



The World Economy and ICT

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Atlanta, Georgia
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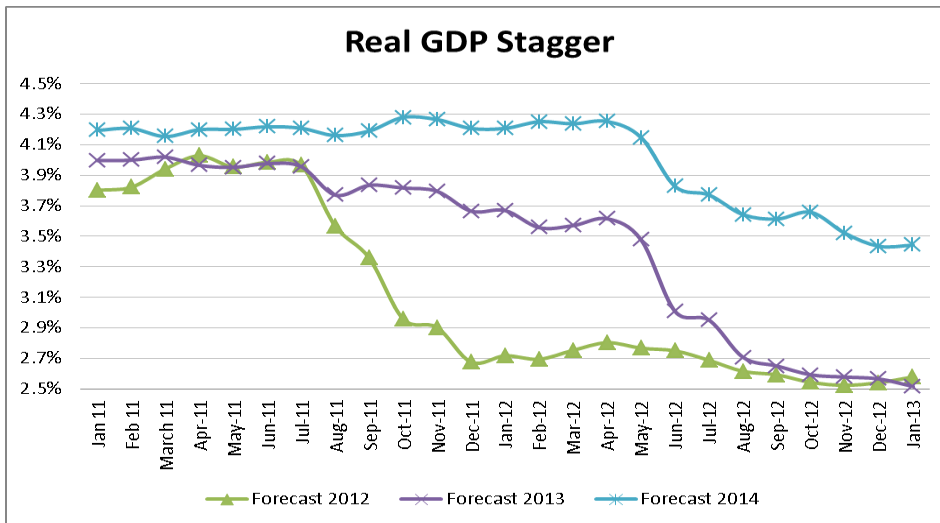
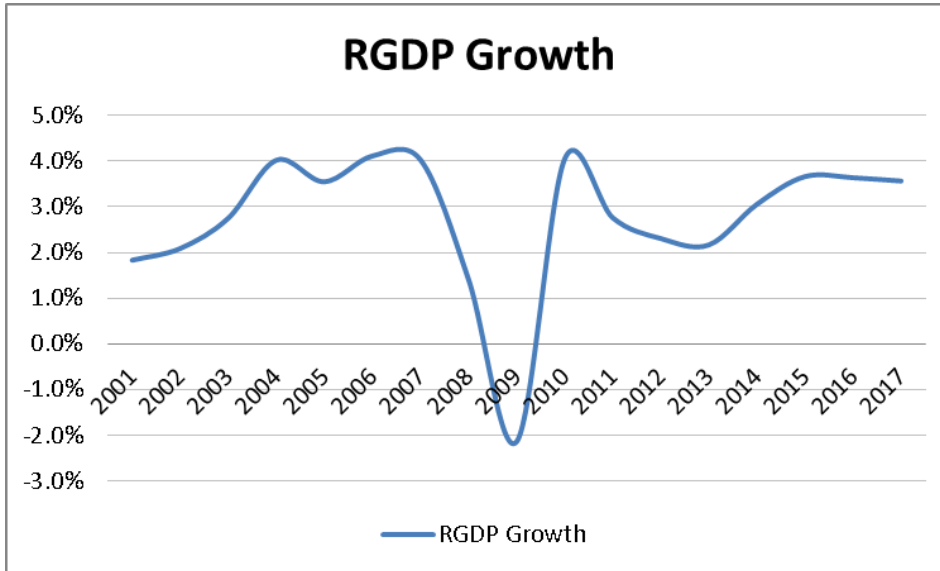


Risk Factors

Today's presentations contain forward-looking statements. All statements made that are not historical facts are subject to a number of risks and uncertainties, and actual results may differ materially. Please refer to our most recent Earnings Release and our most recent Form 10-Q or 10-K filing available on our website for more information on the risk factors that could cause actual results to differ.

World Real GDP

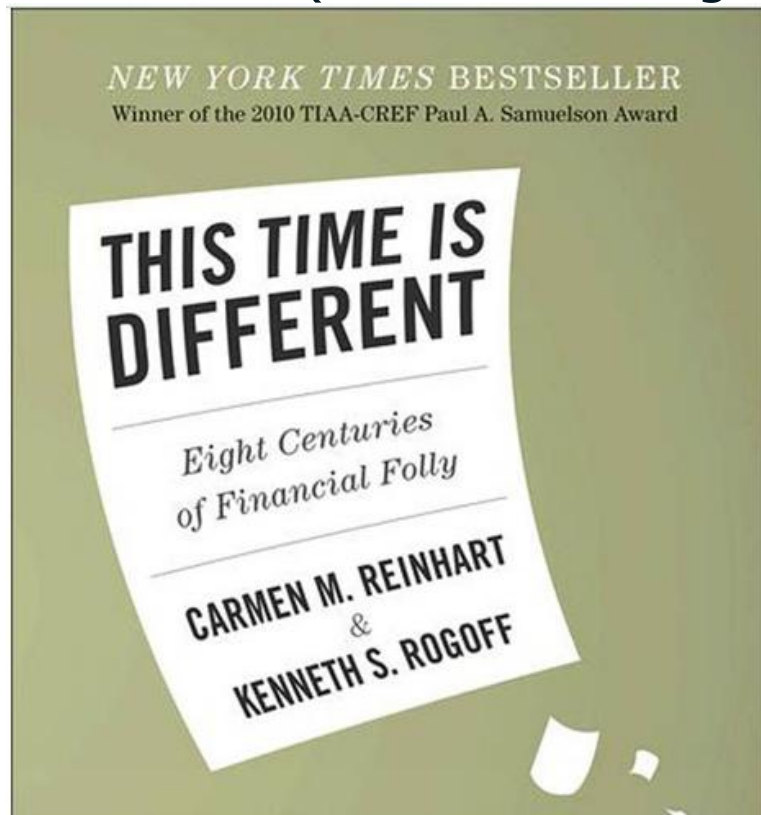
Source: IHS Global Insight



- Accelerated growth expected in 2014
- World is caught in a growth slowdown in 2012 and projected to continue in 2013
- 2012 and 2013 were originally expected to grow at a moderate 4% rate
- Both are now expected to end at about a disappointing 2.5% rate
- Expectations for 2014 already falling

World Economic Challenges

1. The Great Recession of 2008-09 also known as the Panic of 2007 (Gary Gorton, Slapped by the Invisible Hand: The Panic of 2007). Panics are usually followed by slow, frustrating recoveries (Reinhart & Rogoff).



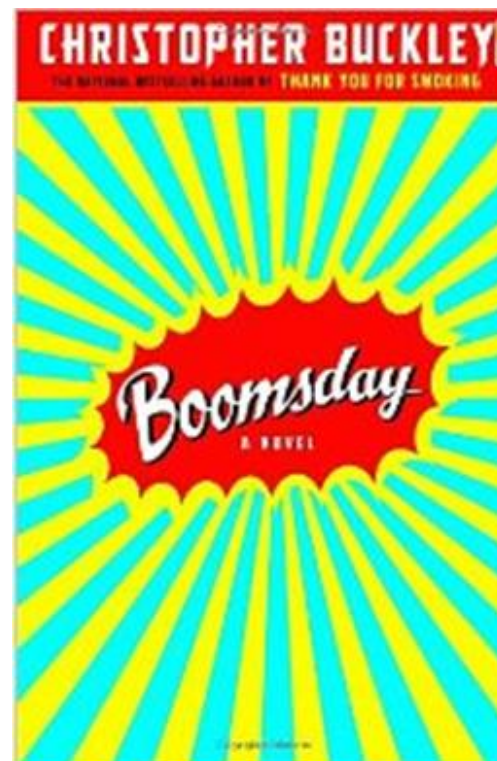
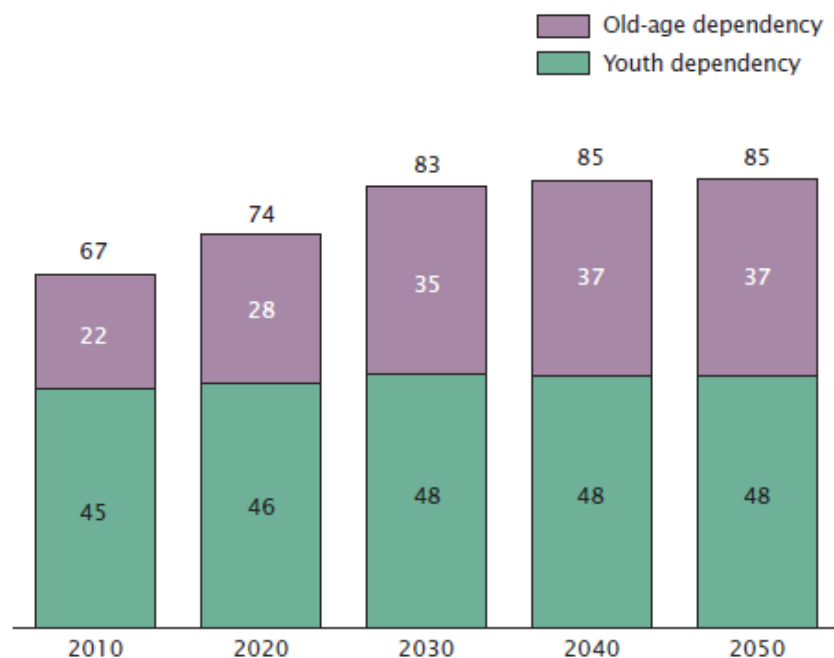
One worrying scenario says that we're in the 5th year of a Lost Decade. Japan is the example here; it may be in the 22nd year of its Lost Decade...

A happier scenario says our growth rate will increase and unemployment and deficit fall once we form a new, reasonable policy consensus.

World Economic Challenges

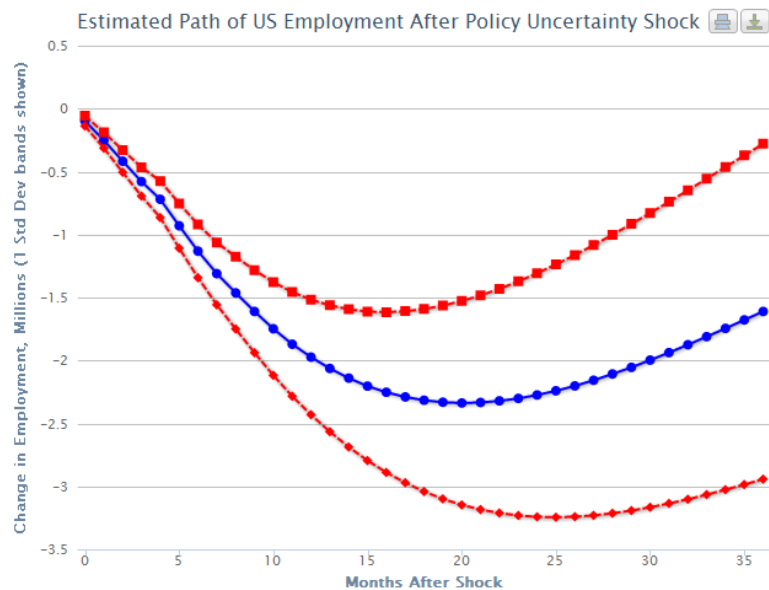
2. The “Advanced Economies” are aging. Social Security and Medicare liabilities in the U.S. are coming due. Discretionary spending shrinks as share of government budgets. On the other hand, the building increase in retirements will help lower the unemployment rate.

Dependency Ratios for the United States:
2010 to 2050



World Economic Challenges

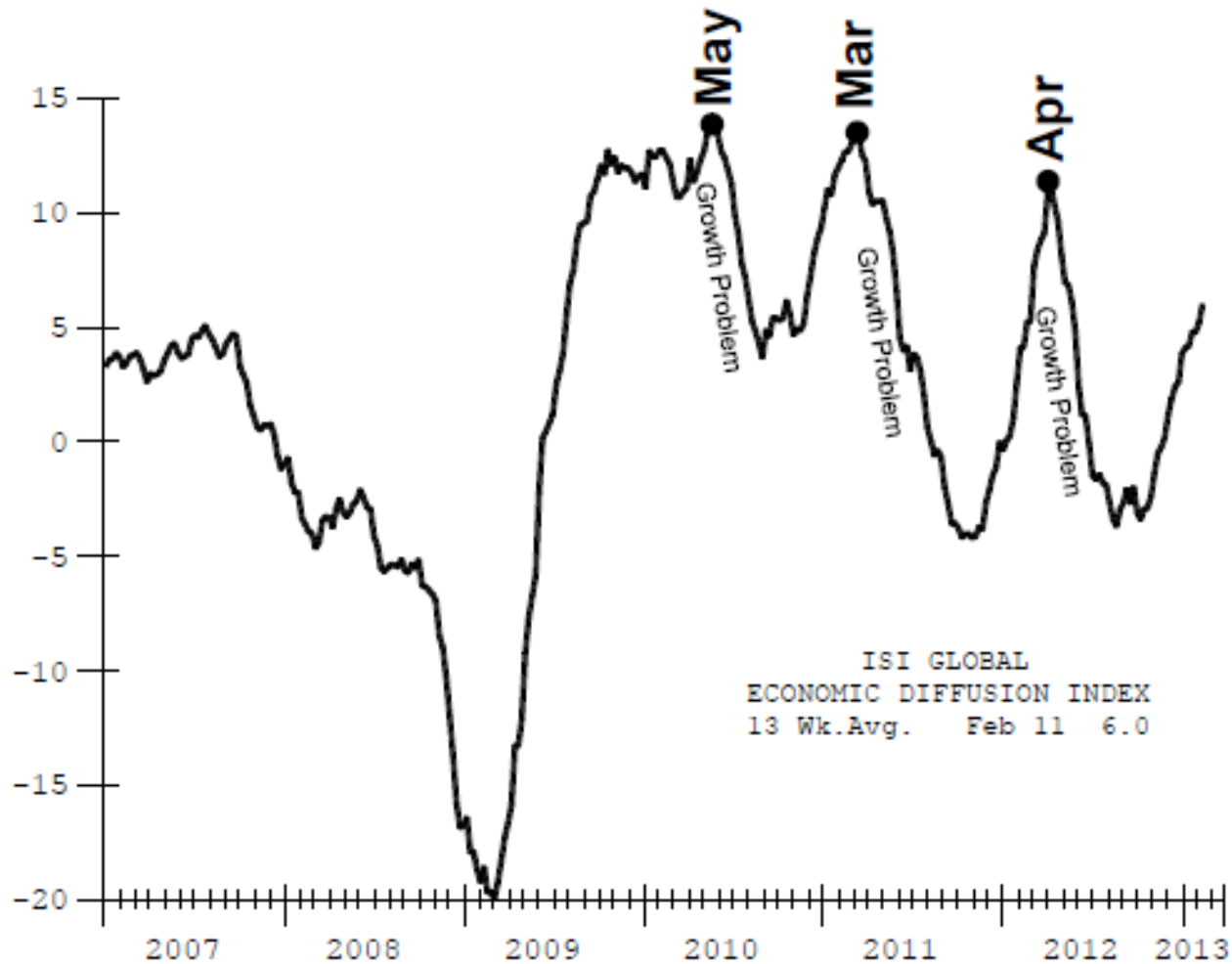
3. Slow economic growth and aging populations throw political consensus out the window. Ideological rifts lead to exhausting, and sometimes absurd, political battles in Advanced Economies. Policy uncertainty grows and leads to even slower growth.



www.policyuncertainty.com

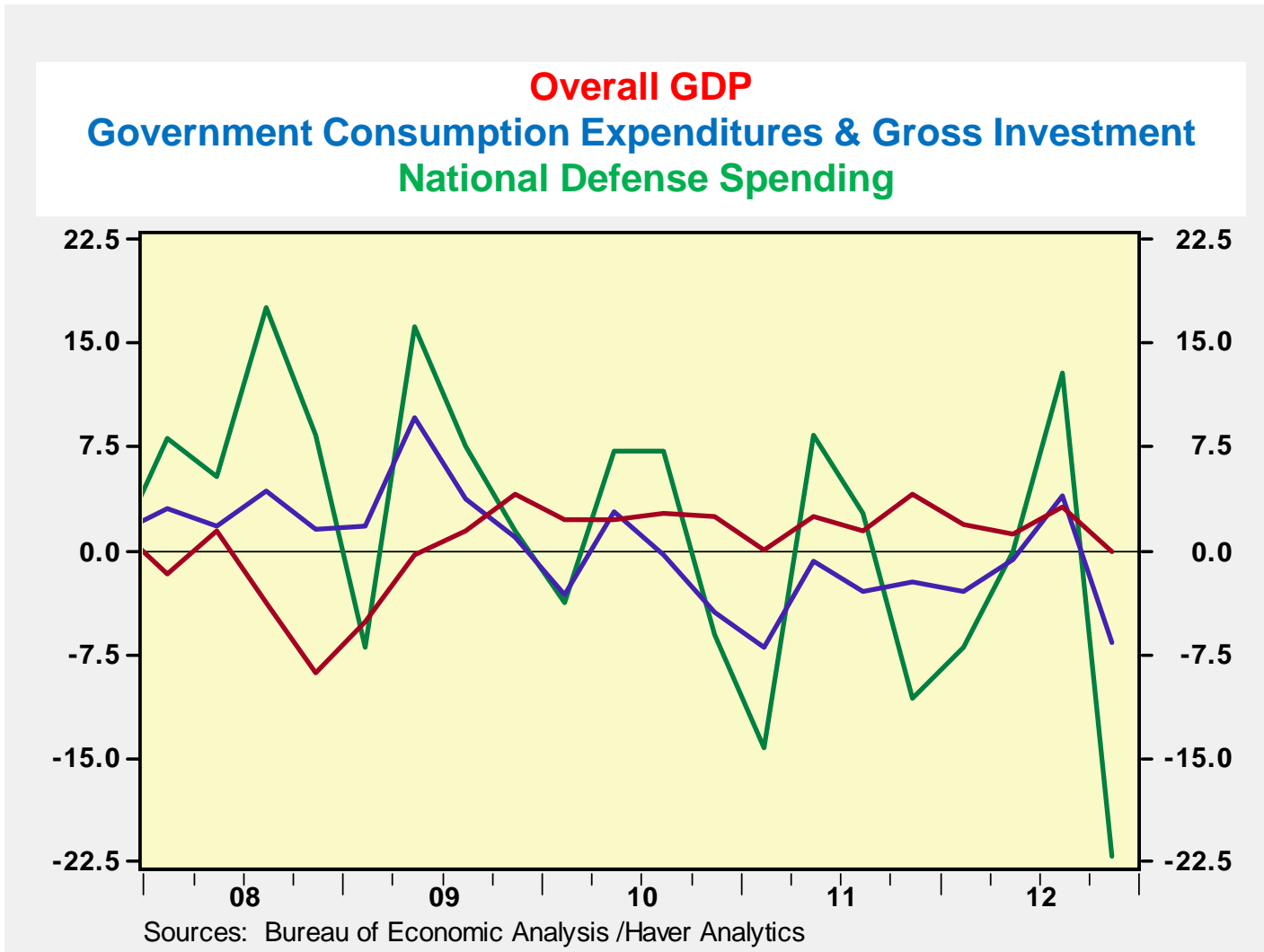
Scott Baker, Nicholas Bloom, Stephen Davis





Global Economic Diffusion Index continues to increase. Future months a repeat of previous years?

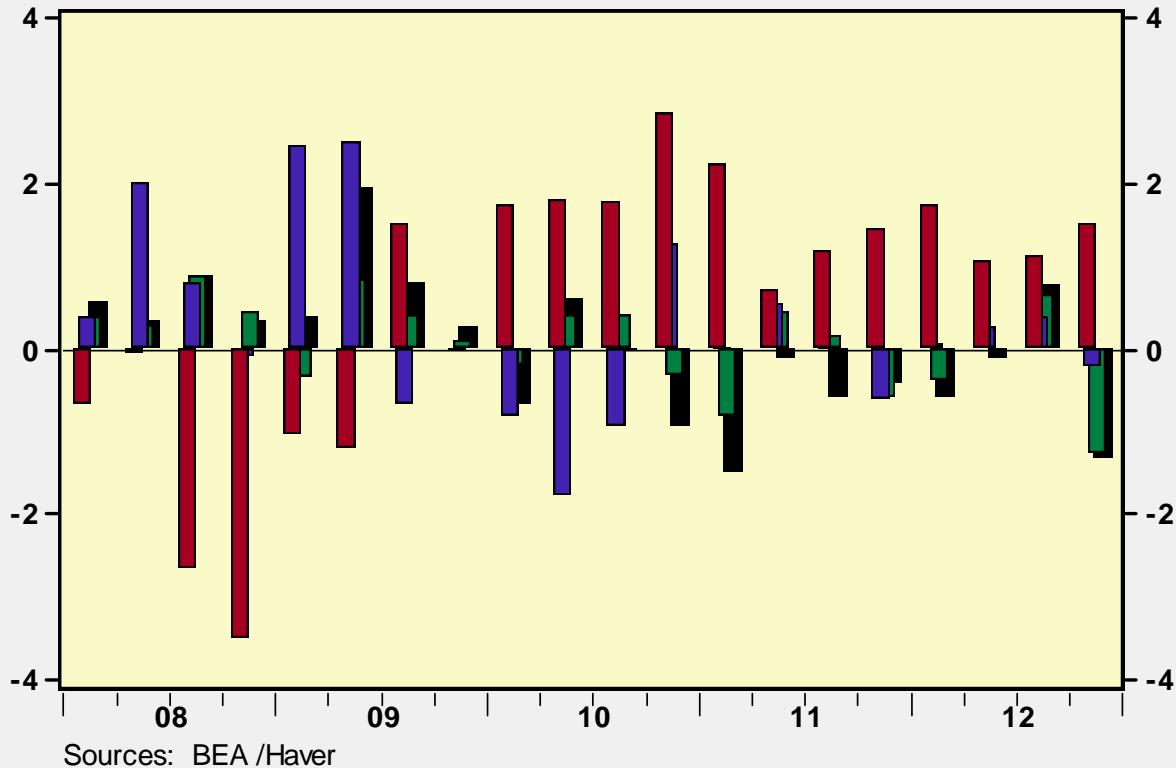
U.S. Real GDP and Components: Change from the Previous Quarter (SAAR)



U.S. GDP growth fell in 2012Q4, with federal defense spending plummeting 22% from the previous quarter.

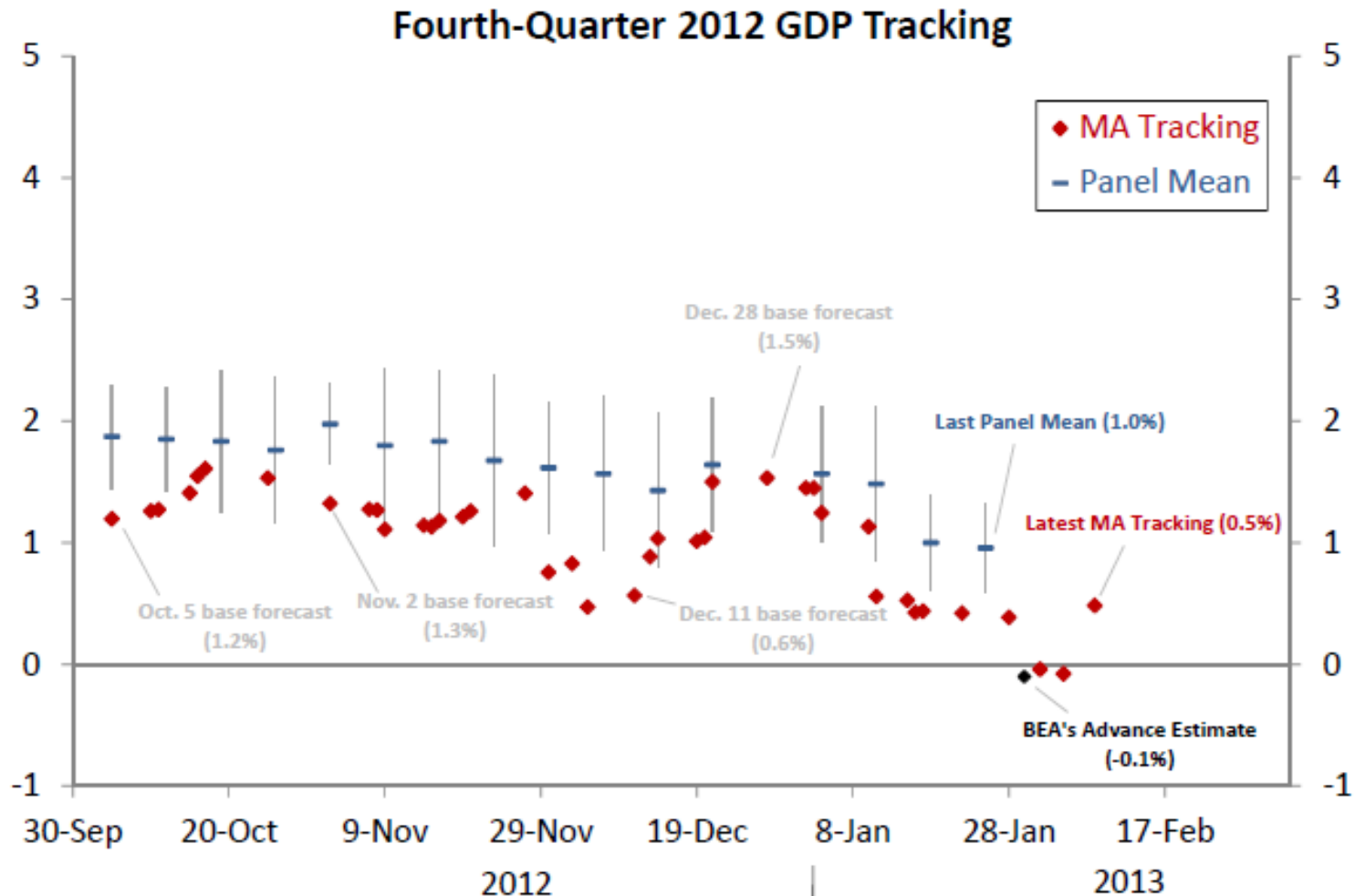
Contributions to Change in U.S. Real GDP (SAAR)

Real PCE: Contribution to Real GDP Change (SAAR, %)
Net Exports of Goods & Services: Contribution to Real GDP Change (SAAR, %)
Real Defense Consumptn/Investmnt: Contribution to Real GDP Chng (SAAR, %)
Real Govt Consumptn/Investment: Contribution to Real GDP Change (SAAR, %)



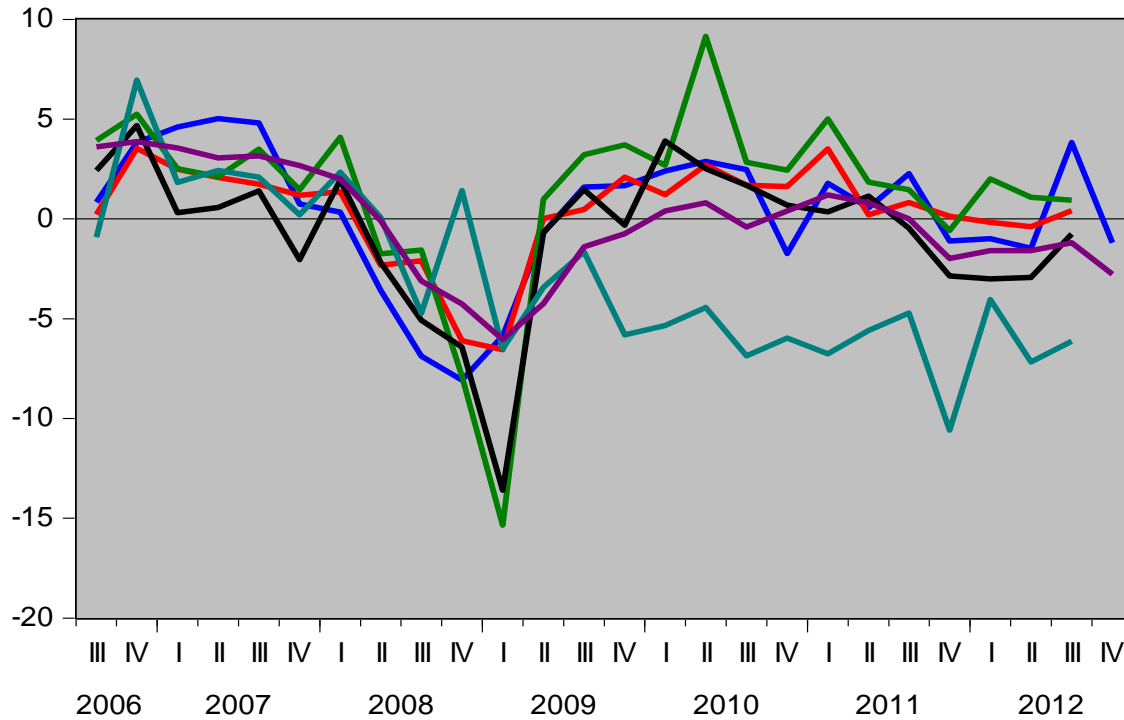
The 2012Q4 decline in U.S. GDP was more than accounted for by the fall in government spending. Net exports also dragged down growth. Consumer expenditures, on the other hand, contributed positively.

Macroeconomic Advisers February 8, 2013 View of U.S. 2012Q4



Shown is the history of our GDP tracking for the indicated quarter. Also shown is the history of the mean estimate of our Consensus Panel, along with a +/- 1 standard deviation range.

Real GDP Growth Rates
Percent Change from Previous Quarter (SAAR)

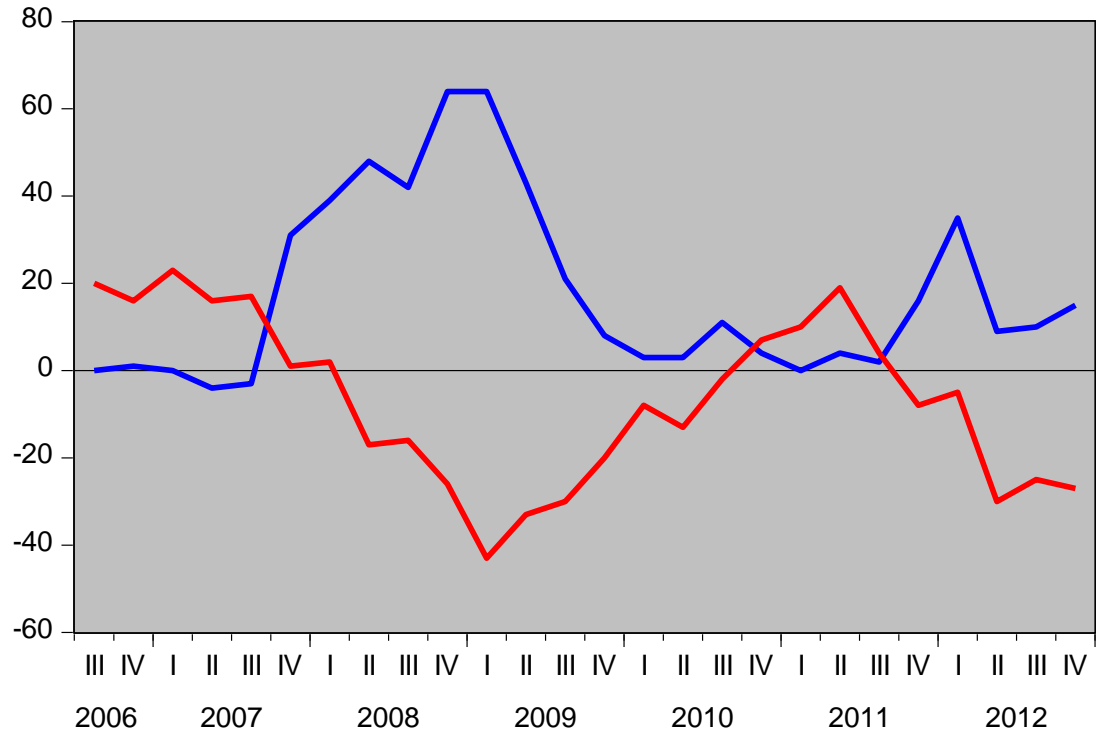


Source: Haver Analytics.

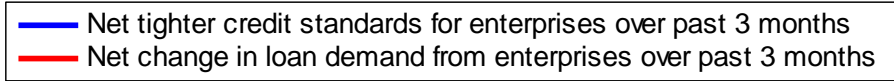


Growth in European countries has also been very weak, with the U.K. and Spain reporting negative numbers for 2012Q4.

**ECB Euro Area Bank Lending Survey
Lending to Enterprises
Net Percentage Balance**



Source: Haver Analytics.



Credit conditions in Europe remain difficult. A higher percentage of European banks reported tighter credit standards for loans to enterprises in 2012Q4. Banks continue to report a net decline in loan demand from enterprises.

Japan Growth and Large Firm Sentiment

**Japan Real GDP Growth
SAAR**



Source: Cabinet Office of Japan /Haver Analytics

**Japan Tankan Diffusion Index
of Business Conditions
Large Enterprises**

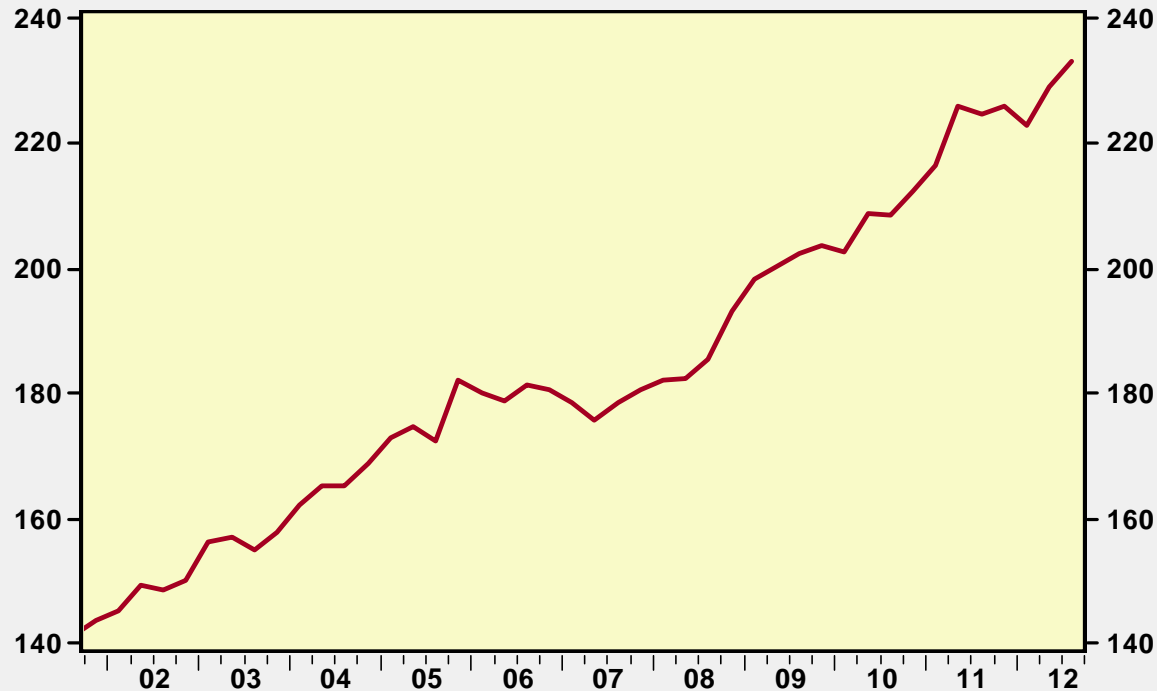


Source: Bank of Japan /Haver Analytics

Japan's economy shrank in both the second and third quarters of 2012, and large enterprise sentiment turned negative in 2012Q4.

Japan Government Debt as a Share of GDP

%



Source: Bank of Japan/Haver Analytics

However, burdened by debt more than twice GDP, Japan passed a consumption tax increase in August 2012. The tax is slated to go up starting in April 2014, creating a potential drag on growth.

Japan: Spot Exchange Middle Rate, NY Close

Yen/US\$



Source: Wall Street Journal /Haver Analytics

Newly-elected Prime Minister Abe promised aggressive monetary and fiscal stimulus in December. Indeed, the Bank of Japan announced stimulative measures earlier this month, and the yen has depreciated particularly rapidly in recent months.

China: GDP Percent Change from Previous Year



Source: China National Bureau of Statistics/ Haver Analytics.

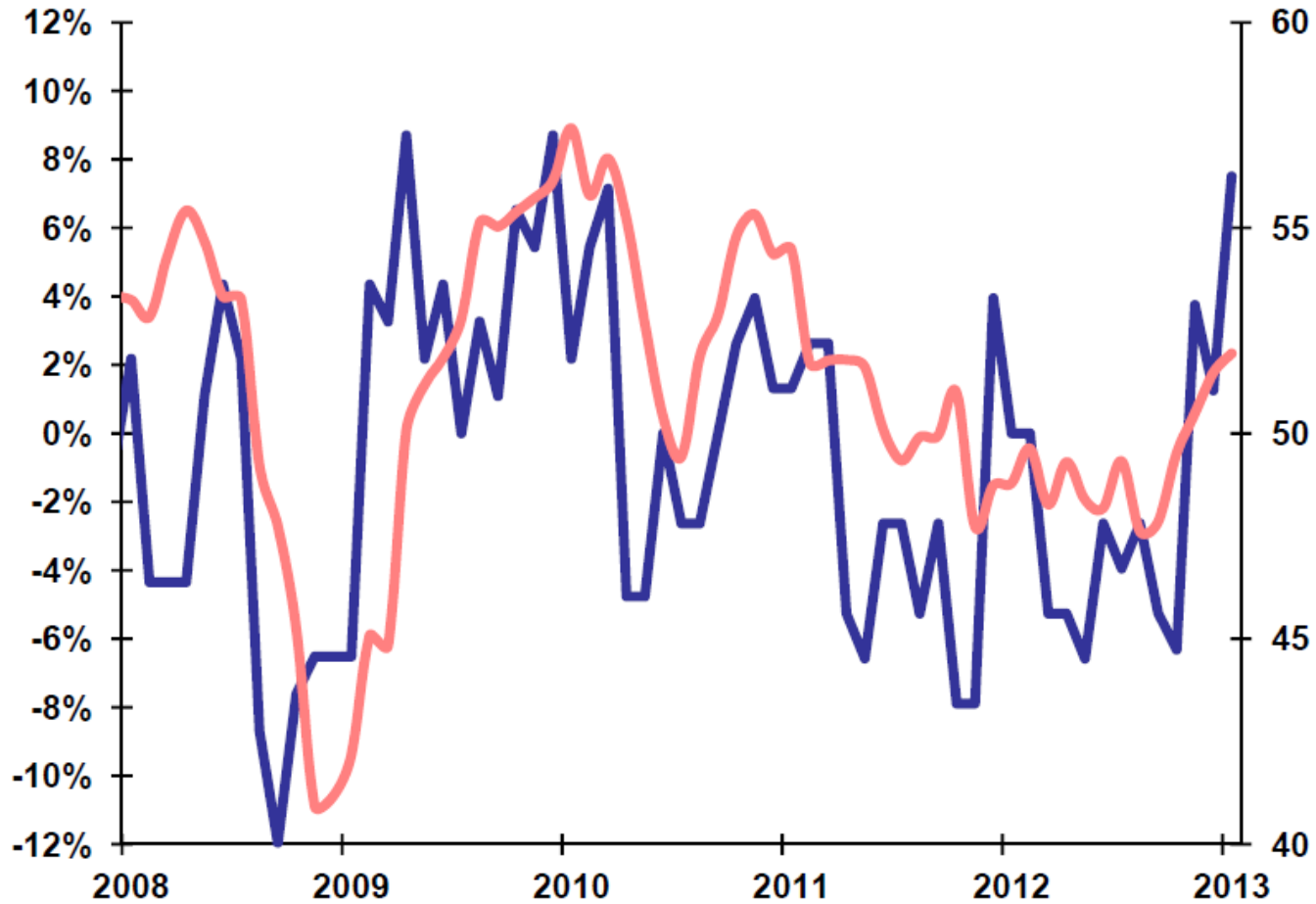
Growth in China, on the other hand, showed signs of a pick up in 2012Q4.

ISI Company Survey of China Sales Diffusion Index

Jan +7.5%e

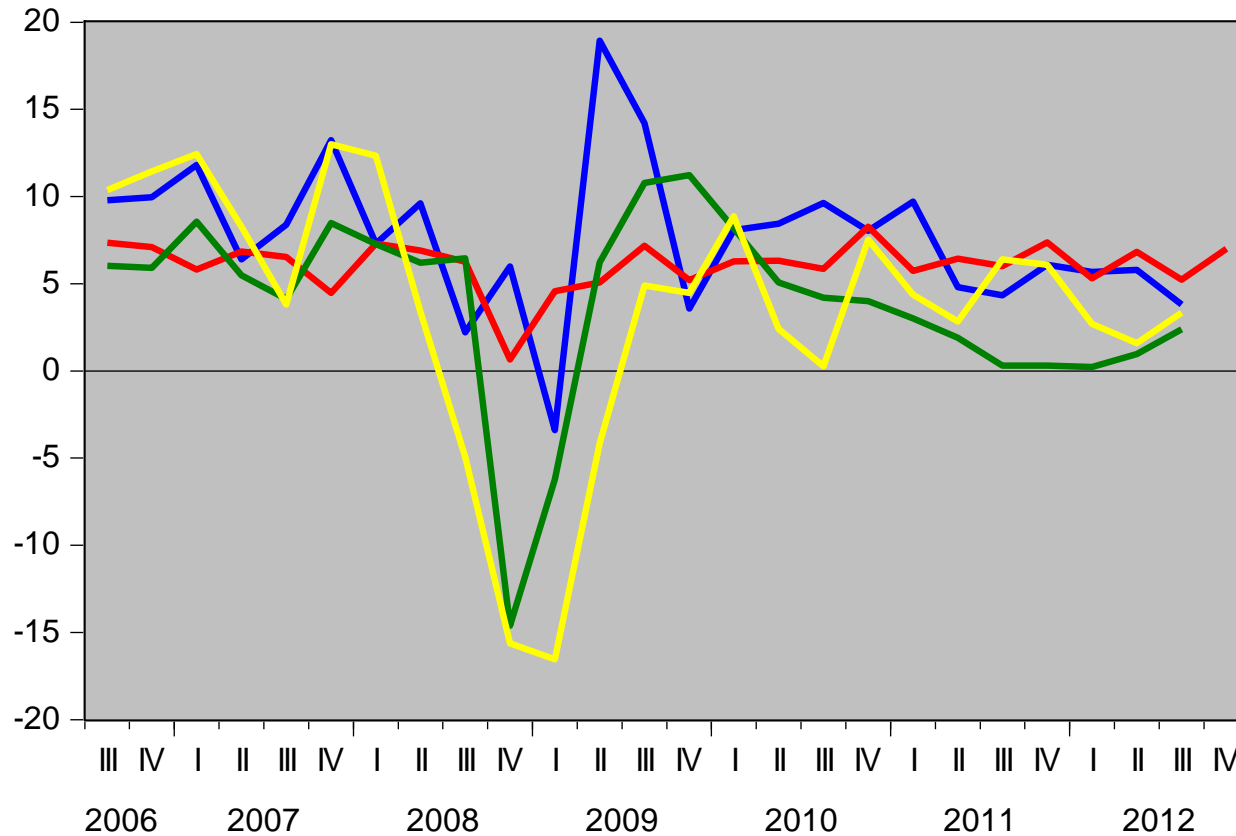
China Mfg PMI (HSBC)

Jan 51.9



And U.S. multinational sales in China were stronger in January.

Real GDP Growth Rates Percent Change from Previous Quarter (SAAR)



Source: Haver Analytics



Growth in other emerging markets has been relatively strong.

Estimated Expenditures (BNs of US\$) on ICT Devices by Region 1995 to 2012

Glossary:

DT = Desktops

NB = Notebooks

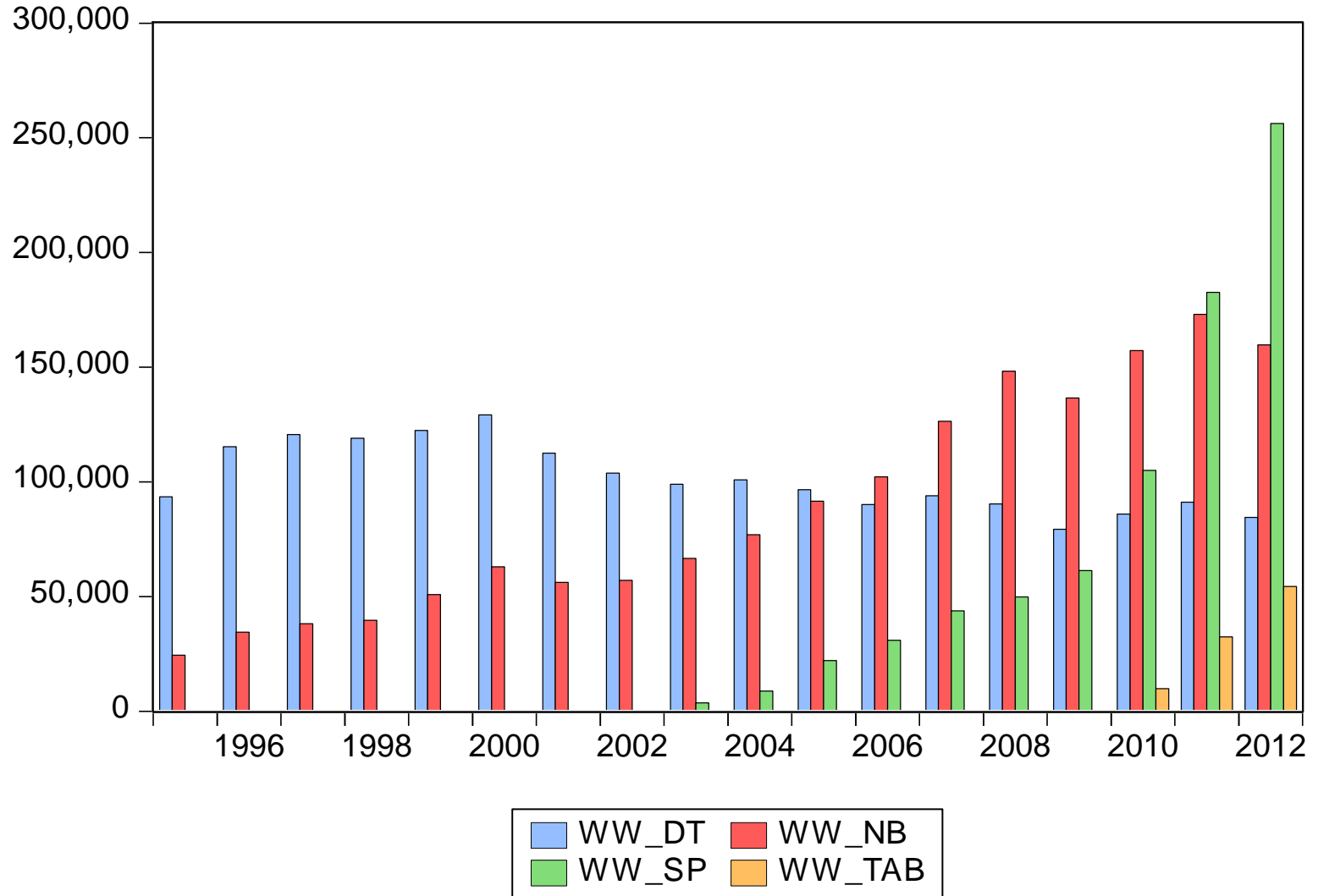
TAB = Tablets

SP = Smartphones

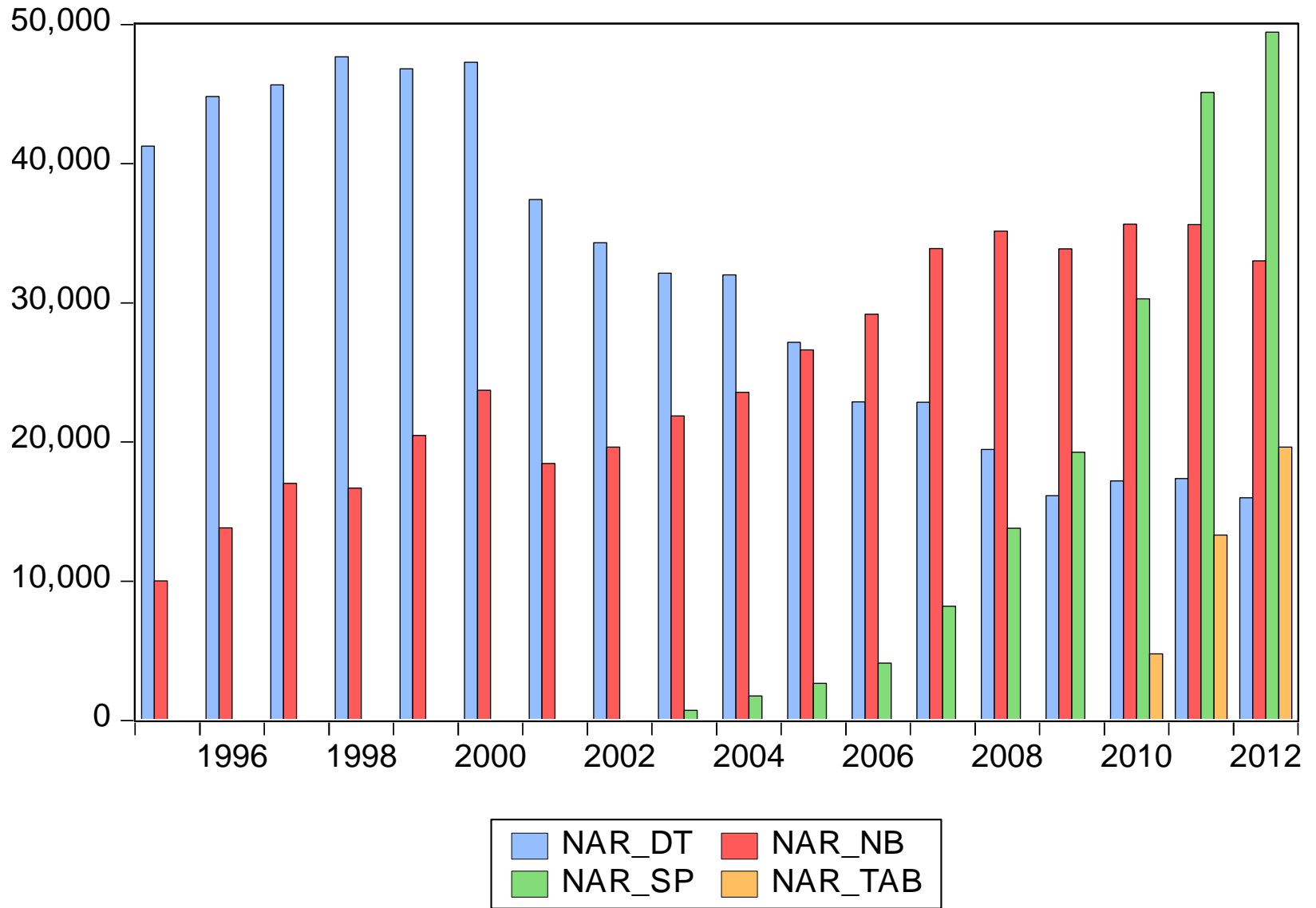
Note: DT, NB, and TAB expenditures based on estimates of purchaser expenditures including tax and most rebates.

SP expenditures based on estimated wholesale prices and so do not incorporate sales taxes or considerable subsidies offered by telcos.

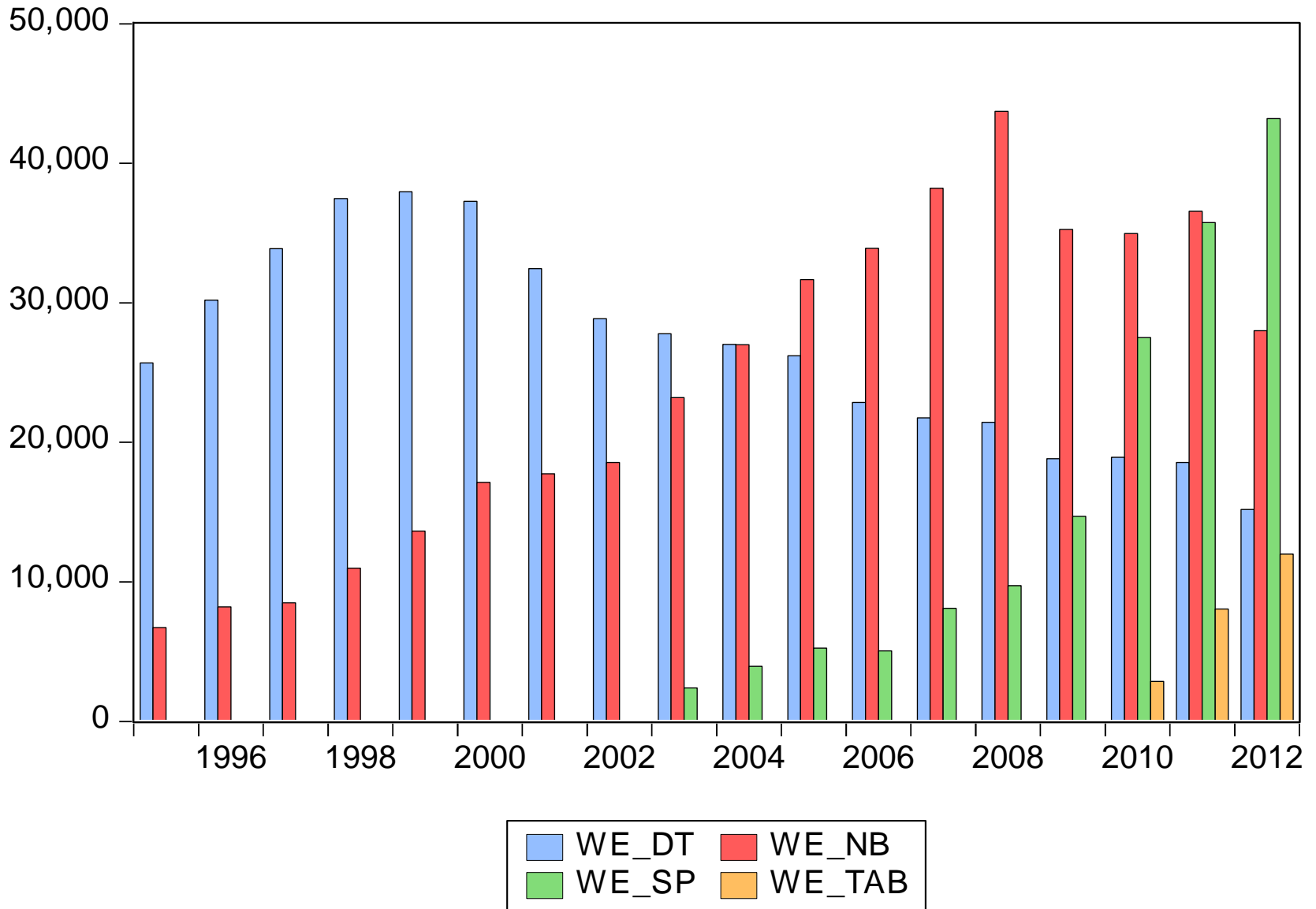
Estimated expenditures (MNs of \$) Worldwide



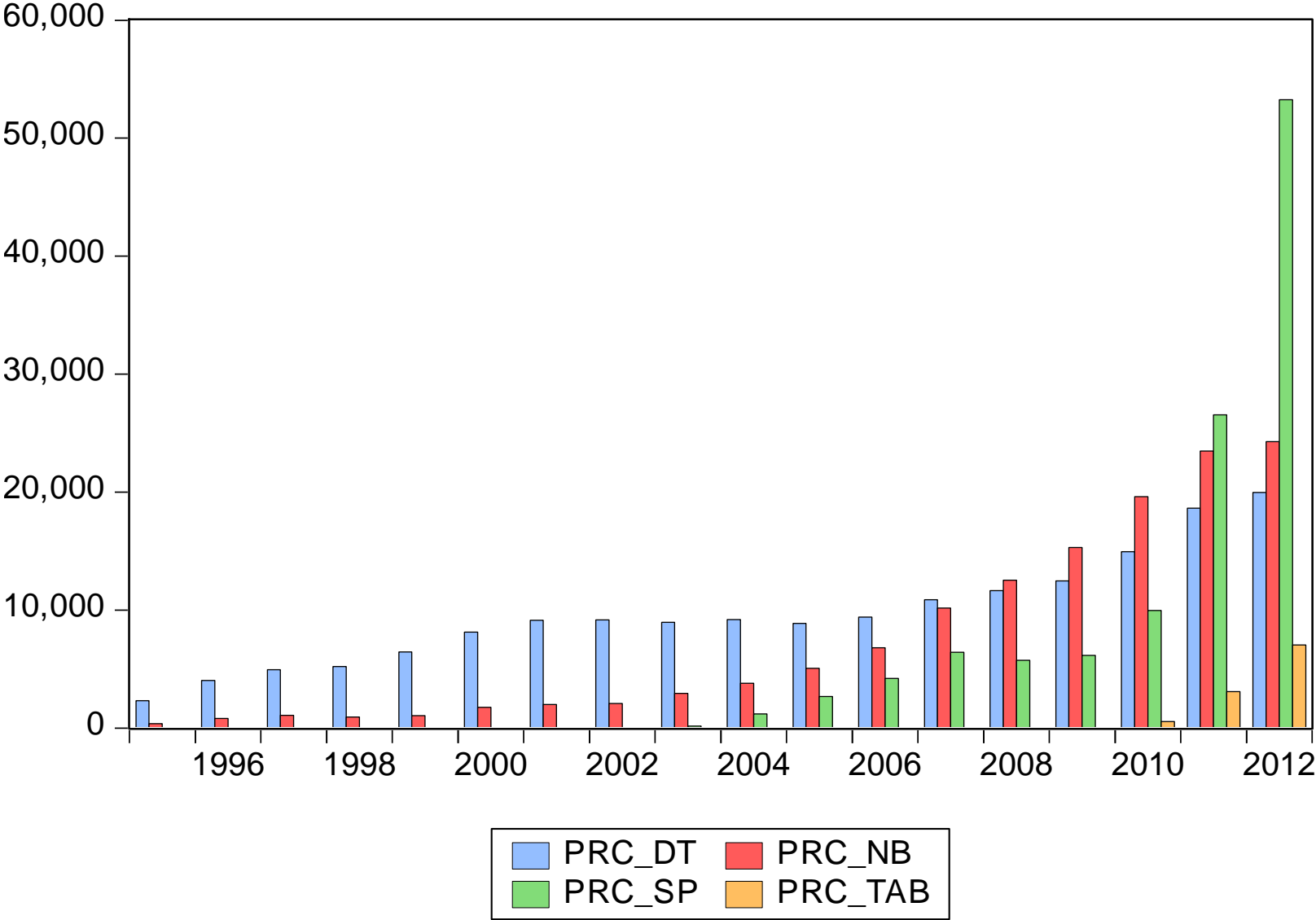
Estimated expenditures (MNs of \$) in US + Canada



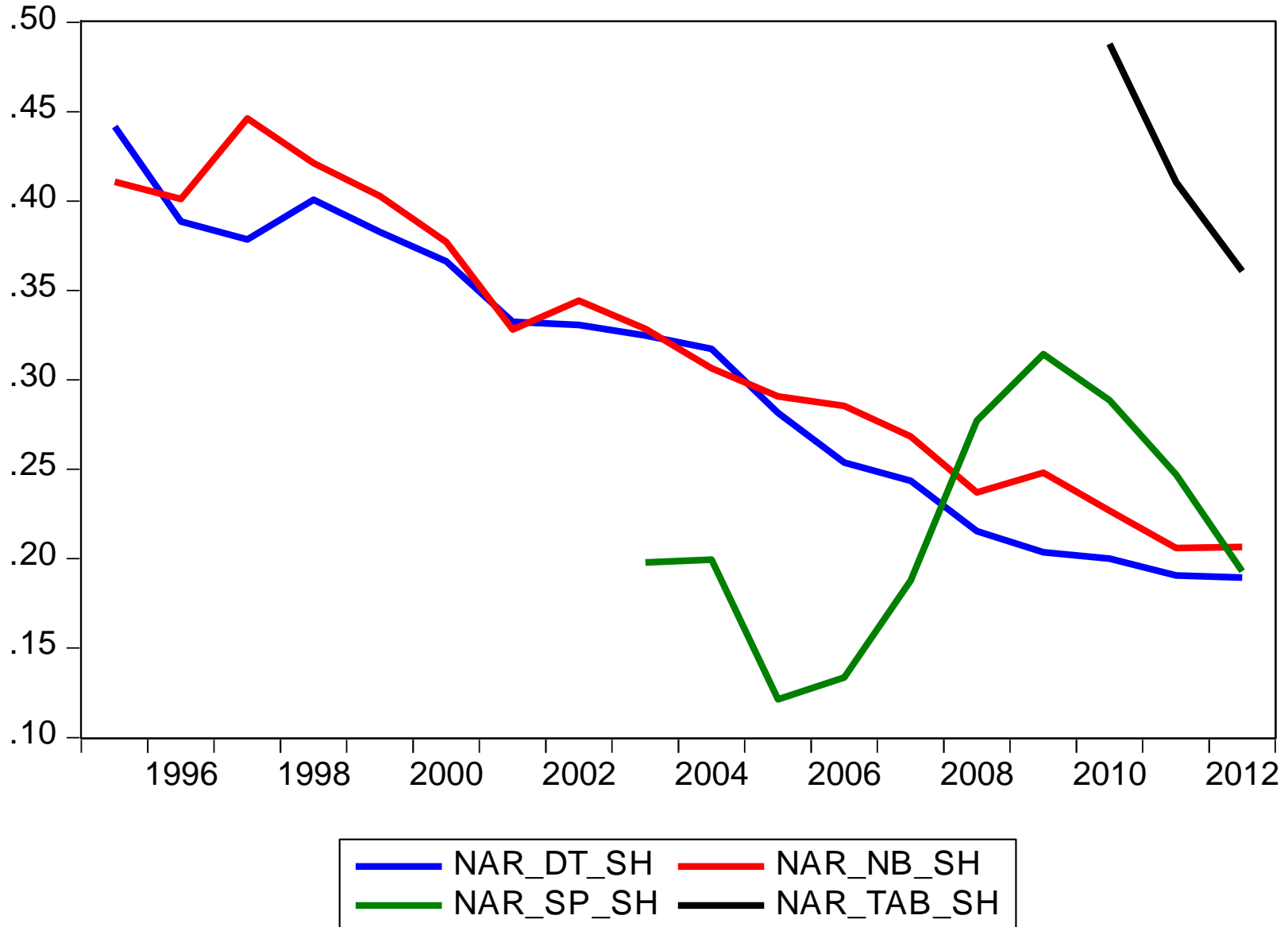
Estimated expenditures (MNs of \$) in Western Europe



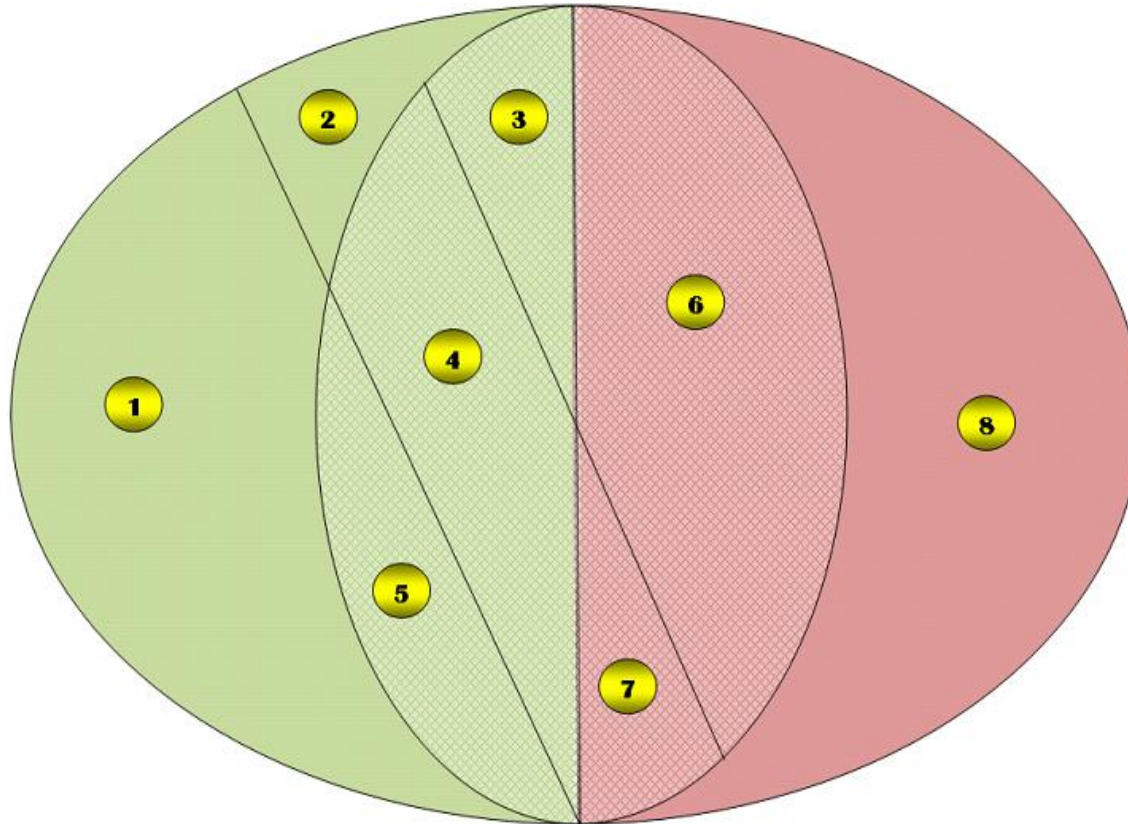
Estimated expenditures (MNs of \$) in PRC



US + Canada Share of Worldwide Expenditures by Device



The Device Category Debate



① Notebook Clamshell

② Ultrabook Clamshell

③ UB Convertible - Detached

④ UB Convertible - Attached

⑤ Notebook Convertible

⑥ Tablet Convertible - Detached

⑦ Tablet Convertible - Attached

⑧ Tablet Slate

Notebook = ①+②+③+④+⑤

Tablet = ⑥+⑦+⑧

Ultrabook = ②+③+④

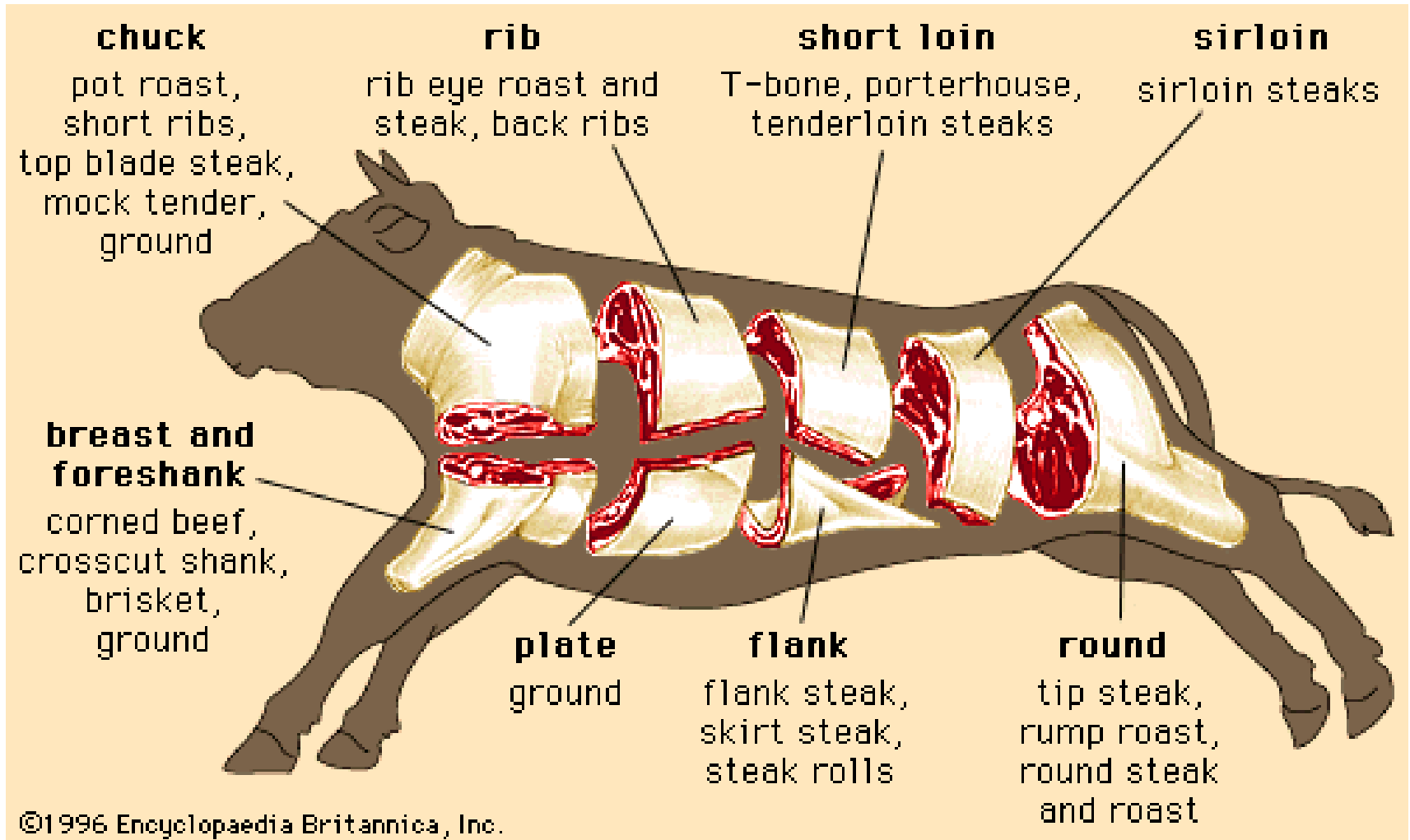
Convertible = ③+④+⑤+⑥+⑦

Detachable = ③+⑥

PC Convertible = ③+④+⑤

Tablet Convertible = ⑥+⑦

Another Take on the Device Category Debate



with apologies to vegetarians and unhappy cows ...

What caused the recent PC decline?

- Is it “Creative Destruction” enabled by the Great Recession and the slow recovery in Advanced Economies?
- Is it the Innovators’ Dilemma with OEMs and suppliers resisting the implications of the Cloud and the potential for tablets?
- Is it due to the greater cyclicity of NBs versus Tablets? Our estimate is that Notebook PCs are about 4x as sensitive to the economy as Tablets. Will Notebook demand surge if the economy strengthens?
- Are Tablets just enjoying the early benefits of Bass’s diffusion process? Lots of “demonstration effect” and “network economics” with saturation just beginning in the richest markets?
- OR are Tablets just really compelling with the challenge to the IT industry being to make PCs exciting again?

Demand for durable goods is strongly pro-cyclical, except possibly for NEW durable goods. The answer to the trick question of who is Intel’s greatest competitor might be Intel (and not AMD, ARM, etc. etc.)

