MEASURING PRODUCTION AND ECONOMIC WELFARE IN A NATIONAL ACCOUNTS FRAMEWORK

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BETTER POLICIES FOR BETTER LIVES

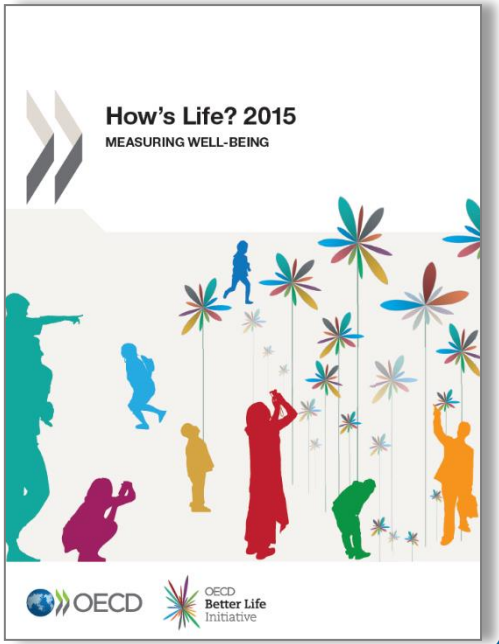
Preface

- Presentation draws mainly on Schreyer 'GDP' in Adler, Matthew D. and Fleurbaey, Marc (eds.), *The Oxford Handbook of Well-Being and Public Policy*, Oxford University Press 2016.

Preface

- Measuring welfare *at large* requires '*Beyond GDP*' dimensions (health, security, trust,…)
- OECD has been working on this for over a decade

- But quite a bit can be said about economic well-being *within* NA boundaries



Outline

1. NA conventions and choices

2. Introducing distribution of income and consumption into NA

3. Hicksian income, real savings and productivity

1. NA conventions and choices

- Extensive reference in SNA to the limits of the national accounts as welfare measures, little discussion of what GDP *should* measure, as an *economic* category.
- Eisner (1988) *"[GDP should measure…] not welfare itself but the final goods and services, which are presumed to contribute to welfare"*
- →GDP= value-added associated with the flow of production of those final goods and services that constitute an argument in the consumer's utility function

1. NA conventions and choices (ctd)

- What about investment? -> inter-temporal aspects
- What about imports and exports?
- What about government services?

1. NA conventions and choices (ctd)

- Major discussion in 1940s:
- "[…] *it seems indispensable to include in national income only such governmental activities as can be classified as direct services to ultimate consumers. This most important and inescapable step is urged here in full cognizance of the statistical difficulties, which are great. But if national-income figures are to retain any meaning as measures of the real flow of goods to ultimate consumers or to stock of capital, the huge duplication piled up by considering all governmental activity as a final product must be removed*" Kuznets (1948)

1. NA conventions and choices (ctd)

- Gilbert, Jaszi, Dension and Schwartz (1948):
  - collective services provided by government are not an element in businesses' cost and consequently not reflected in the value of output, unless one presumes an unrealistic identity between the services provided by government and the value of (other) taxes on production that producers pay.
  - collective services from GDP such as security or environmental regulation are just as important to households as they are to corporations

1. NA conventions and choices (ctd)

- Conceptual scope of GDP defined with reference to consumer utility is consistent with including collective services
- But on these grounds, currently excluded own-account services by HH should be brought in (as was done with OOH)
- Is more production left out in the digital economy?
- One clear line is: leisure should not be part of GDP

1. NA conventions and choices (ctd)

- Valuation at purchasers' prices conveys price signals for the consumer.
- Valuation is at basic prices conveys price signals from a producer's perspective.
- Hicks (1940): right valuation depends on the purpose of measurement – material well-being or production activity
- In practice headline measure of GDP at purchasers prices - consumer perspective makes its way into the GDP
- Incidentally, pretty important distinction in the digital economy: quality adjustment from consumer or from producer prespective: extensive price index literature

1. NA conventions and choices; conclusion

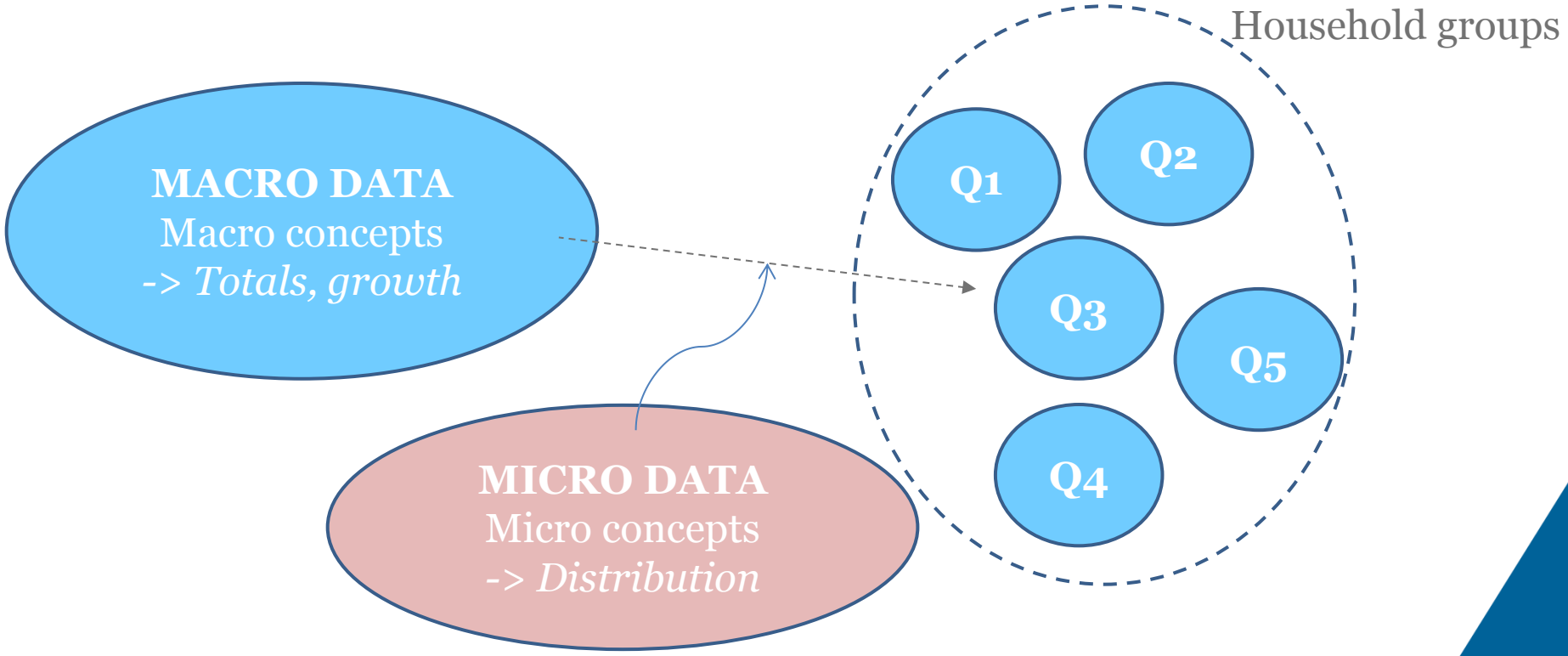
- Value-added is a measure of production and not a measure of social welfare
- But *scope* of value-added from production and choices about *deflation* methods imply reference to utility, social welfare
- Need to be pragmatic and ready to live with conventions

2. Introducing distribution of income and consumption

- One way of capturing current economic well-being in NA framework:
  - picking a household-relevant variable such as disposable income
  - allowing for heterogenity of households/persons
  - non-trivial:
    - Dealing with NA imputations
    - STIKs
  - Deflating with price index specific to household group
  - Applying welfare-relevant aggregation

OECD-Eurostat DNA Expert Group: aim

Develop distributional results for household income, consumption and saving consistent with national accounts concepts using micro data sources



OECD-Eurostat DNA Expert Group: basic method

HOUSEHOLD INCOME

Income resources (received):

- Self-employment income
- Imputed rent from dwellings
- Compensation of employees
- Property income

Income uses (paid):

- Property income (*e.g. interests paid on loans*)

= Primary Incomes (PI)

- Social benefits in cash
- Other transfers

- Taxes
- Social contributions
- Other transfers

= Disposable Income (DI)

- Social transfers in kind

= Adjusted Disposable Income (ADI)

HH. CONSUMPTION

Expenditure:

- Food
- Clothing
- Housing
- Health
- Education
- Transportation…

= Consumption expenditure (CE)

- Social transfers in kind

= Actual Consumption (AC)

Saving = DI - CE = ADI - A

HH. SAVING

OECD-Eurostat DNA Expert Group: size of micro-macro gaps

Adjustment coefficient (macro/micro aggregate) for items with **largest gaps** in EG DNA exercise

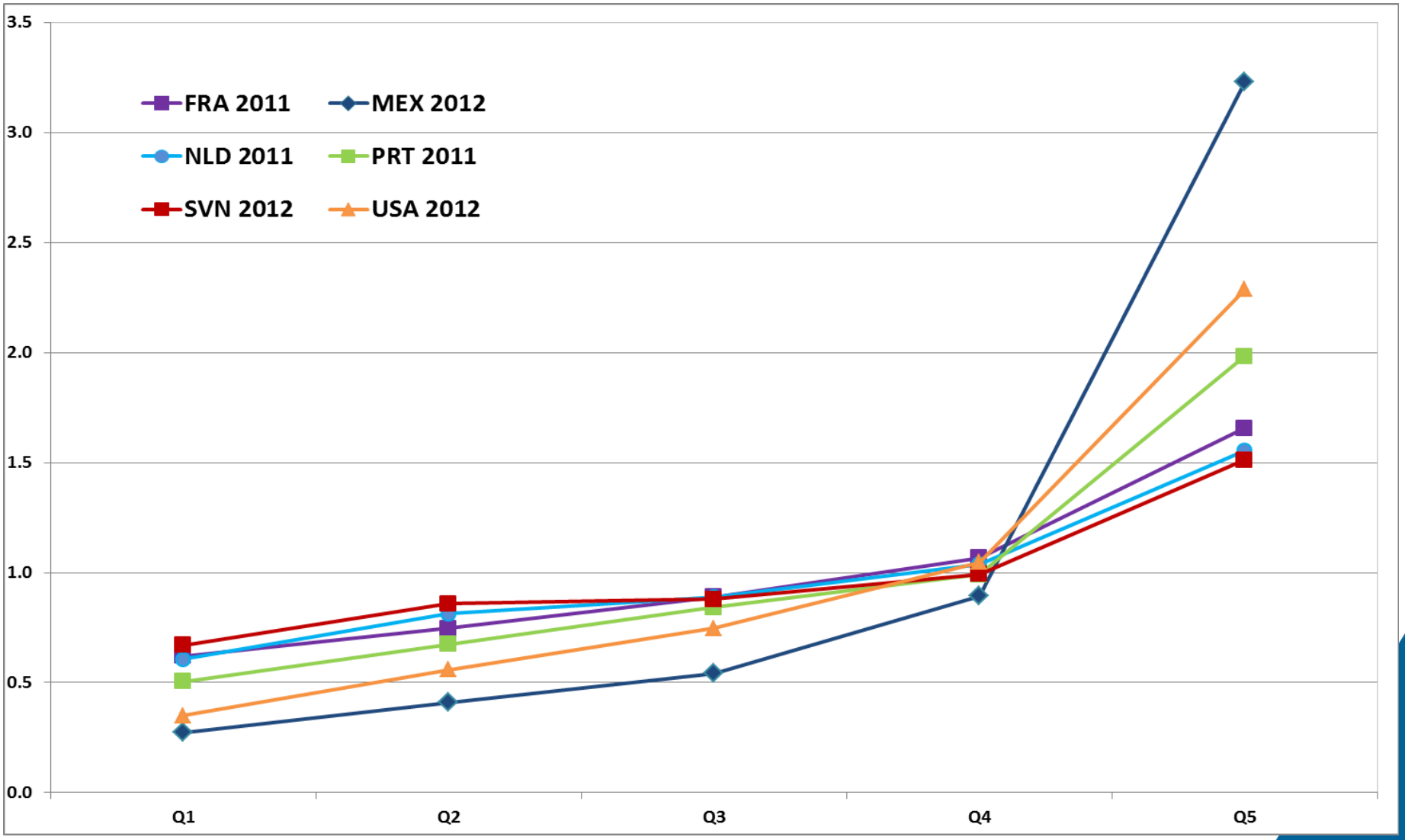
NA-Code	Item	Number of countries	Average	Minimum	Maximum
B2	Operating surplus	6	1.47	0.47	2.43
B3	Mixed income	9	2.69	1.30	5.24
D1R	Compensation of employees	9	1.15	1.01	1.38
D41R'	Interest received (not adjusted for FISIM)	8	2.08	0.66	6.40
D42R	Distributed income of corporations	7	5.06	0.70	17.76
D41P'	Interest paid (not adjusted for FISIM)	9	3.58	1.02	11.31
D5P	Current taxes on income and wealth	10	1.18	0.78	1.54
D62R	Social benefits other than STiK	10	1.22	0.97	1.55

Ideally, information is available to **properly allocate the gaps** to relevant households. Alternative is to allocate the gaps **proportionally**. This may lead to **significantly different** allocations.

More analysis of micro-macro gaps will benefit the EG DNA work, but may also benefit the **quality** of both micro and macro statistics!

OECD-Eurostat DNA Expert Group: results from 2015 exercise

Relative position of each household group compared to the average, for adjusted disposable income



2. Introducing distribution of income and consumption (ctd)

- Aggregating group-specific income/consumption with an explicit welfare function
  - General welfare function: Atkinson (1970), Jorgenson and Slesnick (1983), Jorgenson and Schreyer (2016)
  - Special case: democratic index à la Aitken and Weale)

3. Real savings and productivity – intertemporal considerations

- Weitzman (1976), Sefton and Weale (2006) lend *dynamic welfare interpretation* to NA aggregates:
- Real savings= $p_I \cdot \Delta K$=proportional to change in discounted future consumption: $\Delta V(C^t, C^{t+1}, C^{t+2},\ldots)$
- All expressed in consumption equivalents
- Then NI = C + $p_I \cdot \Delta K$ is reflective of current and future consumption

3. Real savings and productivity – intertemporal considerations

- Thus, (average) welfare interpretation of several NA aggregates
- Justification for considering net investment as measures that are relevant for tracking material well-being
- Also GDP makes its appearance if one allows for future productivity growth
- $\Delta V(C^t, C^{t+1}, C^{t+2},\ldots)$ proportional to real savings plus discounted effects of disembodied technical change, measured as shift of production function
- Demonstrates that GDP and welfare are connected in more than one way
- That said, strong assumptions required on valuation (social prices)

Conclusions

- GDP and (average) economic welfare are different but not independent
- Current discussion on scope of production important - digitalisation
- NA aggregates most suitable for tracking current economic well-being =Real HH consumption or income/household, distribution-adjusted
- Real savings for changes in intertemporal economic well-being but many, many assumptions needed

Thank you!

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