Comments on Estimating Japan's Gross Domestic Income Based on Taxation Data

David E. Weinstein

Columbia and NBER

February, 2017

Overview

- Fujiwara and Ogawa develop an alternative approach to measuring Gross Domestic Income so that it matches GDP
- Their results suggest that "official" GDP may be understating "actual" GDP
  - Very nice point
- Convinced about the measurement problems, so my comments will focus on a few big picture issues related to how we measure national income

Measurement Issues

- Fujiwara and Ogawa are compelling that different approaches lead to different measures
  - Some additional information on why the measures differ would be helpful

Measurement Issues

- Fujiwara and Ogawa are compelling that different approaches lead to different measures
  - Some additional information on why the measures differ would be helpful
- One question is what measure *should* we use? Important factors include

Measurement Issues

- Fujiwara and Ogawa are compelling that different approaches lead to different measures
  - Some additional information on why the measures differ would be helpful
- One question is what measure *should* we use? Important factors include
  - Accuracy

Measurement Issues

- Fujiwara and Ogawa are compelling that different approaches lead to different measures
  - Some additional information on why the measures differ would be helpful
- One question is what measure *should* we use? Important factors include
  - Accuracy
  - Comparability
    - If Japan uses one method and other countries use a different method, the numbers won't be comparable

Measurement Issues

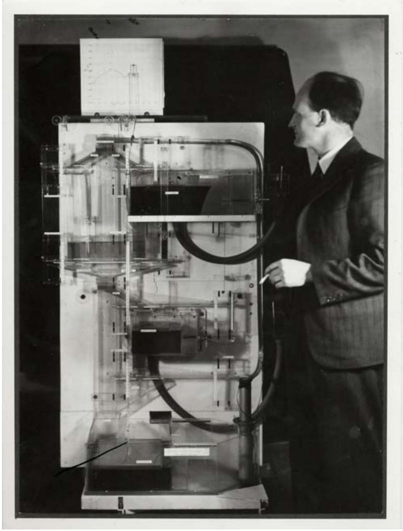
- Fujiwara and Ogawa are compelling that different approaches lead to different measures
  - Some additional information on why the measures differ would be helpful
- One question is what measure *should* we use? Important factors include
  - Accuracy
  - Comparability
    - If Japan uses one method and other countries use a different method, the numbers won't be comparable
  - Theoretical Construct

Measurement Issues

- Fujiwara and Ogawa are compelling that different approaches lead to different measures
  - Some additional information on why the measures differ would be helpful
- One question is what measure *should* we use? Important factors include
  - Accuracy
  - Comparability
    - If Japan uses one method and other countries use a different method, the numbers won't be comparable
  - Theoretical Construct

And now for a little history of national income accounting...

Monetary and National Income Analog Computer (MONIAC)



Two Approaches to Measurement

- "Statistical Approach": originates with Gottfried Achenwall's (1749) "*Statistik*" or data about the state.

Two Approaches to Measurement

- "Statistical Approach": originates with Gottfried Achenwall's (1749) "*Statistik*" or data about the state.
  - Problem: if you try to take the "state" out of "statistical", you end up with some ticklish (or "tical-ish") issues

Two Approaches to Measurement

- "Statistical Approach": originates with Gottfried Achenwall's (1749) "*Statistik*" or data about the state.
  - Problem: if you try to take the "state" out of "statistical", you end up with some ticklish (or "tical-ish") issues

- "Economic Approach":
  - National income is not a "fact" but a "concept": "To ascertain income it is necessary to set up a theory from which income is derived as a concept by postulation and then associate this concept with a certain set of primary facts." *Richard Stone*

Two Approaches to Measurement

- "Statistical Approach": originates with Gottfried Achenwall's (1749) "*Statistik*" or data about the state.
  - Problem: if you try to take the "state" out of "statistical", you end up with some ticklish (or "tical-ish") issues

- "Economic Approach":
  - National income is not a "fact" but a "concept": "To ascertain income it is necessary to set up a theory from which income is derived as a concept by postulation and then associate this concept with a certain set of primary facts." *Richard Stone*
  - Problem: Can we take the "con" out of "concept"?

How did we get here?

- Kuznets and Stone are credited with developing National Accounts, but both were highly critical of the metric:
- "the welfare of a nation can scarcely be inferred from a measure of national income." (Kuznets, 1934)
- "It would be of great value to have national income estimates that would remove from the total the elements which... represent dis-service rather than service. Such estimates would subtract from the present national income totals all expenses on armament..., and what is perhaps most important, the outlays that have been made necessary in order to overcome difficulties that are, properly speaking, costs implicit in our economic civilization." (Kuznets, 1934)

Taking the State Out of Statistics

- The ticklish issue: Government bureaucrats wanted a measure that did not have the undesirable property that shifting expenditures from consumers to the government did not reduce economic output:
  - "It will be convenient if the incomings and outgoings of public authorities in the provision and organization of common services such as defense, justice, education and public health are thought of as consolidated in the consumption box" Milton Gilbert, Dept. of Commerce
- Thus, we ended up with a "statistical", not "economic," definition of GNP
  - In the "economic" concept, real expenditures should only reflect expenditures that *directly* raise utility
  - In the "statistical" concept, inputs (e.g., investment, government expenditures, etc.) get mixed with final demand to measure all output

What is the right way to measure National Income?

- Answer depends on which approach you take
- Like God's response to Moses, ("I am what I am"), GDP need not correspond to an economist's concept
- In the statistical approach, the only sources of error are those of measurement, as the formulas and procedures are correct *by definition*
  - Can argue over whether value added or consumption was mis-measured but not over whether one should measure it differently
    - "the CPI is intended to measure changes in prices themselves. We should note, therefore, that the index does not take into consideration fluctuations in living expenses caused by changes in the kind, quality, and/or quantity of commodities purchased by a household as its lifestyle, tastes, etc. change." *Japan Statistics Bureau*

Economic Approach to Correct GDP

- Probably should adopt a theoretically justified, welfare-based approach to measurement as in Jones and Klenow (AER 2016)
- In their setup, welfare is rising in life expectancy, consumption, leisure, and income equality, which are all measurable
  - US looks at the top in their sample in terms of GDP per capita
  - France, Italy, Spain, and the UK look better in terms of welfare because they have much more leisure and less inequality
  - Japan's GNP per capita is is 71% of the US level, but its welfare is 83%

Rethinking Japanese Growth 1980-2007

- US GDP per capita growth was 2.1 percent, and its welfare growth was 3.1 percent
  - mostly due to life-expectancy improvements
- Japanese GDP per capita growth was 2.1 percent over this period, but it's welfare growth was 4.0%!
  - Mostly due big relative increases in life expectancy (0.3), leisure (0.3), and lower inequality (0.2)
- Maybe Japan's bad performance is largely due to how we measure it!