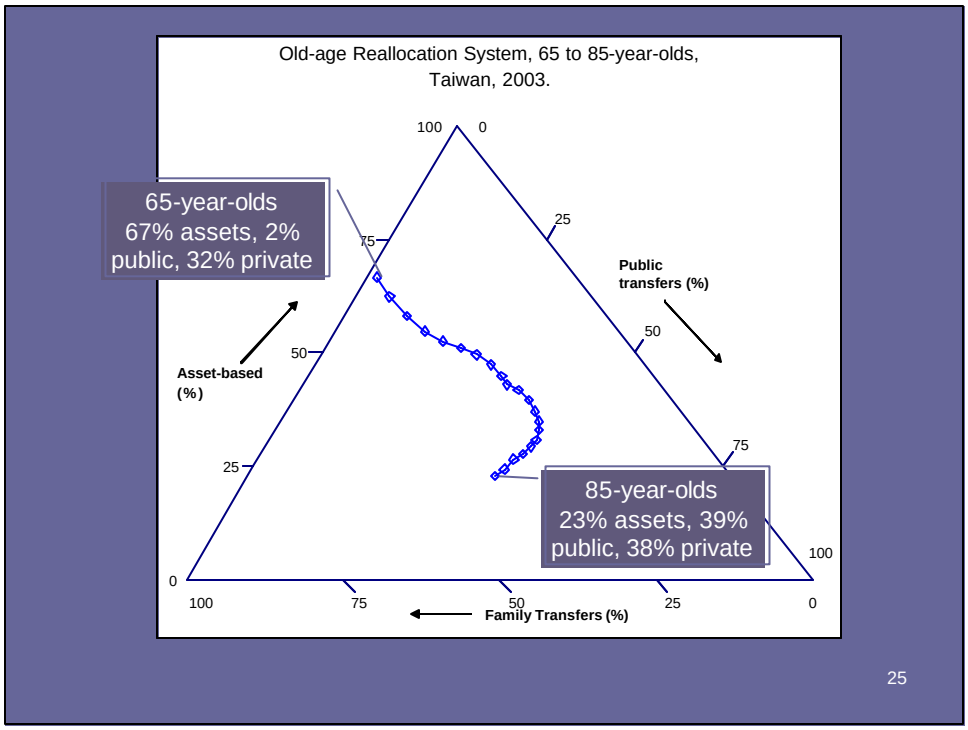
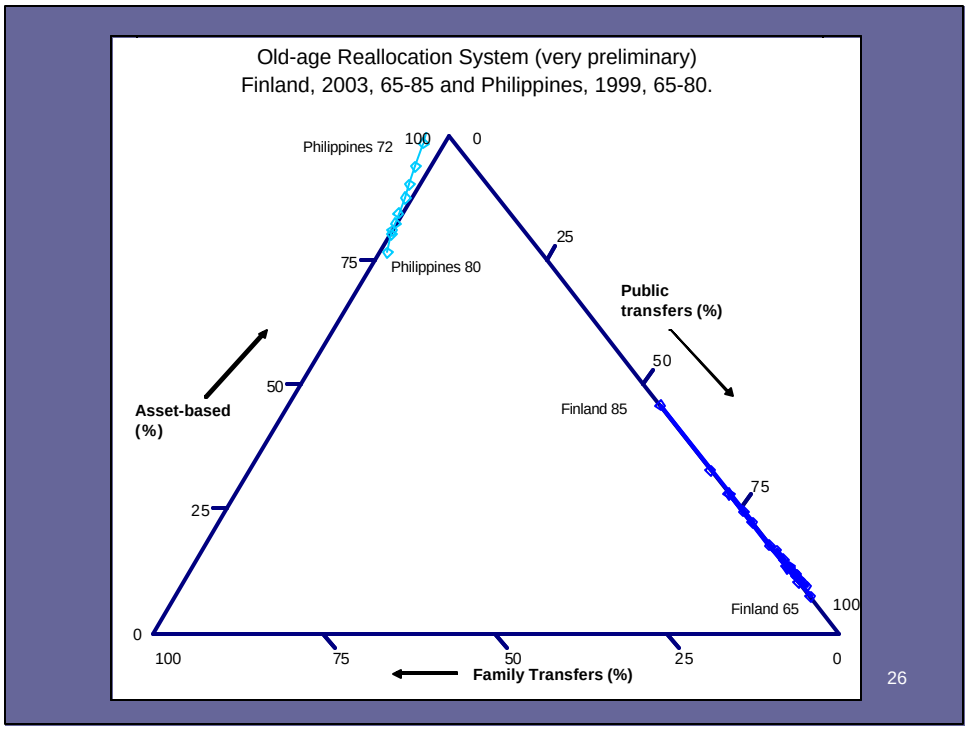
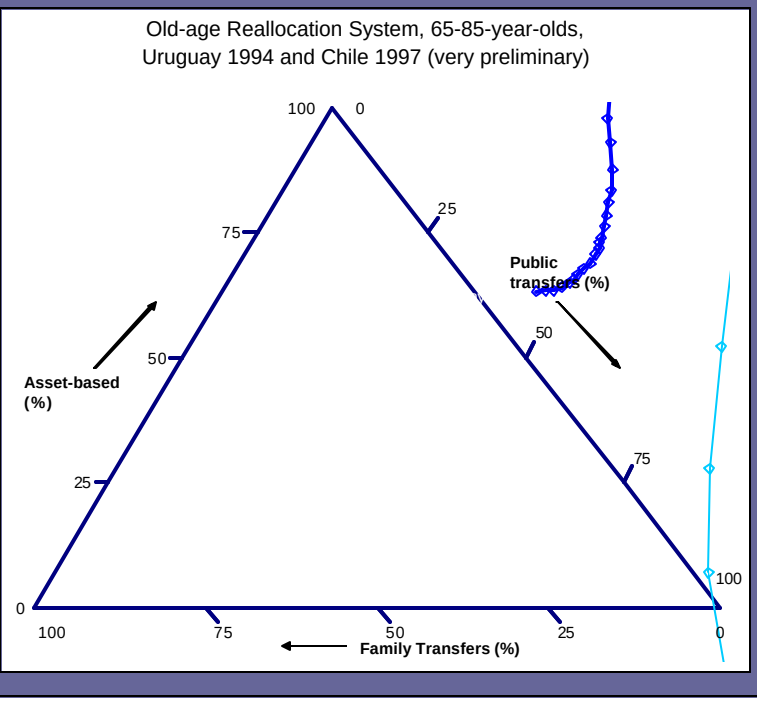

Old-age Reallocation System, 65 to 85-year-olds,
Taiwan, 2003.
65-year-olds
67% assets, 2%
public, 32% private
85-year-olds
23% assets, 39%
public, 38% private
Asset-based
(%)
Public
transfers (%)
Family Transfers (%)
100
0
25
75
50
25
75
50
100
0
100
75
50
25
0

25


Old-age Reallocation System (very preliminary)
Finland, 2003, 65-85 and Philippines, 1999, 65-80.
Philippines 72
Philippines 80
Finland 85
Finland 65
Asset-based
(%)
Public
transfers (%)
Family Transfers (%)
100
0
25
75
50
25
75
50
100
0
100
75
50
25
0

26


Old-age Reallocation System, 65-85-year-olds,
Uruguay 1994 and Chile 1997 (very preliminary)
100
0
25
75
50
50
75
25
100
0
100
75
50
25
0
Public transfers (%)
Asset-based (%)
Family Transfers (%)

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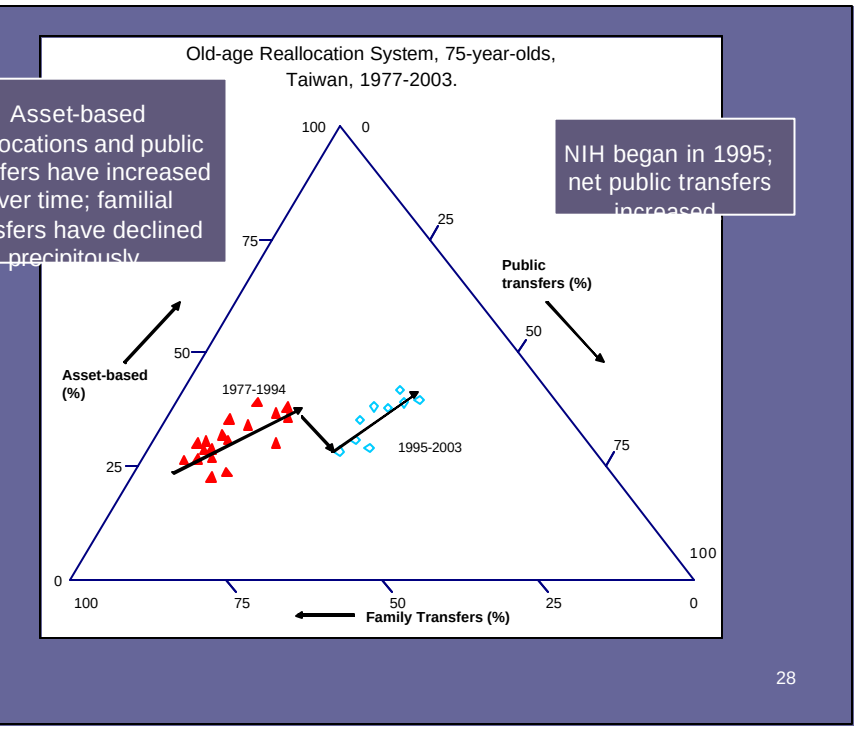
Old-age Reallocation System, 75-year-olds,
Taiwan, 1977-2003.
Asset-based reallocations and public transfers have increased over time; familial transfers have declined precipitously
NIH began in 1995; net public transfers increased
100
0
25
75
50
50
75
25
100
0
100
75
50
25
0
Public transfers (%)
Asset-based (%)
1977-1994
1995-2003
Family Transfers (%)

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Summary

- Old-age support systems
  - Vary widely across countries
  - Vary with the age of the elderly
  - Are changing rapidly
- Familial support system
  - Declined in Taiwan
  - Similar to Korea and Thailand in importance
  - In Japan, the elderly make net transfers to their children and grandchildren.
- Asset-based support
  - Important in only a few countries
  - Behavior of the elderly doesn't reflect recent reforms

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The National Transfer Accounts project is a collaborative effort of
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Thank you

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