



MEASURING ECONOMIC WELFARE: A PRACTICAL AGENDA FOR THE PRESENT AND THE FUTURE

6th IMF Statistical Forum

“Measuring Welfare in the Digital Age: What and How?”

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Introduction

- **Lots of criticism on GDP in providing adequate guidance for policy:**
 - Does not appropriately measure **well-being** (including its distribution), or progress of society more generally
 - Does not address **environmental issues** and ecological boundaries
- **GDP \neq (sustainable) well-being**
- **GDP \approx measure of economic activity**
- **But what then?**



Our response

- **Within the current system of national accounts:**
 - Putting more emphasis on other indicators within the system of national accounts
 - Integrating distributional information
- **Going beyond the current system of national accounts:**
 - Estimating unpaid household activities
 - Implementing System of Environmental-Economic Accounting (SEEA)
- **Measuring (sustainable) well-being using a dashboard of indicators (e.g. OECD Better Life index), supplemented by an underlying framework of accounts**



Staying Within the Current System of National Accounts



GDP versus Household Disposable Income

**“It’s about households, stupid!”
(paraphrasing President Clinton)**



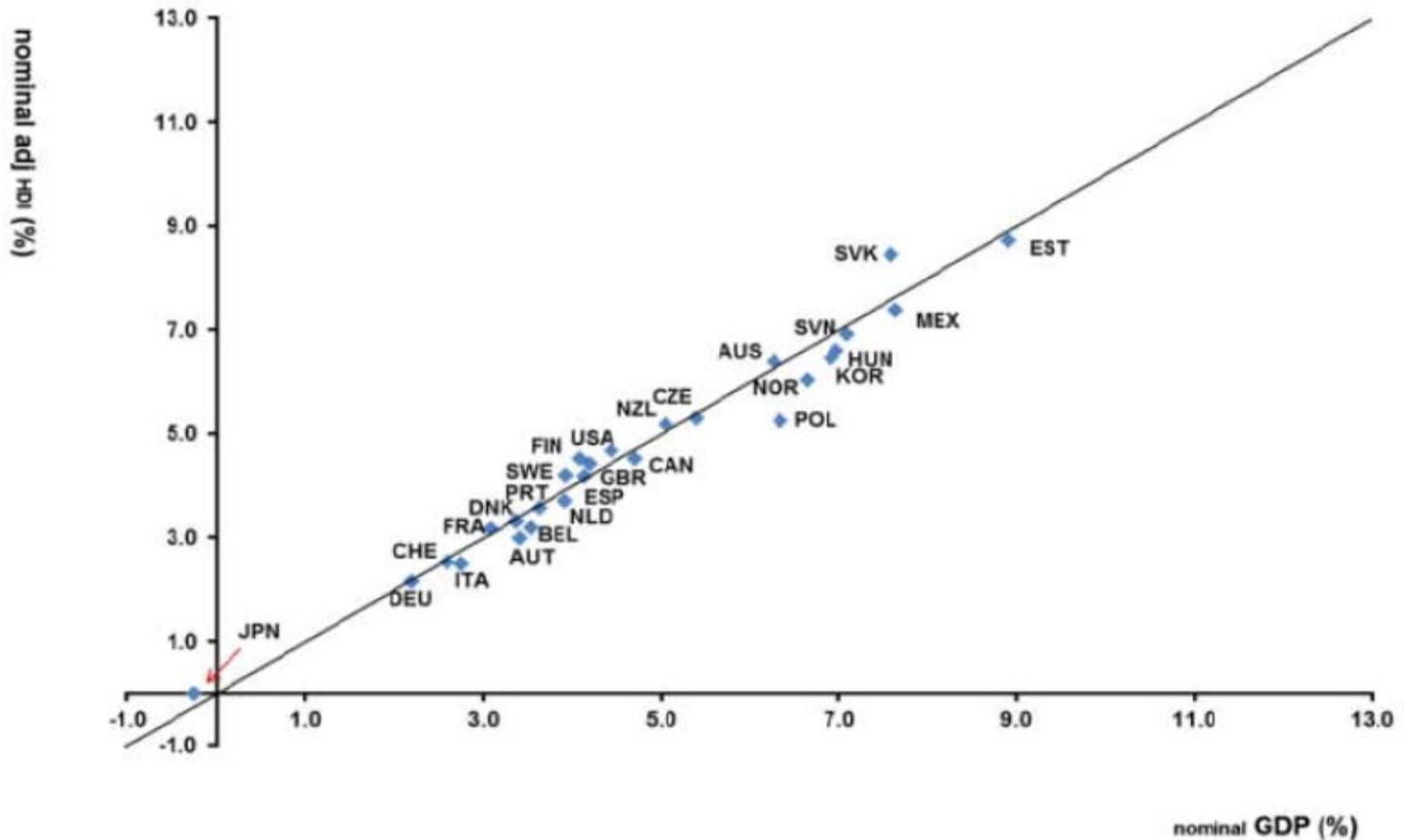
Putting people at the centre

Very valid recommendations made in the **Stiglitz-Sen-Fitoussi Report**, in respect of macro-economic statistics:

1. When evaluating material well-being, **look at income and consumption** rather than production
2. Emphasise the **household perspective**
3. Consider **income and consumption jointly with wealth**
4. Give more prominence to the **distribution of income, consumption and wealth**
5. Broaden income measures to non-market activities



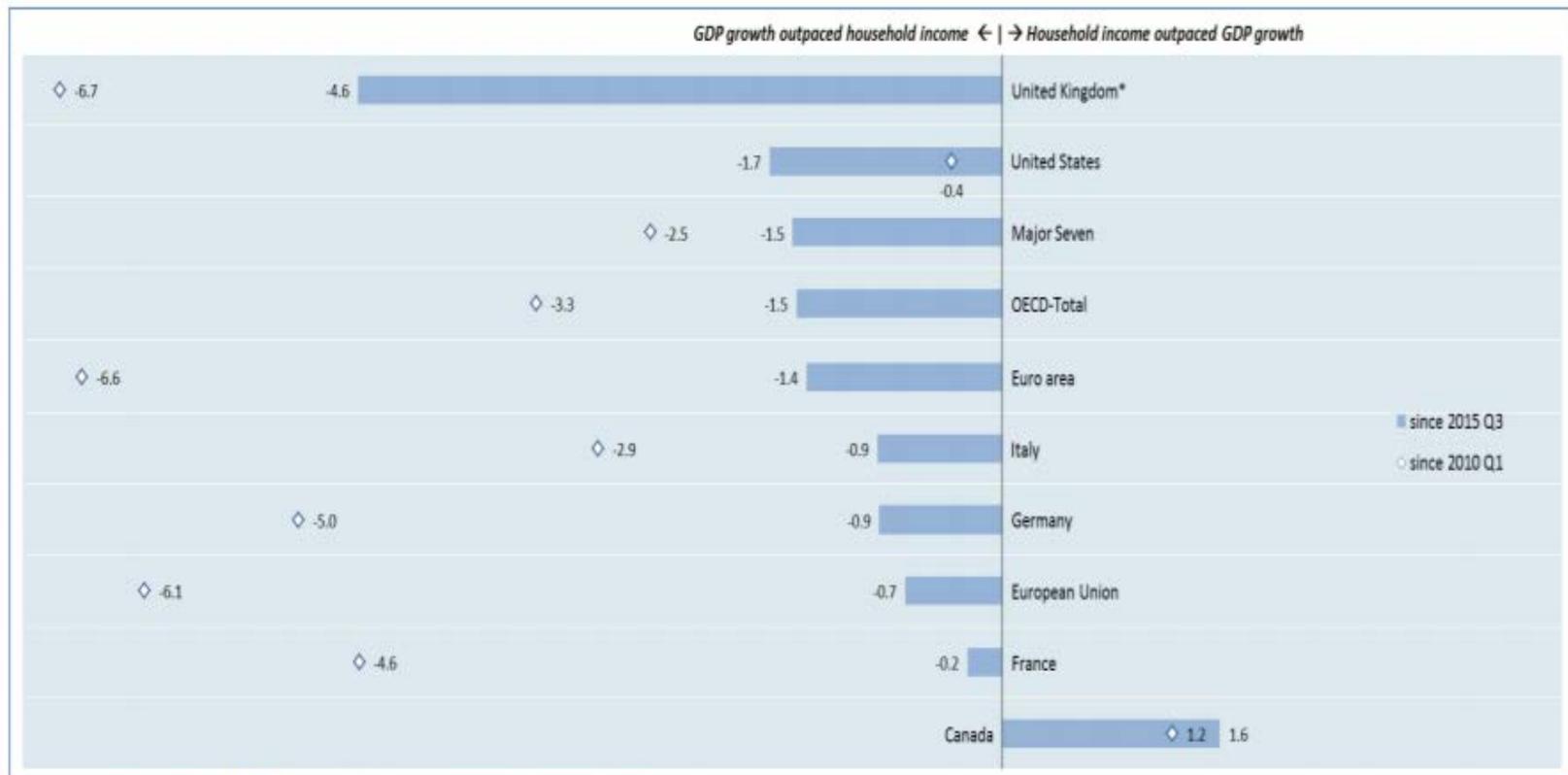
GDP growth versus real household adjusted disposable income (1996-2013)





GDP growth versus real household adjusted disposable income

Growth in GDP per capita has outpaced household income per capita in most OECD countries since 2010
Percentage points difference in cumulative growth rates of real household income per capita and GDP per capita



* See country note for the United Kingdom in the technical note.



Households' Economic Well-being Dashboard

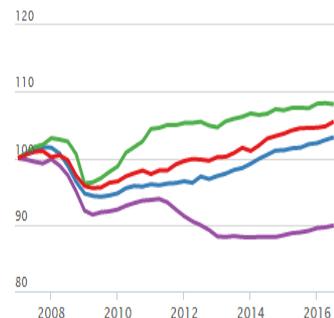
- Moving beyond GDP to focus on household economic resources ...
 - GDP and household income – 3 indicators
 - Confidence, consumption, and savings – 3 indicators
 - Debt and net worth – 2 indicators
 - Unemployment – 2 indicators
- Updated quarterly approximately 4.5 months after the end of the reference quarter
- A blog each quarter focusing on one country's indicators
- <http://www.oecd.org/std/na/household-dashboard.htm>

Households' economic well-being

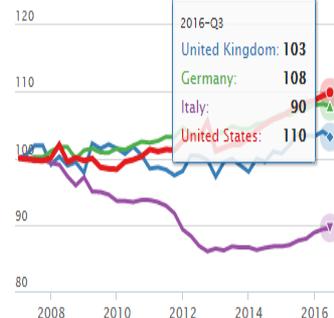
GDP and household income Confidence, Consumption and Savings Debt and net worth Unemployment

GDP growth is the most prominent indicator of economic performance, however, it usually does not provide a full picture on the economic well-being of people. The first two charts show how much GDP and household income have grown since the first quarter of 2007. In most OECD countries, GDP dropped sharply at the beginning of the economic crisis, while the impact on household income was less pronounced. One of the explaining factors of the different movement was the impact of government intervention which is shown on the third chart, net cash transfers to households, of this dashboard.

GDP per capita



Household disposable income per capita



Net cash transfers to households



definitions

OECD	Estonia	Israel	New Zealand	Switzerland
Australia	Finland	Italy	Norway	Turkey
Austria	France	Japan	Poland	United Kingdom
Belgium	Germany	Korea	Portugal	United States
Canada	Greece	Latvia	Slovak Republic	
Chile	Hungary	Luxembourg	Slovenia	
Czech Republic	Iceland	Mexico	Spain	
Denmark	Ireland	Netherlands	Sweden	



Distribution of Income, Consumption, Saving and Wealth

“Every American should have above average income, and my Administration is going to see they get it” (an American president on campaign trail)



Distributional aspects

- Sub-classifications per main sector
 - Non-financial corporations: 11
 - Financial corporations: 96
 - General government: 15
 - Households: 7
 - NPISHs: 2

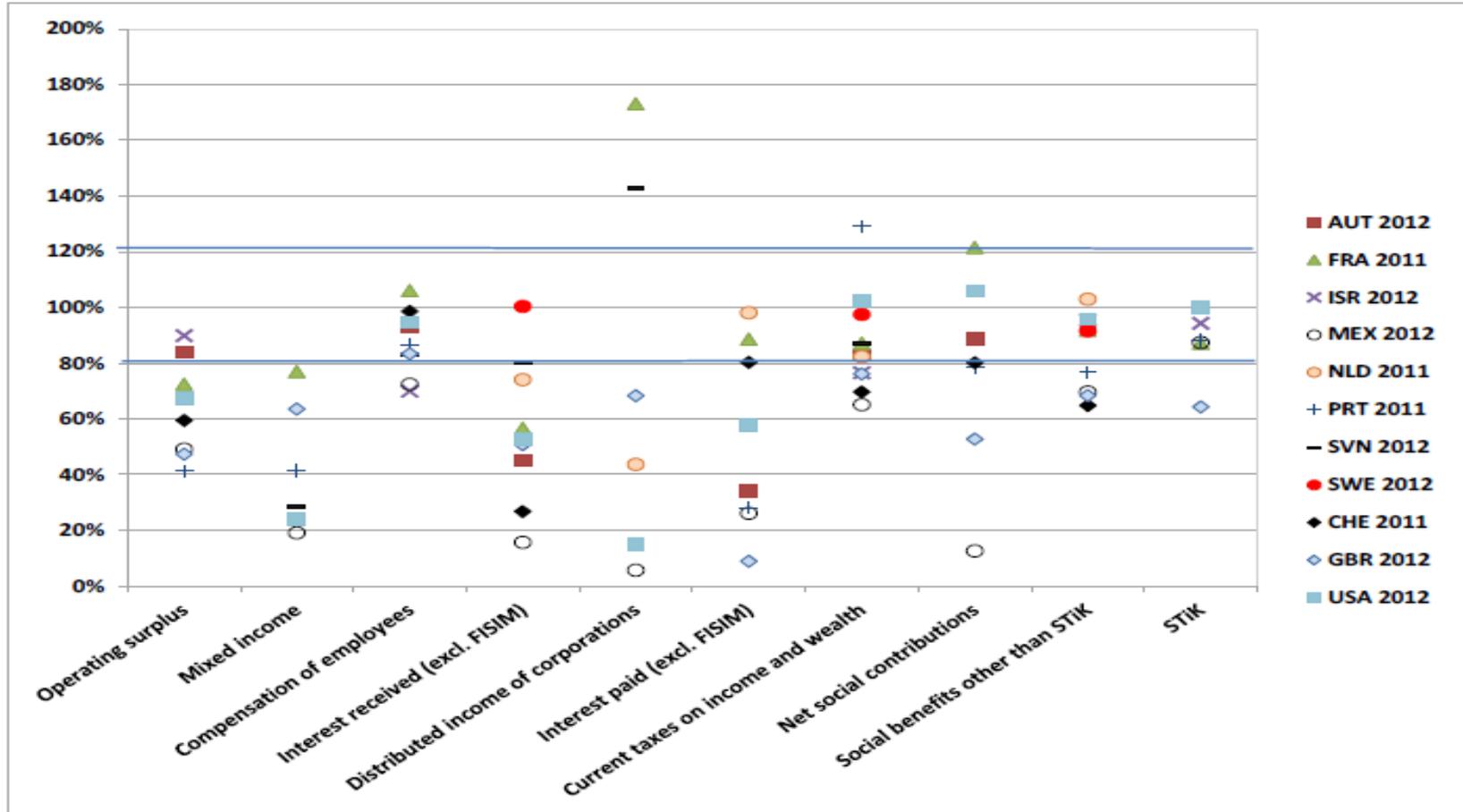


- **Need to integrate micro-data on households, to arrive at consistent and timely distributional information on income, consumption, saving and wealth**
 - More details on households, by income quintile/decile, by type of income, by composition of households
- **Expert Group Disparities in National Accounts (EG-DNA)**
- May also improve both micro-data and national accounts



Coverage rates (micro vs. macro)

Micro aggregates divided by the adjusted national account totals.

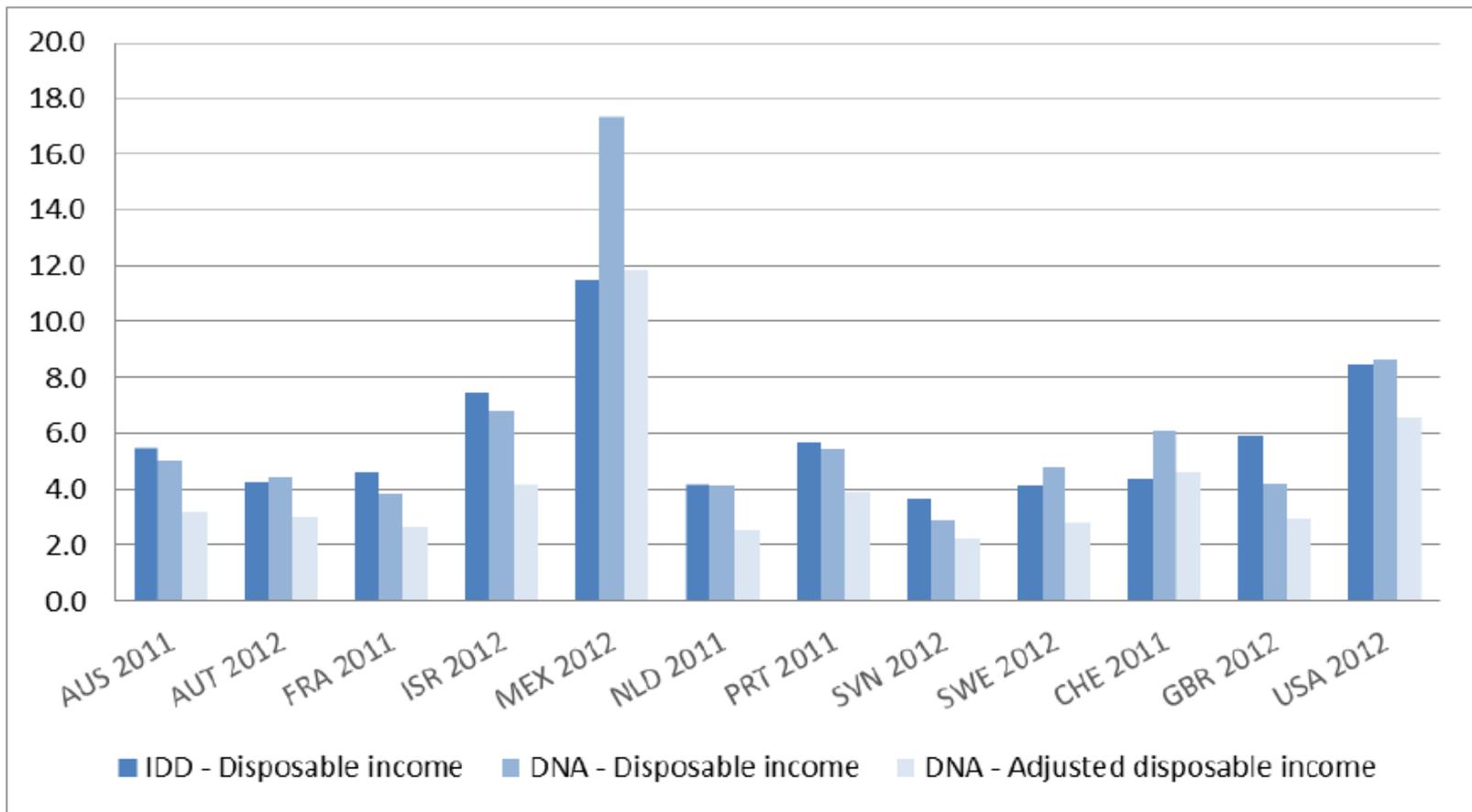


80-120% interval of relatively good alignment



Differences in results between micro and macro

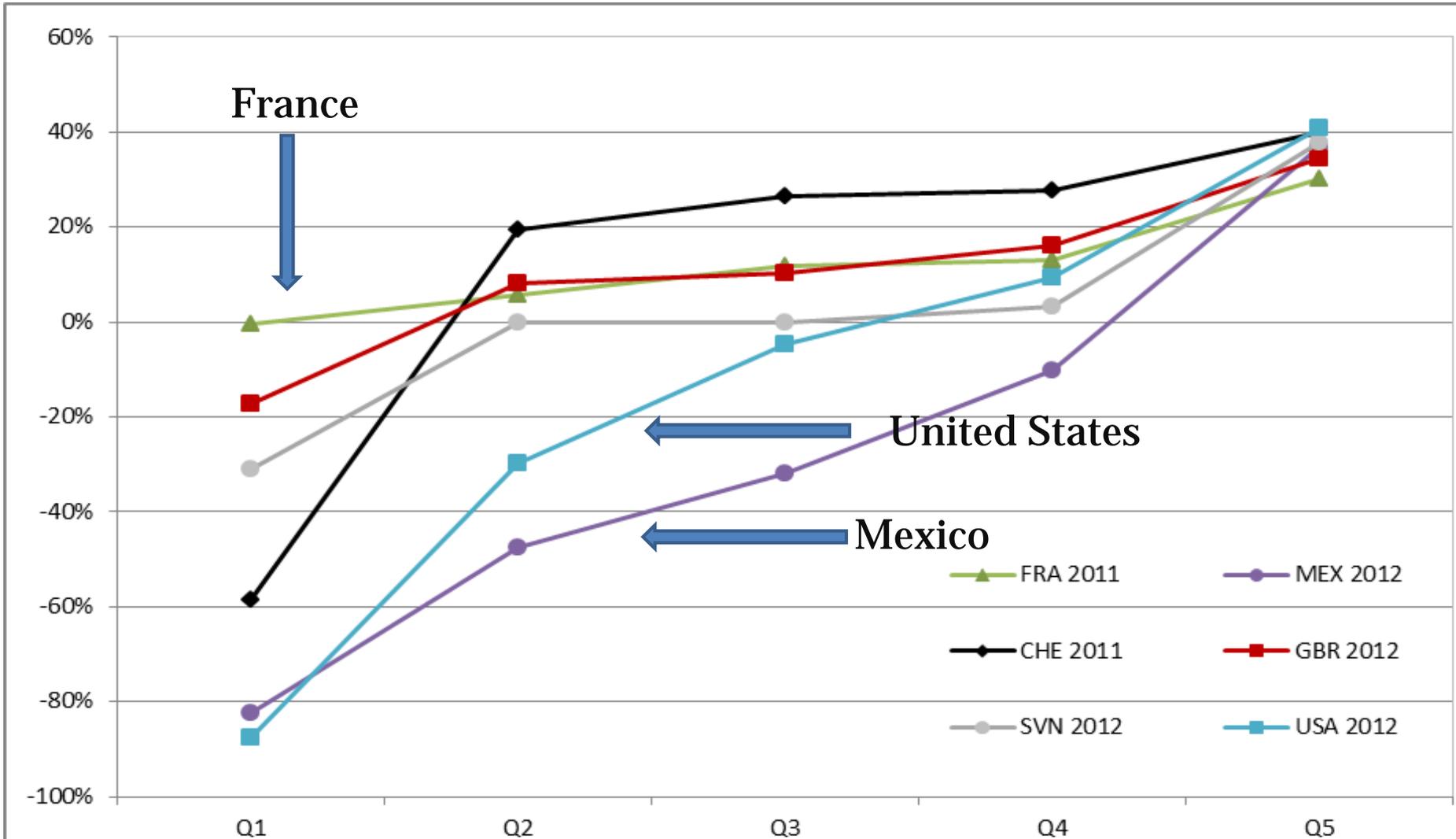
(Adjusted) disposable income per consumption unit for the fifth quintile to the (adjusted) disposable income for the first quintile.





Results from 2015 exercise: Savings ratios

Saving as a percentage of disposable income by equivalized income quintile





Going Beyond the Current System of National Accounts



Unpaid Household Activities

“Few tasks are more like the torture of Sisyphus than housework, with its endless repetition: the clean becomes soiled, the soiled is made clean, over and over, day after day” (Simone de Beauvoir)



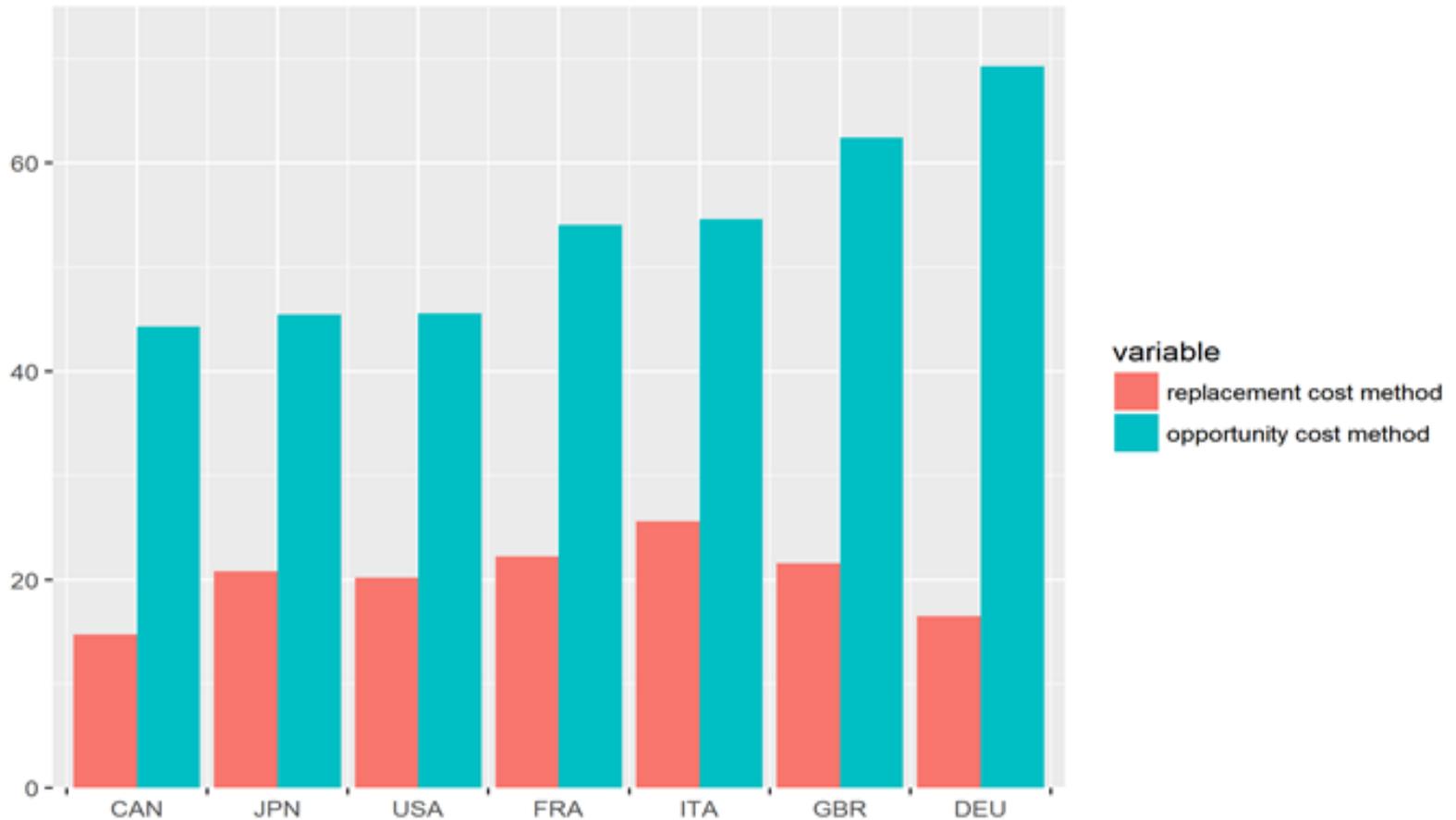
Unpaid household activities

- **Valuation of services => cost-based approaches:**
 - Replacement cost approach: wage costs of similar activities
 - Opportunity cost approach: income foregone
 - Differences in labour productivity and quality of the output?
- Distinction between time spent on unpaid activities and leisure time
- **Time use survey data: frequency, details and timeliness need (substantial) improvement**
- Note: Clear relationship with some issues related to digitalisation



Experimental results

Value of own-account production of unpaid household services (% of GDP), 2015





Impact on growth rates

Average annual real growth in GDP, excluding and including an imputed value for unpaid household services

Canada	Period	81-86	86-92	92-98	98-05		05-10	10-15		81-15
	Official	2.39	1.60	4.93	3.31		1.14	2.24		2.39
	Replacement	2.26	1.54	4.57	3.04		1.35	2.02		2.25
	Opportunity	1.98	1.34	3.90	2.51		1.57	1.58		1.96
United Kingdom	Period				95-00	00-05	05-14			95-14
	Official				3.32	2.76	1.08			2.10
	Replacement				3.38	1.92	1.03			1.88
	Opportunity				3.60	0.97	0.99			1.66
United States	Period	75-85	85-98		98-03	03-08	08-10	10-14	14-16	75-16
	Official	3.50	3.26		2.86	2.25	-0.16	2.02	2.17	2.80
	Replacement	3.02	2.96		2.36	1.85	-0.05	1.66	2.32	2.46
	Opportunity	2.60	2.70		1.85	1.47	0.07	1.33	2.46	2.15



Taking the Environment into Account

**“Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist”
(Kenneth Boulding)**



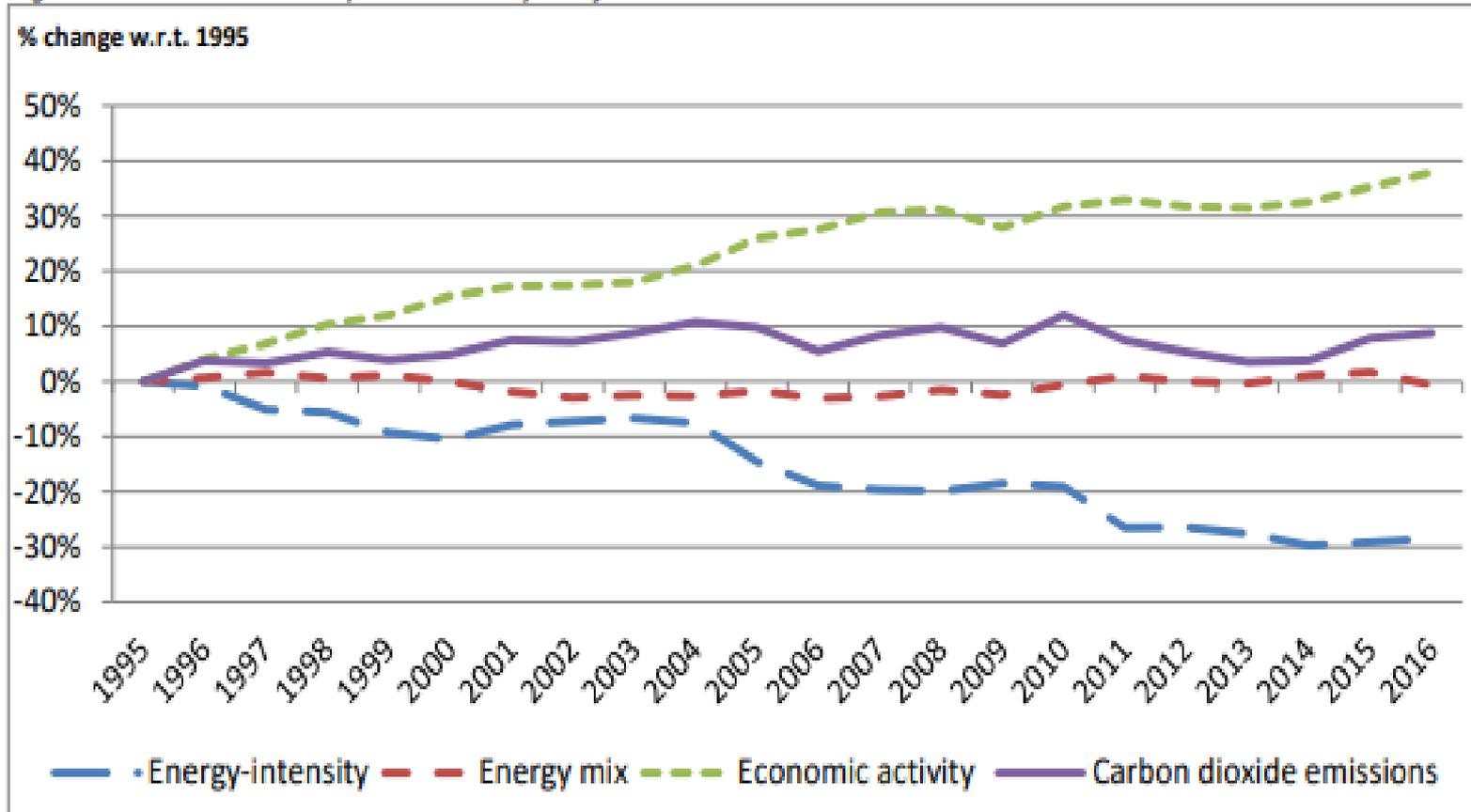
Implementing environmental accounts

- **System of Environmental-Economic Accounting (SEEA) Central Framework**
 - Multi-purpose framework describing interactions between environment and economy
 - Links macro-economic data to environmental statistics on e.g. emissions to air and water, includes a broader set of assets
 - Uptake relatively good (goal of 100 countries by 2020)
 - Depletion adjusted GDP/NDP?
- **Accounting for stocks and degradation of ecosystems**
 - Experimental status, but much progress being made and consensus arising
 - Accounting for (degradation of) “free” ecosystems assets within national accounts?



Decomposition analysis

Figure 2.4.1 Index decomposition analysis of carbon dioxide emissions





Ecological footprints

Table 2.3.2. Greenhouse gas footprint (excluding F-gases) in CO₂-equivalents, biannual 2008-2016

	Unit	2008	2010	2012	2014	2016
Emissions attributed to import (-)	Million tonnes	238	202	200	186	182
Emissions attributed to export	Million tonnes	173	157	161	165	176
The environmental balance of trade	Million tonnes	-65	-45	-39	-21	-7
Net emissions by residents	Million tonnes	240	245	229	223	232
Footprint	Million tonnes	305	290	268	244	239
Footprint per capita	Thousand kg	18,6	17,5	16,0	14,5	14,1



A Vision for the Future

“So, it has come to this. The global diversity crisis is so severe that brilliant scientists, political leaders, eco-warriors, and religious gurus can no longer save us from ourselves. The military are powerless, but there may be one last hope for life on earth: accountants” (Jonathan Watts)



Well-being versus GDP

- Starting point: Well-being is a **multidimensional phenomenon**
- **One single measure not feasible**
- OECD Better Life Index, various dimensions:
 - Housing
 - Income
 - Jobs
 - Education
 - Civic engagement
 - Health
 - Life satisfaction
 - Safety
 - Work-life balance, etc.





I have a dream!



- Accept and communicate that **GDP is first and foremost an indicator of (monetary) income or economic activity**
- **Continuously educate users**
- **Embed the framework** of national (monetary) accounts **into a much broader framework**, and establish a much better link between macro-economic framework and the work on sustainability and well-being
- **Practical approach**: start with including and regular updating of accounts for environment, unpaid household activities, health, and education
- Such a system will provide an improved information basis for analysing trade-offs and win-wins between various aspects of sustainability and well-being



Thank you for your attention!





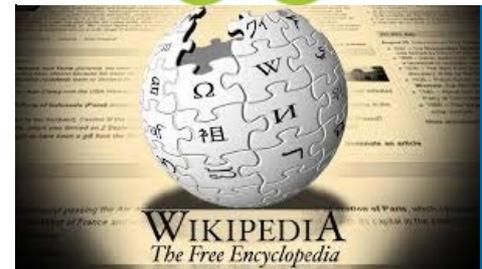
Intermezzo on Digitalisation



Where is the digital economy in macroeconomic statistics?

The digital transformation is largely hidden in the core economic accounts and challenges our conceptual frameworks and measurement approaches

- **Sharing economy** (Uber, AirBnB, eBay, etc.) => measurement of 'informal' activities
- **Participative role of consumers** (booking flights and holidays, self-service at supermarkets, etc.) => blurring the delineation between market production, unpaid household activities and leisure
- **Free services financed via advertising and provision of data**
- **Free assets produced by communities of people** (Wikipedia, open-source software)
- **Role of, and accounting for, data**





Measuring macroeconomic statistics in a digital economy

Response of the international statistical community

- OECD Measuring GDP in a digitalised economy
- OECD-IMF Can potential mismeasurement of the digital economy explain the post-crisis slowdown in GDP and productivity growth?
- OECD-IMF Measuring consumer inflation in a digital economy
- **Satellite account for the digital economy:**
 - Highlights digitally related activities
 - Includes extension of production and asset boundary (free services, role of data, etc.)
- More work needed on **volumes and prices**
- **Guidance note** in the context of the 2008 SNA

OECD publishing

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**Measuring GDP in a
Digitalised Economy**

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