# Session 1:
# Incorporating (Distributional) Well-Being into the SNA

(subtitle : helping the micro-data folks find the top 1 percent, and their missing wealth, consumption and income)

Summary and Comments
by Tim Smeeding
UW -Madison and OECD

# Two papers to start; more to come

- **Jorgenson and Schreyer:**

**“ ( C ) the consumption paper “--macro to micro**

-“Measuring Individual Economic Well-Being and Social Welfare within the Framework of the System of National Accounts”

- **Fixler, Johnson, Craig and Furlong:**

**“ ( Y ) the income paper”—micro to macro**

- “ A Consistent Data Series to Evaluate Growth and Inequality in the National Accounts”

**( W ) “the wealth papers” also important and coming later in the conference**

- e.g., —Bergman; Coli & Tartamella; Durant, et al .

# Background and Setting :

- **BOTH papers – on the renewed interest in the measurement of welfare & its distribution**
  - **– Stiglitz, Sen, and Fitoussi (2009); HLEG continues**
- Agenda of "beyond GDP" -- **important measures often outside production and asset boundaries of *The SNA***
- **RECIPROCITY IN ACTION:**
  **Key aspects of material well-being and social welfare well-being can be incorporated into SNA framework *AND* the SNA can also better inform distributional analyses**

# Paper #1 –Summary

## “Measuring Individual Economic Well-Being and Social Welfare within the Framework of the System of National Accounts”

**by**

**Dale Jorgenson and Paul Schreyer**

# Measuring Well-being in the SNA Macro to Micro

- Address both conceptual and empirical issues:
  - Theory and measurement of **equivalence scales**
  - **Grouping** and group-specific price indices
  - Explicit introduction of equity considerations
  - **Matching survey information to national accounts**

- Empirical example based on **U.S. consumer expenditure survey**

# Equivalence scales and units

- Unit of analysis = « **household** »

- **Simplifying assumption no 1**: equivalence scale independent of prices, use of popular equivalence scale = (size of HH)$^{0.5}$
- **Simplifying assumption no 2**: the equivalence scaling factor is applied to groups of households: eg

  consumption deciles
- **The group is then treated like a single, homogenous households**
- **Comment: could go other way around and adjust individual records**

# Group-specific price indices

- ***Simplifying assumption* 3:** preferences of a household only depend on relative prices but are otherwise independent of the level of income or household welfare, and only a single price index is needed for deflation
- **Intermediate solution** in present paper: price indices specific to group of household where group = income quintile( but not clear why prices are dependent on income anyway)
- **Comment: but choice of price indices is crucial ( see next paper )**

# Linking Survey Data and SNA

- **KEY ISSUE: Surveys provide distributional information; SNA broader in scope and usually gives larger amounts –needs consistencey**

- **Matching is important for consistent micro-macro link, but far from trivial and with significant impact on resulting measures of inequality:**

  - OECD Expert Group work (Fesseau and Mattonetti 2013)
  - Fixler and Johnson (2014, and *this conference*)
  - Braakmann and Schwahn (2012) &Fesseau, Bellamy and Raynaud (2009)
  - Atkinson, Alverado, Piketty, Saez : WTID work
  - Fisher, Johnson, Smeeding, Thompson: consistent microdata for C,Y and W for the same households

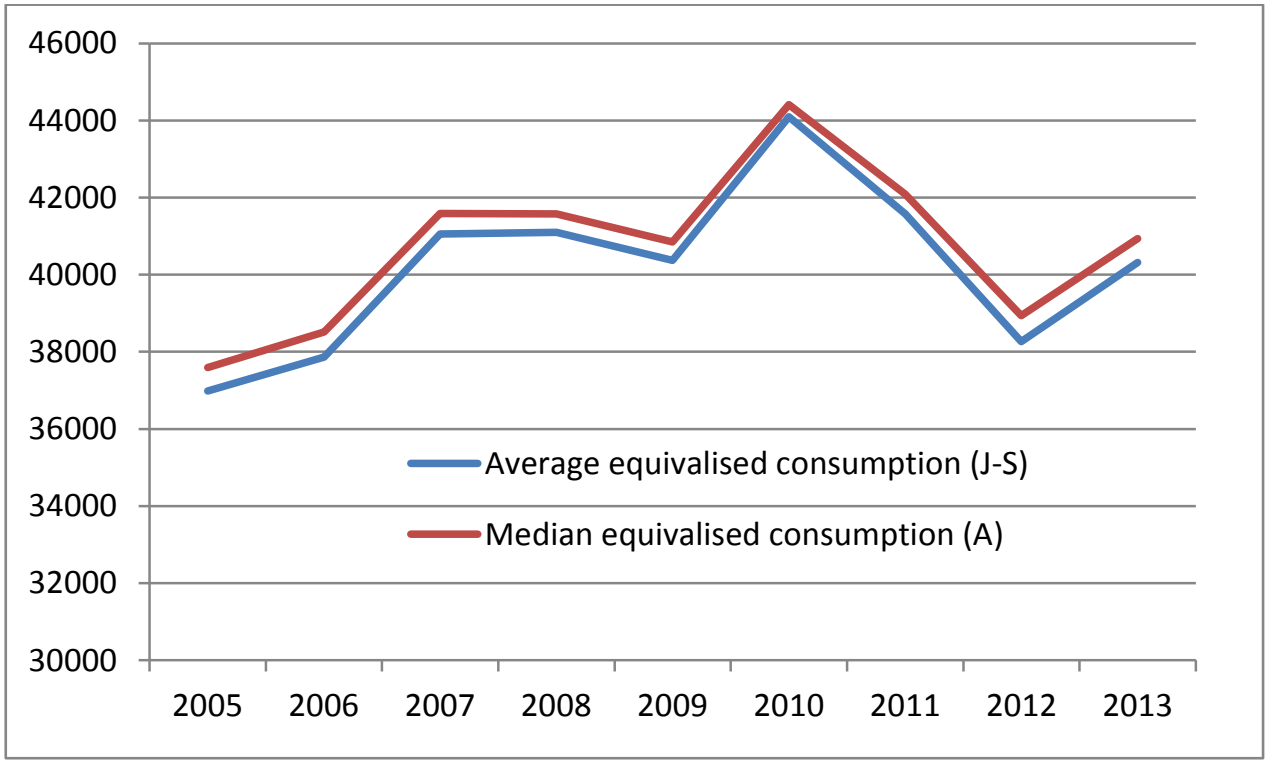
- **Paper confirms non triviality in present application to distribution of consumption in the U.S.**

# From Individual Well-being to Social Welfare

- **Welfare function** needed to aggregate across individuals (=equivalised households) and to have a number of properties (e.g., symmetry, non-decreasing in its elements,…)
- Explicit **normative element** needs to be set: i.e, a measure of *Aversion to Inequality (* Jorgenson-Slesnick and Atkinson measures )
- **Result = consumption-based measure of living standards**
- **Comment but could just live with numbers alone, without risk aversion or SWF**
- **Comment: Correspondance of Categories: SNA and CEX?**

# -- J-S utilitarian case (=geometric average) and Atkinson 'middle class' case yield very similar results
# -- During crisis/GR years ,living standards dropped & have not yet recovered

**Figure 1. Middle-class and utilitarian case under two specifications**
United States, constant 2005 $




*Source*: authors' calculations.

# Some conclusions

- **Real household consumption per capita is a measure routinely employed as an indicator of economic well-being with or without weighting, SWF, etc.**
- **Head-count measures of the population should be replaced by household equivalence scales for C .**
- **Authors use econometric model to measure individual and social welfare, using equivalent household members rather than headcounts**
- **Also use group-specific price indices and explicit equity considerations( which can be left out )**
- **Matching of survey income/consumption categories with national accounts is VERY important**

# BOLD RECOMMENDATIONS

- **STATISTICAL OFFICES SHOULD EXPERIMENT WITH SIMPLIFIED APPROACHES**

- **OECD SHOULD EXTEND THE WORK OF EXISTING EXPERT GROUPS TO DEVELOP INTERNATIONAL STANDARDS FOR MEASURING INDIVIDUAL AND SOCIAL WELFARE**

- **Final Comment : and it should be done in a consistent framework for Consumption ( C), Income (Y) and Wealth (W)**

# Paper #2 –Summary

# “A Consistent Data Series to Evaluate Growth and Inequality in the National Accounts”

Dennis Fixler

David Johnson

Andrew Craig

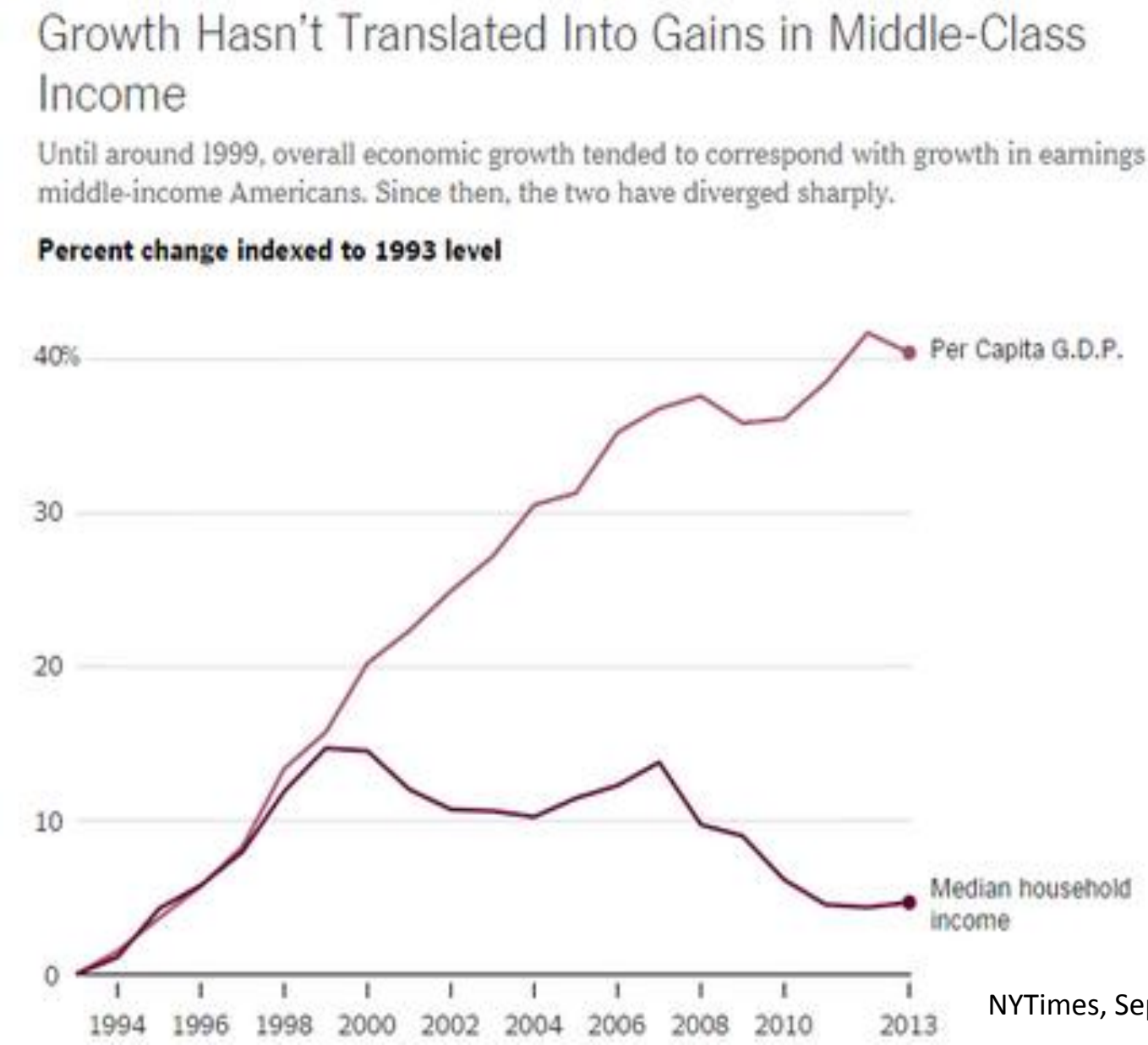
Kevin Furlong

Bureau of Economic Analysis

# Distributional Measures are important in US and Internationally

- **Stiglitz-Sen-Fitoussi Report (2009):**
  - **Recommendation 4: National statistical offices should "give more prominence to the distribution of income, consumption, and wealth."**
  - **"…Developing distributional measures of full [national account] income is, however, a formidable task. The most difficult challenge is to allocate to various groups those income flows that have been imputed at the macro level…for example, imputed rents from own-occupied housing." (pg. 136)**
  - **Comment : to which I would add other rents and capital gains and losses as well as other items**

# What happens when growth and median household income diverge?




NYTimes, Sept 17 2014

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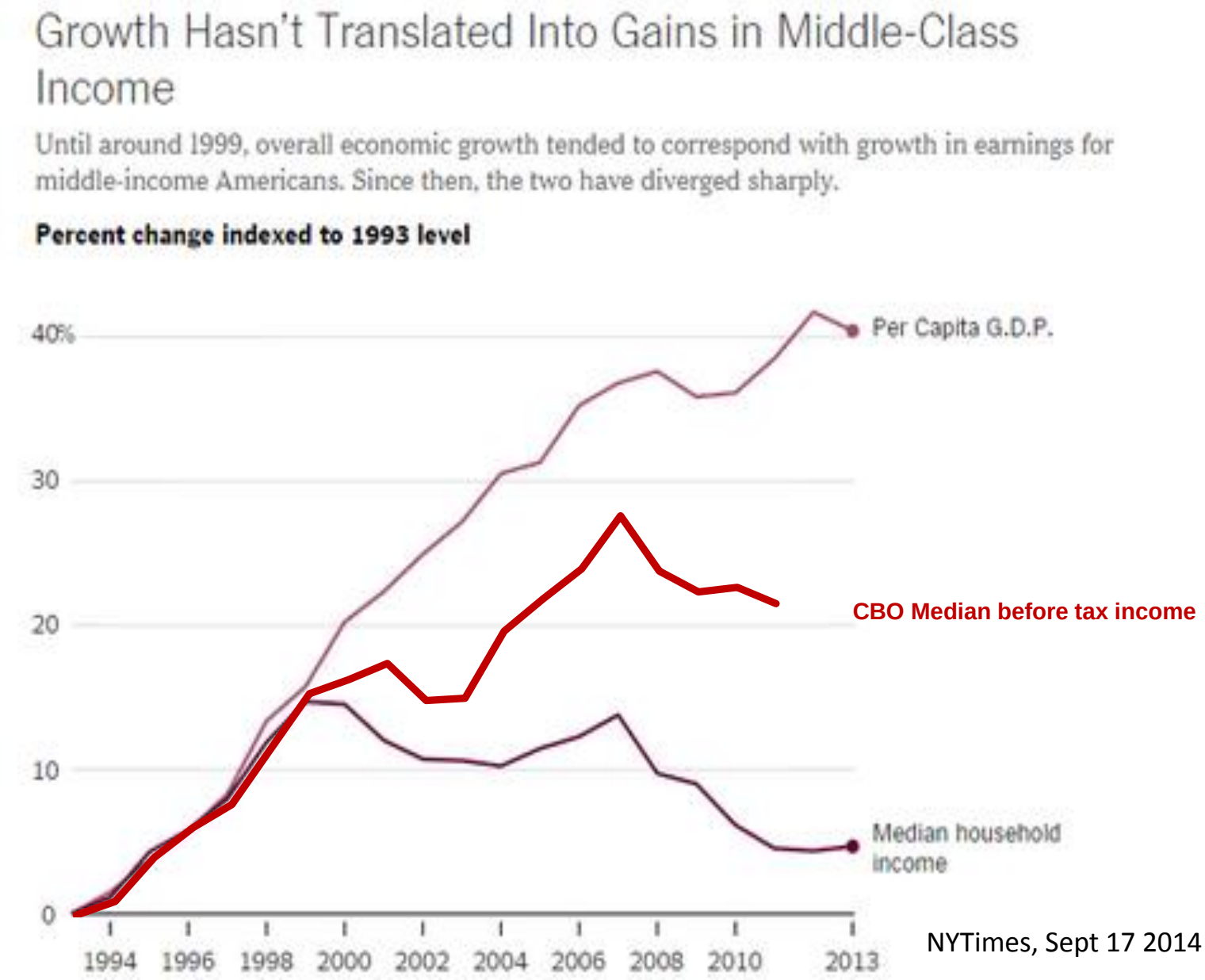


NYTimes, Sept 17 2014

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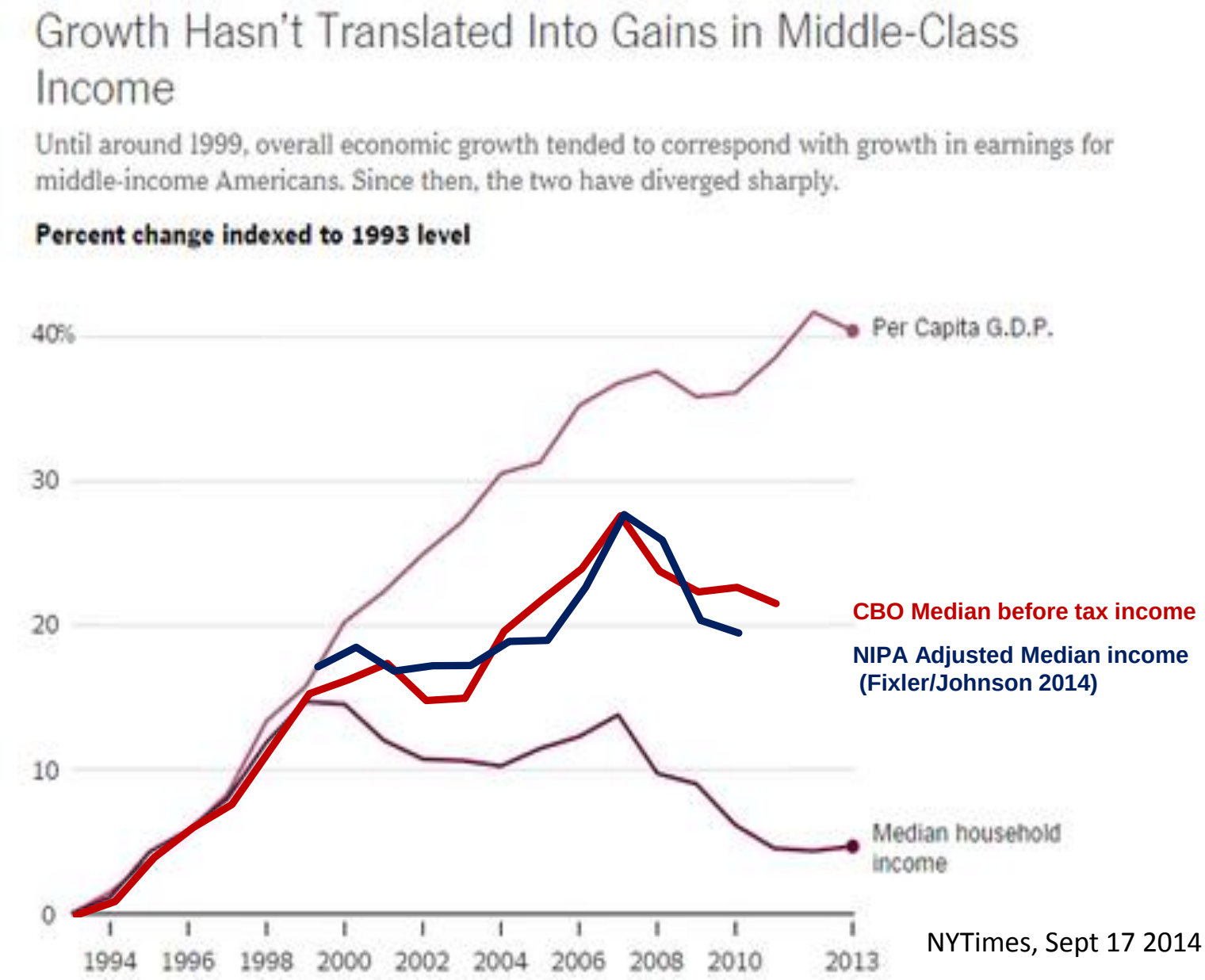
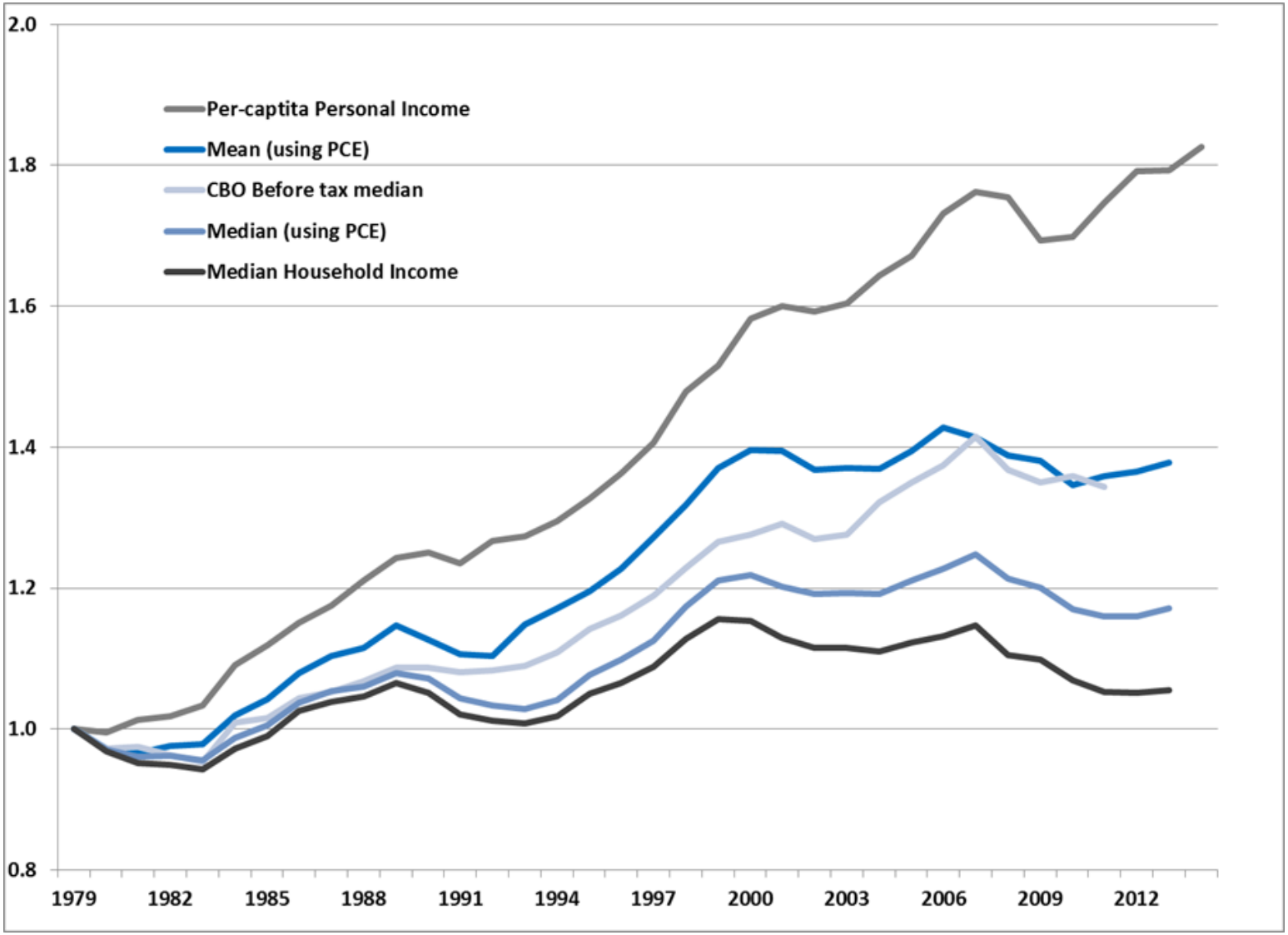


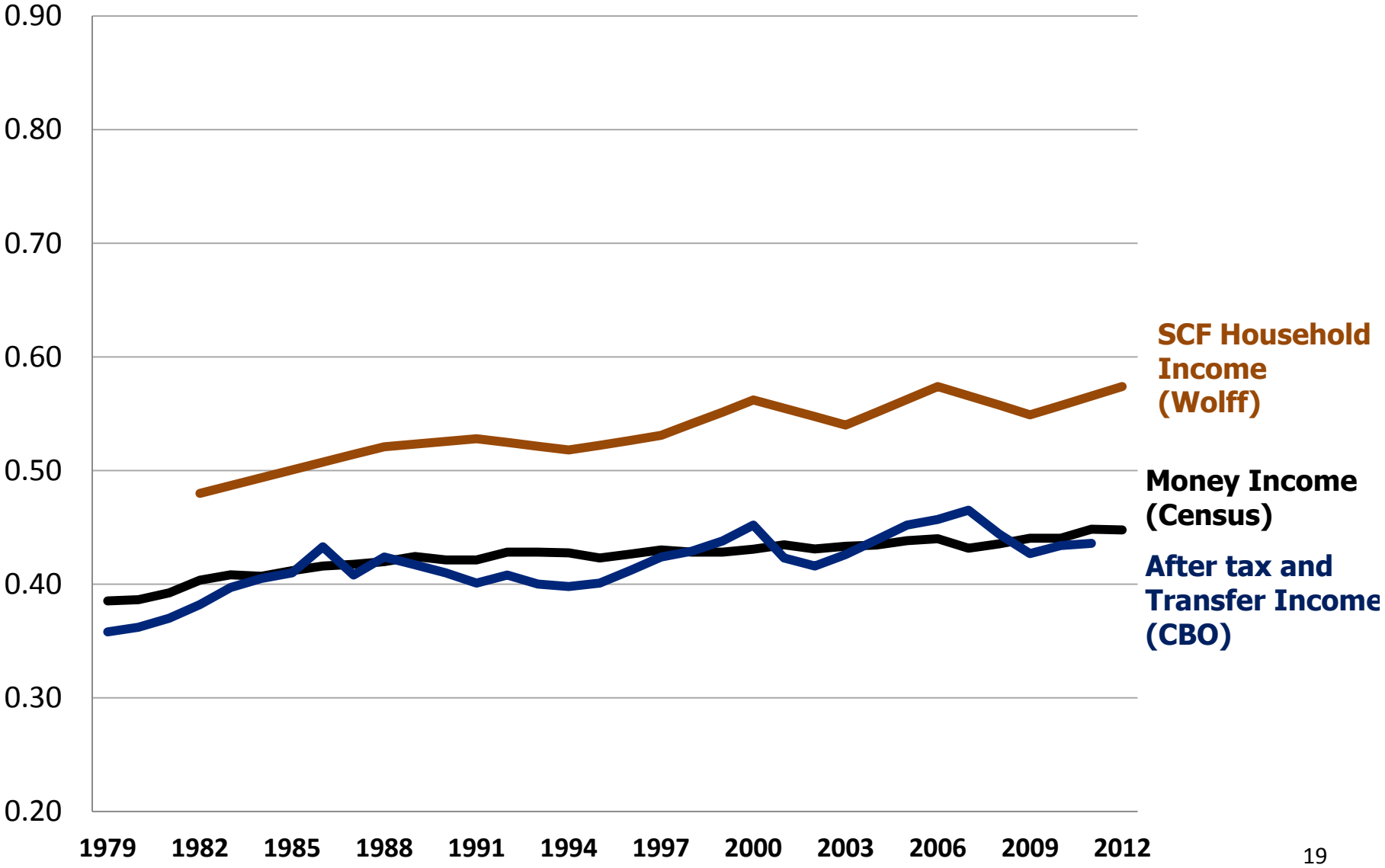

NYTimes, Sept 17 2014

# Both income measures *and* price index matter (comment could have used eq. scales here too)



# Various Ginis for income suggest inequality is rising

## (Comment why is SCF income rising fastest?)



# Purpose of Research: Mandated

- **BEA FY11 budget proposal, which included producing "a decomposition of personal income that presents median as well as mean income…"**
- **Survey data suffer from under-reporting, & therefore must determine how to deal with measurement error in income**
- **Demonstrate that one can use NIPA data to adjust survey data to obtain alternative distributions and measures of inequality.**
- **Build on earlier work at BEA to produce distributional estimates (mean, median, Gini and by quintile) fully consistent with the national accounts**

# Data and Methods: Micro to Macro

- **Begin with household income from Current Population Survey, 2006-2012**
- **Integrate spending, benefits and housing data from the Consumer Expenditure Survey, 2006-2012**
- **Statistically match CE to CPS microdata using a variety of demographic characteristics.**
- **Create a concordance for Personal Income for over 65 detailed categories**
- ***Ratio adjust each category for each household so that total Personal Income matches NIPA totals***
- ***(comment crude but a start )***
- **Adjust measures to 2006($) using PCE deflator**

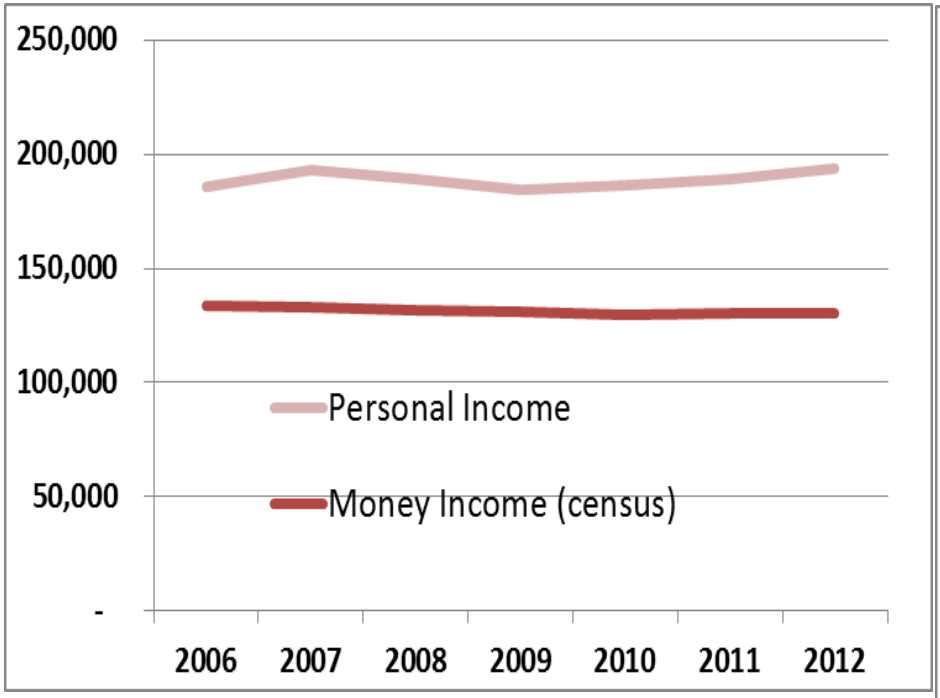
# Many differences between (disposable) money income and SNA personal income ( key ones in bold )

| SOURCE | Census Money | BEA Personal Income |
|---|---|---|
| Employment income | Yes | Yes |
| Employer contribution to Soc Sec | No | Yes |
| **Employer-provided benefits** | **No** | **Yes** |
| Investment income | Yes | Yes . |
| **Imputed investment income** | **No** | **Yes** |
| Government cash transfers | Yes | Yes |
| Employee contribution to Soc Sec | **Yes** | **No (subtract)** |
| Retirement income | **Yes** | **No (only int.)** |
| **Cash assistance from others** | **Yes** | **No** |
| **Lump sum (IRA disbursements)** | **No** | **No** |
| **In-kind government transfers** | **No** | **Yes** |
| Other In-kind transfers* | No | No |
| Home production | No | No |
| **Imputed rent** | **No** | **Yes** |
| **Capital gains** | **No** | **No** |

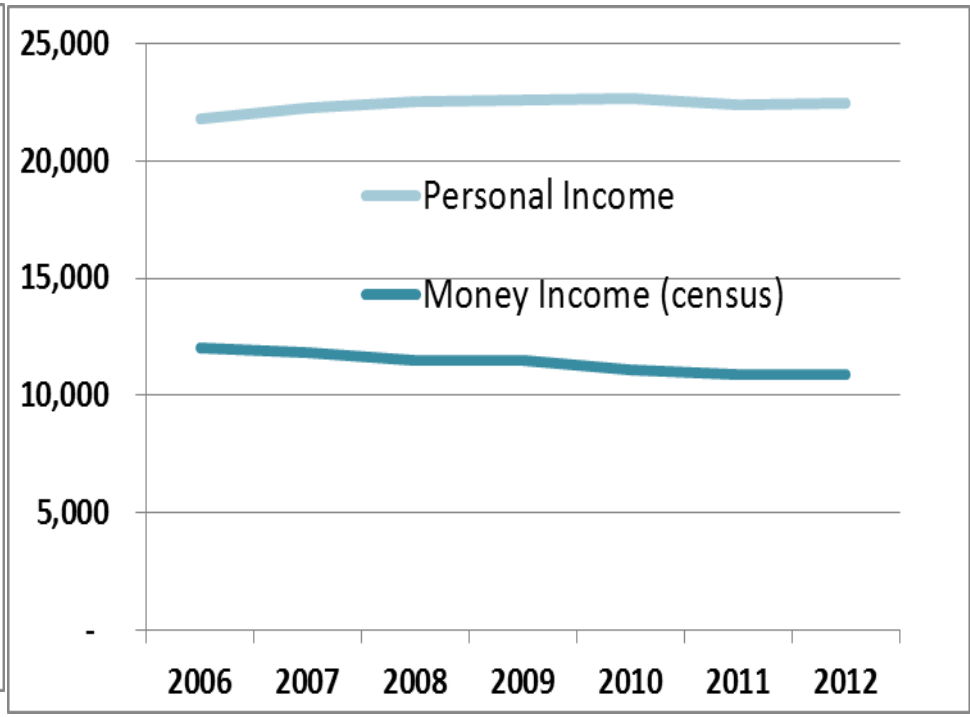
# Comparison of income measures

| | Estimated from CPS (not scaled) | Adjusted to match NIPA (scaled) |
|---|---|---|
| **Money Income (Census)** | $ 63,593 | N/A |
| **Wages and Salaries** | $ 47,857 | $ 50,091 |
| **Finance and Business (interest, dividends, farm/non farm, rent)** | $ 6,058 | $ 17,003 |
| **Government transfers** | $ 5,924 | $ 7,779 |
| **Retirement and other** | $ 3,754 | N/A |
| **less comingled factors** | $ 213 | N/A |
| **equals Pseudo Income** | $ 59,626 | $ 76,137 |
| **plus financial** | $ 13,765 | $ 13,765 |
| **plus health and other transfers** | $ 5,517 | $ 8,304 |
| **health** | $ 9,370 | $ 12,274 |
| **net transfers (payouts less contributions)** | $ (3,853) | $ (3,970) |
| **equals Personal Income** | $ 78,908 | $ 98,206 |

# Comparing 10th and 90th percentile income for Money and Personal income

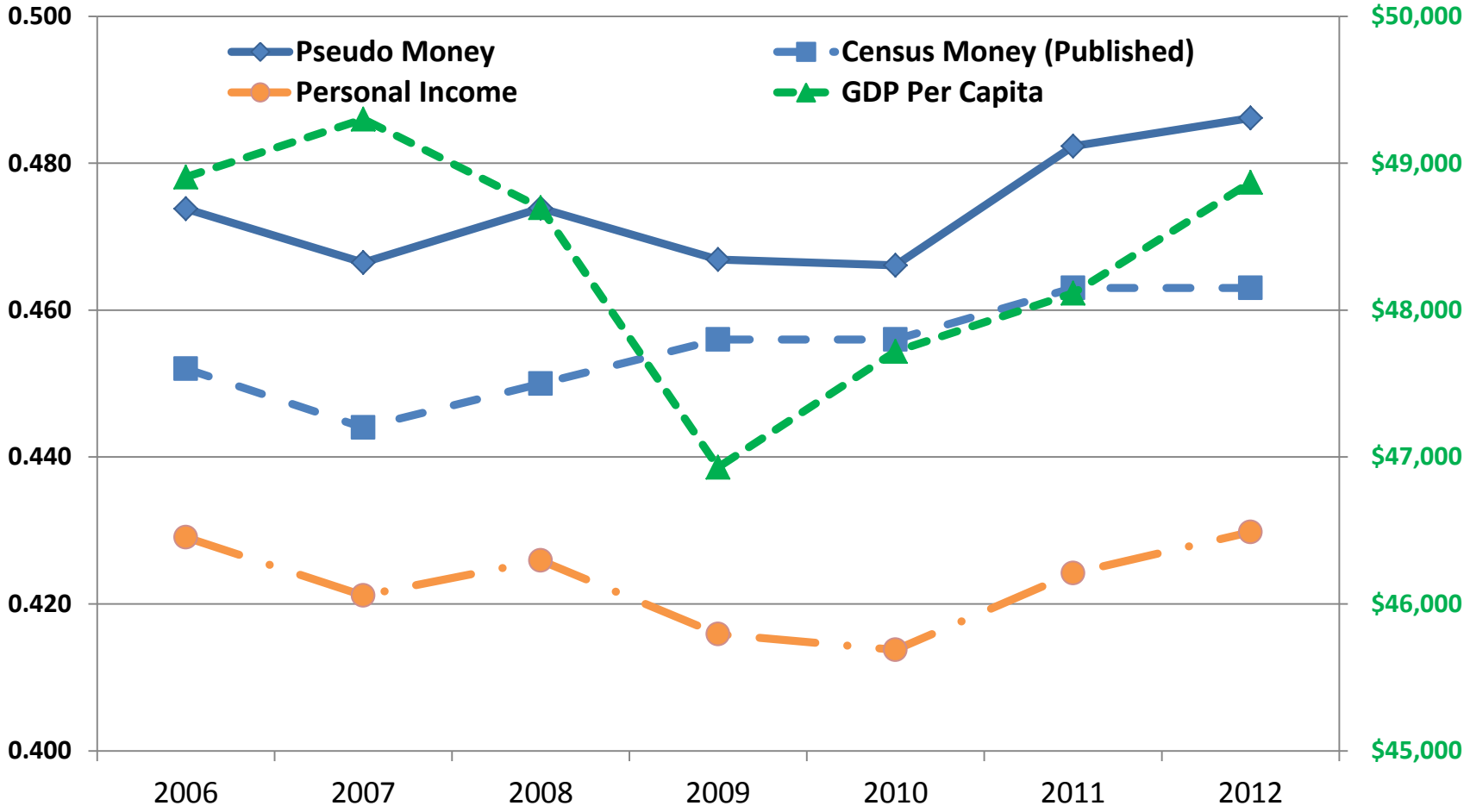



90th percentile

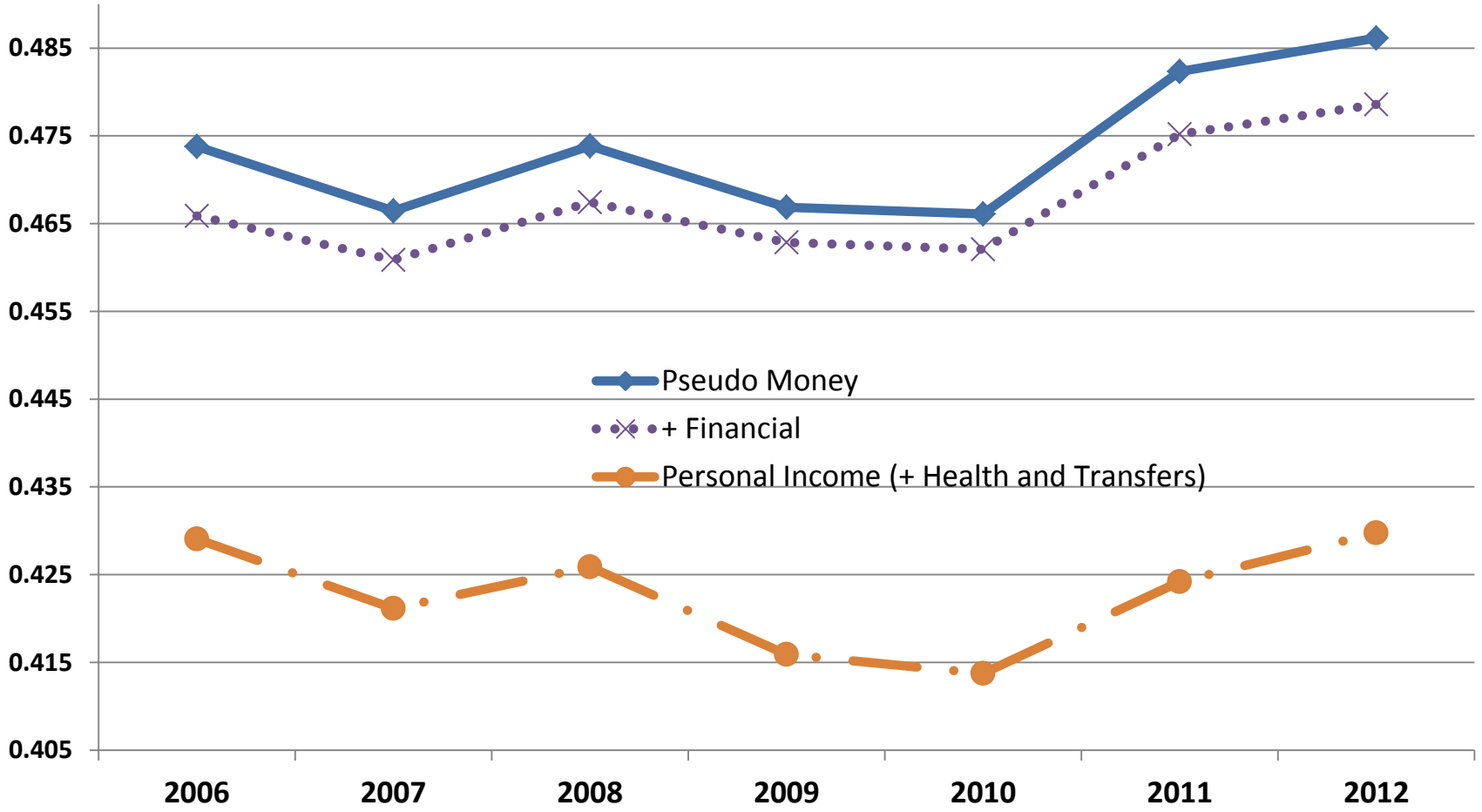



10th percentile

# Gini for Personal income is lower than for money income, and trend is flatter



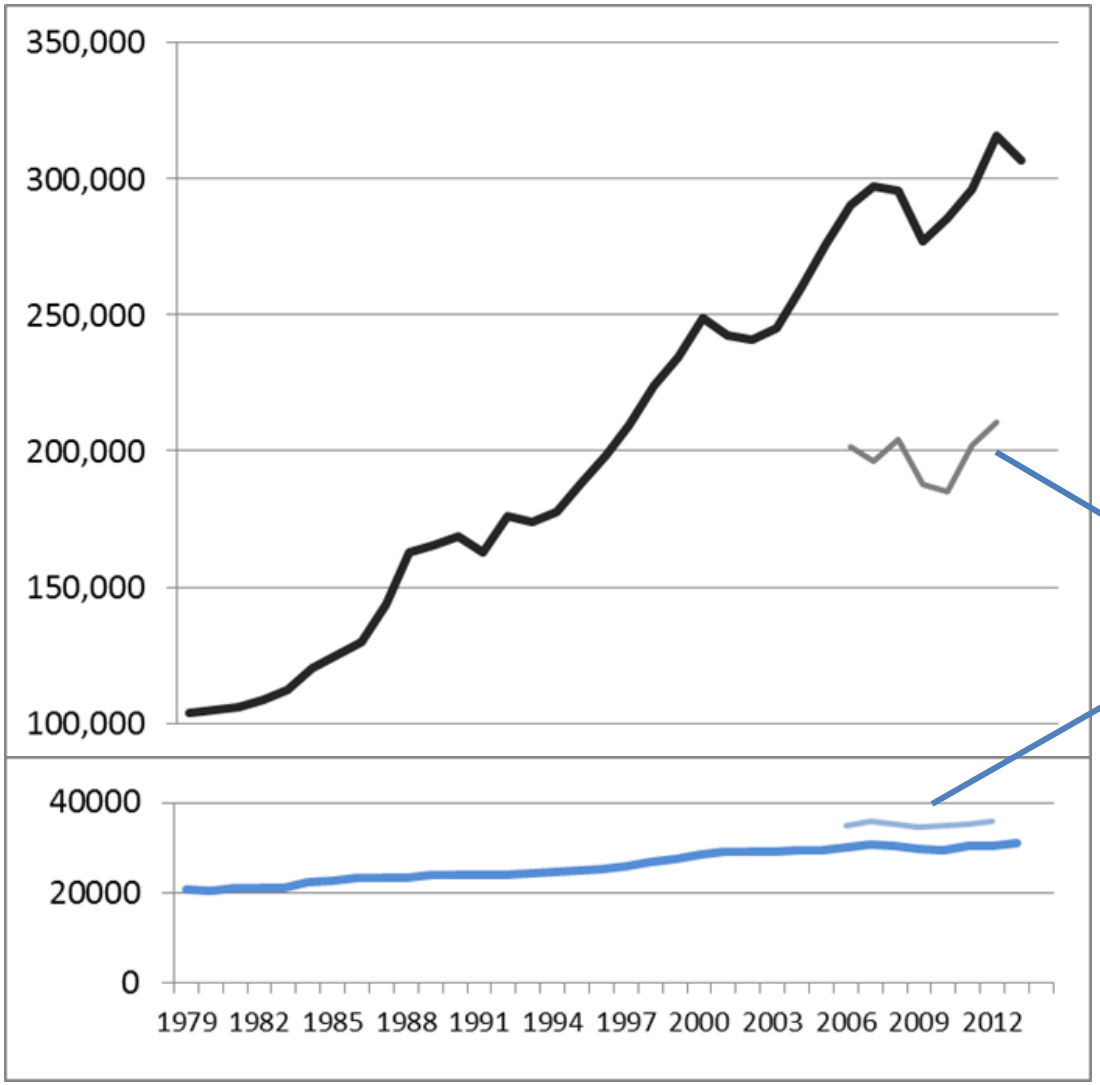
# The lower Gini and the flatter trend are due to health benefits (at market values) and transfers



# Comparing results to Jones (2015) on the mean for the top 5% (top end missing in CPS! )

Top 5 %

Bottom 95 %




Jones Uses Top-income Database

Fixler, et al

# Authors' further issues and future work:

## My comments in RED

- Extend the estimates back to 1979
- Construct a distribution for PCE, and obtain the average propensities to consume (YAY)
- Differential under-reporting -- scaling factors may be (ARE) larger for higher income
- Improve the imputations and creation of synthetic data (esp. returns for wealth holding)
- Compare to the distribution in the tax data

( and, even better, USE the SCF to get the top end )

## Bottom Line : Needed Income, Consumption *and* Wealth

- **Workhorse Life-cycle model**

$$\sum \beta^t \, \mathrm{U}(c_t, \alpha_t)$$

$$\text{s.t. } c_t + a_{t+1} \leq y_t + a_t(1 + r_t)$$

Hence

$$y_t = c_t + a_{t+1} - a_t(1 + r_t)$$

$$y_t = c_t + \Delta \mathrm{NW}$$

**Y = C + ΔNW - Haig-Simons measure**

  - **If Y > C, W rises by saving or loaning, including holding gains**
  - **If Y < C, W falls by dissaving or borrowing , including holding losses**

- ***Need a consistent measure of C, I and ΔNW for micro and macro accounts***

# Final Comments

- **This is VERY important work** ( I know that others have there favorite work too –but these papers are about what's important for distributional analysis of well-being )

-**Major shares of income worldwide are flowing to capital holders from labor** ( Bourgignon, 2015; Atkinson, 2015)

- **Surveys and macro accounts have trouble assessing the Y, C and W of the rich ( imp. for both micro-distributional work and macro-modelling of demand )**

- **The whole thing is held together by Haig-Simons—which ought to be the triumvirate goal for flows**
- **And finally need measure W itself as the stock yields important benefits ( insurance, power, leverage, dynastic transfers in-vivos– not counted as consumption ?? -- and bequests, etc. )**