WORK OF OECD EG ON DISPARITIES IN NATIONAL ACCOUNTS

TOWARDS REGULAR HOUSEHOLD DISTRIBUTIONAL RESULTS WITHIN A NATIONAL ACCOUNTS FRAMEWORK

MEETING OF PROVIDERS OF OECD IDD DATA
PARIS, 18-19 FEBRUARY 2016

Presented by Jorrit Zwijnenburg (OECD)
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Background

- Stiglitz, Sen, Fitoussi report (2009): More focus on households to better measure people’s well-being, a.o. by more focus on distributional aspects
- 2011: Launch of OECD/Eurostat Expert Group to develop methodology to produce distributional results consistent with national accounts concepts using micro data sources
- 2013: Publication of results from a first exercise (working papers on methodology and experimental results)
- 2014: Continuation of the work by an OECD EG DNA to further improve methodology and timeliness
- 2015: Second exercise on basis of improved methodology
Aim: Develop methodology to produce distributional results for household income, consumption and saving consistent with national accounts concepts using micro data sources.
Distributional results for three household groupings:

- Disposable income quintile (5 groups)
- Main source of income (4 groups)
- Household type (8 groups)

The unit of analysis is the household

OECD-modified equivalence scale is used to allocate households to quintile groups

Distributional results for household income, consumption and saving consistent with national accounts aggregates

Calculations performed by members of the EG DNA: AUS, AUT, CHE, FRA, GBR, ISR, JPN, MEX, NLD, PRT, SVN, SWE, USA
Aim of the project (3)

**HOUSEHOLD INCOME**

Income resources (received):
- Self-employment income
- Imputed rent from dwellings
- Compensation of employees
- Property income

\[ \text{= Primary Incomes (PI)} \]

Income uses (paid):
- Property income (e.g. interests paid on loans)
- Taxes
- Social contributions
- Other transfers

\[ \text{= Disposable Income (DI)} \]

\[ \text{= Adjusted Disposable Income (ADI)} \]

**HH. CONSUMPTION**

Expenditure:
- Food
- Clothing
- Housing
- Health
- Education
- Transportation...

\[ \text{= Consumption expenditure (CE)} \]

Social transfers in kind

\[ \text{= Actual Consumption (AC)} \]

**HH. SAVING**

\[ \text{Saving} = \text{DI} - \text{CE} = \text{ADI} - \text{AC} \]
Methodology: Step-by-step procedure

**Step 1 – Adjust national accounts totals**
(exclude NPISHs, expenditures of non-resident hh’s and people living in non-private dwellings)

**Step 2 – Identify relevant variables from micro data sources that could be matched to NA variables**
(e.g. Compensation of employees is composed of ‘cash wages and salaries’, ‘commission’, ‘bonuses,’ etc.; note: micro data sources may differ from IDD)

**Step 3 – Impute missing elements and scale the micro data to the adjusted national accounts totals**
(e.g. imputation for STiK, FISIM, income attributable to policy holders)

**Step 4 – Cluster households into groups**
(on the basis of equivalized disposable income)

**Step 5 – Derive relevant indicators for household groups**
(e.g. ratio to the average, highest to lowest)
Methodology: Template

<table>
<thead>
<tr>
<th>Transactions</th>
<th>NA totals</th>
<th>Micro source total</th>
<th>Adjusted hh aggregates by income quintile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original</td>
<td>Adjusted</td>
<td>Q1</td>
</tr>
<tr>
<td>Income resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Compensation of employees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Property income</td>
<td></td>
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<td>...</td>
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<td>...</td>
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<td></td>
<td></td>
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<tr>
<td>Consumption expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Housing</td>
<td></td>
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<td>...</td>
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<td>...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of consumption units</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results from a recent exercise:
Ratio of highest to lowest income

Relative position of the 20% highest to the 20% lowest income households on the basis of adjusted disposable income

Graph showing the ratio of highest to lowest income for different years, with a significant increase in 2010.
Results from a recent exercise: Savings ratios

Saving as a percentage of disposable income by equivalized disposable income quintile

France

Israel

Mexico
IDD versus DNA versus DINA: Differences and similarities

<table>
<thead>
<tr>
<th>Items</th>
<th>IDD and WDD</th>
<th>DNA</th>
<th>DINA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>Micro data set</td>
<td>Macro aggregates</td>
<td>Synthetic micro data set</td>
</tr>
<tr>
<td>Coverage</td>
<td>Income and wealth</td>
<td>Income, consumption and savings</td>
<td>Income, savings and wealth</td>
</tr>
<tr>
<td>Income concept</td>
<td>Regular and on-going receipts</td>
<td>SNA disposable income</td>
<td>Personal factor, pre-tax, fiscal and disposable income</td>
</tr>
<tr>
<td>Population</td>
<td>All resident private households</td>
<td>All resident private households, incl. underground economy</td>
<td>Adult 20+</td>
</tr>
<tr>
<td>Unit of analysis</td>
<td>Individuals (IDD) and households (WDD) (square root eq. scale)</td>
<td>Households (OECD-modified eq. scale)</td>
<td>Individuals</td>
</tr>
<tr>
<td>Time of recording</td>
<td>Specific point in time</td>
<td>Accrued over a year</td>
<td>Accrued over a year</td>
</tr>
<tr>
<td>Data sources used</td>
<td>Income survey data, admin. data</td>
<td>Income and consumption surveys, admin. data, NA totals</td>
<td>Income and wealth surveys, tax data, NA and balance sheet totals</td>
</tr>
</tbody>
</table>
Excluded from IDD (affecting disposable income):

- Imputed rent of owner-occupied dwellings
- Investment income attributable to life insurance policy holders and to collective investment fund share holders
- Reinvested earnings on foreign direct investment
- Large and irregular transfers
- Non-life insurance premiums and benefits
- Winnings from lotteries and gambling
- Taxes on capital gains
- Social transfers in Kind
Excluded from IDD (not affecting disposable income):

- Employers’ imputed social contributions
- Investment income payable on pension entitlements
- Investment income attributable to non-life insurance policy holders

All recorded as income and current transfer in SNA; cancelling out at the level of disposable income.

Different recording in IDD and SNA:

- Wages and salaries on sick leave
- Interest receipts and payments
IDD versus DNA: Differences and similarities

Q5/Q1 ratio for disposable income

* IDD data refer to 2012
Way forward for EG DNA

- Further improve methodology
- Compile longer time-series
- Set up a regular data collection
- Study micro-macro gaps
- Draft a handbook
- Further explore nowcast methodologies
- Explore possibilities of including wealth

For all of this, a strong cooperation is needed between the micro and national accounts experts!
Thank you for your attention

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### Challenge of micro-macro gaps

#### Adjustment coefficient (macro / micro aggregate) for the main income components

<table>
<thead>
<tr>
<th>Code</th>
<th>Instrument</th>
<th>Average</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Most Recent Year</td>
<td>Second Most Year</td>
<td>Most Recent Year</td>
</tr>
<tr>
<td>B2</td>
<td>Operating surplus</td>
<td>1.79</td>
<td>1.27</td>
<td>0.94</td>
</tr>
<tr>
<td>B3</td>
<td>Mixed income</td>
<td>2.20</td>
<td>1.79</td>
<td>1.30</td>
</tr>
<tr>
<td>D1R</td>
<td>Compensation of employees</td>
<td>1.19</td>
<td>...</td>
<td>1.16</td>
</tr>
<tr>
<td>D41R</td>
<td>Interest (not adjusted for FISIM), received</td>
<td>2.08</td>
<td>1.90</td>
<td>0.66</td>
</tr>
<tr>
<td>D42R</td>
<td>Distributed income of corporations</td>
<td>5.06</td>
<td>10.67</td>
<td>0.70</td>
</tr>
<tr>
<td>D41P</td>
<td>Interest (not adjusted for FISIM), paid</td>
<td>3.58</td>
<td>2.47</td>
<td>1.02</td>
</tr>
<tr>
<td>D5P</td>
<td>Current taxes on income and wealth</td>
<td>1.18</td>
<td>1.19</td>
<td>0.78</td>
</tr>
<tr>
<td>D61P</td>
<td>Net social contributions</td>
<td>1.23</td>
<td>2.01</td>
<td>1.19</td>
</tr>
<tr>
<td>D62R</td>
<td>Social benefits other than STiK</td>
<td>1.22</td>
<td>1.30</td>
<td>0.97</td>
</tr>
<tr>
<td>D63R1</td>
<td>Education</td>
<td>0.94</td>
<td>0.88</td>
<td>0.72</td>
</tr>
<tr>
<td>D63R2</td>
<td>Health</td>
<td>1.36</td>
<td>1.37</td>
<td>1.16</td>
</tr>
</tbody>
</table>
Possible reasons for micro-macro gaps in EG DNA exercise

**Step 1: Adjustment of NA totals**
A. Quality of NA totals
B. Quality of the adjustments

**Step 2: Linking micro data source to NA variables**
C. Conceptual and classification differences
D. Underground economy and illegal activities
E. Quality of micro data
   - Estimation errors
   - Measurement errors

Please note that sources used may differ from IDD!