

Data Gaps and Economic Measurement: A (Former) Practitioner's Viewpoint

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Basic Message

- Reliable macroeconomic statistics are necessary for policy making. (Evidence-based Policy)
- However, “statistics” are sometimes grossly insufficient to guide economic policy.
 - Not timely available
/ Often non-existent when problems pop up
 - Quite often “revised” by a substantial magnitude, sometimes drastically changing the assessment of economic conditions
 - Gap between underlying economic concept of these statistics and the way they are constructed (estimated) is not understood well
- Economist-statisticians in the policy-making body should incorporate market intelligence and non-statistical information into their arsenal of statistics.

Three Episodes

- Episode 1: European Summer of 2007
 - A window of opportunity to avert financial crisis was wide-open for a month, but wasted because there was no relevant statistics
- Episode 2: GDP Revision that “Changed the Economy”
 - Japanese Quarterly GDP figures were kept changing after its first- estimate release, sometimes wildly, even from decent plus to substantial minus, vice versa -- confusing, misleading
- Episode 3: Japanese CPI and the “2% in 2 years” Pledge
 - Many items of the Japanese CPI are not sensitive (sticky) to current demand-supply conditions (within the time span of 2 years) by construction -- yet the public, including even some policy makers, fail to notice it
- But before explaining these, some backgrounds

Economic Information and Policy Making

(special reference to central bank policy)

- Contemporary central banking faces two challenges.
 - 1) Central bank independence
 - ➔ Accountability: Evidence-based policy
 - 2) Increasing susceptibility to economic agents' expectations
 - ➔ Communication: With the general public
- “Numbers” or statistics become increasingly important.

Knowns and Unknowns in Central Bank Policy

- Three types of economic information

Type 1) Known knowns

- What happened in the past (statistics)

Type 2) known unknowns

- Estimating what has just happened (now-cast) and what will happen (forecast) based on past statistics

Type 3) Unknown unknowns

- Previously unknown, but potentially significant factors

¶ *“But there are also unknown unknowns - the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tend to be the difficult ones.”*

- Donald Rumsfeld

What does a central bank policy maker want to know when he/she decides on policy?

1. Momentum of activity in the economy and financial markets
 - Aggregate demand management
2. Signs of previously unknown, but potentially significant changes in the economy and financial markets
 - Financial stability

Information about Economic Activities

- We have a rich array of data of either type 1 or 2.
 - Improved comprehensiveness, accuracy, and timeliness
 - Quantitative data: GDP and national accounts, CPI, flow of funds, balance of payments
 - Qualitative data: Business surveys, consumer sentiment surveys
 - Both public and private data providers
 - These are “known knowns” and “known unknowns”.
- Types 1 and 2 data have still problems as in Episodes 2 and 3 in aggregate demand management
- However, type 3 (unknown unknowns) is far more important to prevent economic crisis

Information about Unknown Unknowns

- Statistics are grossly insufficient to detect unknown unknowns (type 3).
- Deficiency is especially keen in financial information.
- Why?
 - Financial stability as prerequisite for economic stability
 - Stronger negative feedback between financial malaise and aggregate demand factors
 - Rapid changes in financial factors
- Important agenda for policy makers to guard against unknown unknowns (type 3) with timely reporting schemes

Episode 1: European Summer 2007

- Paribas Shock of 2007
 - On July 10, 2007, S&P and Moody's announced negative reviewing of several residential mortgage-backed securities (RMBS) in the **United States**.
 - The AAA ratings of asset backed commercial paper (ABCP) backed by these RMBS would also be downgraded.
 - This eventually lead to **European** liquidity crisis of August 9, called Parisbas Shock
- Paribas Shock became the precursor of the global financial crisis of 2008.

Background

- (a) In the US, money market funds (MMFs) were considered as safe financial assets.
- (b) Why safe? MMFs were only allowed to invest in AAA-rated assets.
- (c) MMFs heavily invested in asset-backed commercial paper (ABCP) issued by the structured investment vehicles (SIVs) created by US and European banks, since these SIVs had AAA-rating.

Timeline from July 10 to August 9, 2007

- On **July 10, 2007**, S&P and Moody's announced negative reviewing of several residential mortgage-backed securities (RMBS) of the United States
- SIVs, which were created by banks (including European) to issue ABCP, suddenly faced difficulties in fund-raising; BNP Paribas moved to freeze its affiliated funds' new applications and redemptions.
- SIVs' parent banks were forced to provide liquidity enhancement.
- Banks suddenly became aware of counterparty risk.
- **On August 9**, a liquidity crisis actually occurred – the Paribas Shock; many European banks faced liquidity difficulties.

A window of opportunity was open July 10 to August 9 to avert the Parisbas Shock but wasted

- **One-month window of opportunity to prevent the Parisbas shock:**
 - ← Significance of one month contracts in the market
- To have prevented this event, policy makers should have known:
 - (1) MMFs' asset positions,
 - (2) Legal constraints on MMFs,
 - (3) Banks' involvement in their SIVs, and
 - (4) Inter-connectedness among banks in the interbank market.
- Existing statistics and routine market intelligence were grossly insufficient to gather the above four pieces of vital information.
- However, there were several signs flagging a possible problem, so that a “proactive” market intelligence unit alarmed by these signs might have detected the problem and could have helped policy makers avoid the disaster.

Policy-Maker (Central-Bank) Intelligence: The Key to Guarding against Unknown Unknowns

- Market intelligence
 - Daily transactions with financial institutions provide various kinds of information with respect to market participants, developments in financial products, as well as other “news”.
- Monitoring information and feedback
 - Qualitative or supervisory information can be obtained from regular supervisory dialogue with regulated entities.
- Gauging the extent of biases that may be included in market information

Episode 2: GDP Revision that “Changed the Economy”

- Japanese Quarterly GDP figures were kept changing after its first- estimate release, sometimes wildly, even from decent plus to substantial minus, vice versa -- confusing, misleading
- This is especially problematic in the crisis condition
 - **2007 Q3: Parisbas Shock** - From decent positive growth to negative growth
 - **2008 Q3: Lehman Shock** - From zero growth to significantly negative growth
 - **2009 Crisis Phase (Q1~Q3)** – GDP numbers changed wildly

Table 1. History of GDP revision

	2007 Q3_1	2008 Q3_1	2009 Q1_2	2009 Q2_2	2009 Q3_1	2010 Q3_2	2010 Q4_1	2011 Q3_1	2013 Q2_2
2007/ 7 - 9.	2.6	2.3	0.8	-1.3	-2.3	-0.6	-0.9	-1.1	-1.4
2008/ 7 - 9.		-0.4	-2.5	-5.1	-6.5	-4.6	-5	-5.2	-4
2009/ 1 - 3.			-15.2	-12.4	-12.2	-19.9	-20.1	-17.7	-15
2009/ 4 - 6.				2.3	2.7	11.3	10.8	8.4	6.7
2009/ 7 - 9.					4.8	-1.2	-1.9	-2.3	0.4

From Practitioner's Viewpoint

- Importance of GDP estimates
 - As a comprehensive gauge of economic activities
 - As a means of communication in the evidence-based policy framework
- Two do's
 - Avoid confusion as much as possible
 - Make it simple and understandable
- From this perspective, this episode is extremely disturbing
 - Not the economy changed the statistics, but the statistics changed (the perception of) the economy.
<The tail wags the dog>

What went wrong?

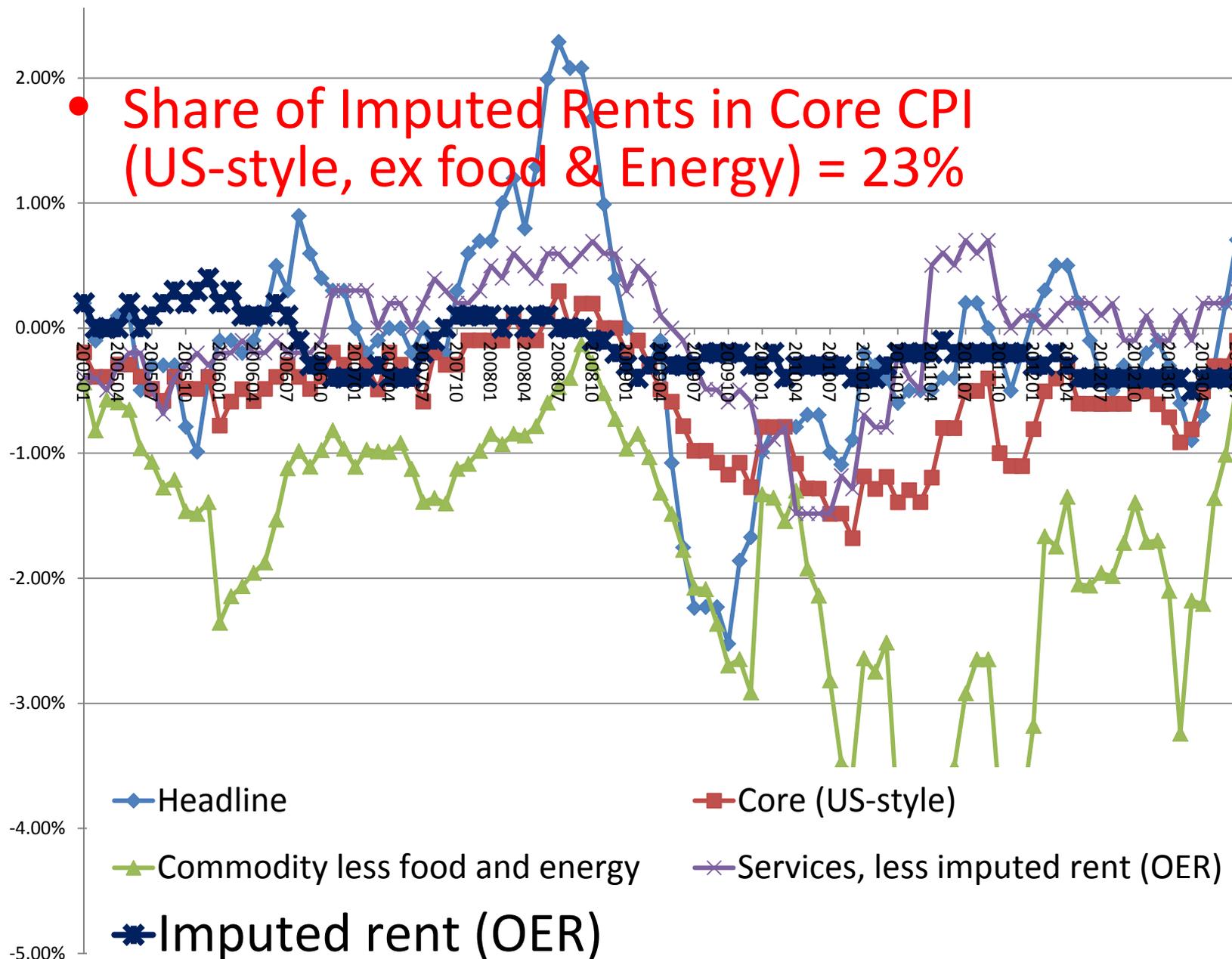
- Are primary data sources to compile QE unreliable and insensitive in the crisis conditions?
 - If so, we urgently need new data sources which are sufficiently sensitive to changing economic conditions
- Is the seasonal adjustment (SA) procedure inappropriate in the crisis conditions?
 - Timing to apply SA - once in a year, or each period?
 - Treatment of outliers – is a large decline in the crisis a part of seasonality?
- Does the policy maker base her policy on the currently published GDP figures or her own estimate of the “settled-down” GDP figures after the prospective 5-year comprehensive revision?

Episode 3:

CPI and the “2% in 2 years” Pledge

- April 4 Policy Change at the Bank of Japan includes a pledge of “2% in 2 years” with respect to CPI inflation (ex. fresh food and consumption tax effects).
- Many items of the Japanese CPI are not sensitive (sticky) to current aggregate demand-supply conditions (within the time span of 2 years) by construction
- Yet, the public, even including some policy makers do not understand this fact.

A case in point: Imputed Rents (OER)



The Japanese Imputed Rents (OER)

- Very important
 - Their share is 16% of headline, 23% of CPI Core (US-style, ex food and energy)
- Insensitive to aggregate demand-supply conditions
 - Often moves in the opposite direction
- Persistent trending-down

What is the problem?

- Institutional rigidity
 - Legal constraint to change continuing rents
 - Not adequately treated in theory as well as practice
- Lack of age-effect adjustment
 - Many rental units are becoming older without adequate renewal
- Are market rents always a good indicator of the shadow rents of owner-occupied units?

Concluding Remarks

- Conceptual improvement in the system of national accounts and other official statistics is remarkable in the past
- However, from the policy-maker's point of view, the official statistics are grossly insufficient, especially with respect to timeliness, accuracy (or stability in estimates), and relevance in the real world (consideration of institutional factors, market structure, etc.)
- So, what is the role of (Public Sector) Economist-Statisticians?
 - Are they historians or detectives?