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The Business Cycle in a Changing Economy: Conceptualization, Measurement, Dating

by Allen Sinai

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I. The Business Cycle in a Changing Economy

Modern business cycle analysis, measurement, and dating began over 80 years ago at the National Bureau of Economic Research (NBER), culminating in a classic work by Burns and Mitchell (BM) (1946), essentially a descriptive empirical approach to the phases, measurement, and dating of business cycles.

As is true in so many other areas of macroeconomics, and economics in general, the theory and analytics came after the observational data—frequent in much of science.

Descriptive analysis of a phenomenon, or phenomena, and empirical observation have motivated many attempts to find a systematic framework and cause-and-effect structure that could produce the kinds of predictive regularities that characterize measureable phenomena. In the empirical data and description of the business cycle, BM found a definition but also a basis for economic time-series that can describe the business cycle, its measurement and dating, turning points, and eventually its prediction.[1]

The methodology of measurement and approach of BM essentially remains today as the empirical business cycle framework for research on the topic and in the NBER chronology and dating of business cycles.[2]

Of course there were business cycles before BM and attempts to explain and analyze the phenomenon, but not until their encyclopedic work did a framework for depicting the business cycle, conceptualizing it, defining its phases, turning points, and determining the data that could measure it really get launched.[3]

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[1]The definition is a classic, Burns-Mitchell (BM) (1946, p. 3). Even earlier work predated the empirical approach pioneered by BM and subsequently performed under the auspices of the NBER. See e.g., Mitchell (1927).

[2]The NBER Program on Business Cycle Research now goes beyond measurement and dating, however, in recent years looking more analytically at the fundamental processes underlying the causes and behavior of the business cycle. See Hall (2003).

[3]In Burns-Mitchell (1946), years of work on the business cycle going back to the 1920s were covered. Analyses of business cycles predated BM, however, e.g., Fisher (1932), Keynes (1936, ch. 22), Haberler (1937).

The method of approach and data examined were based on the economy as it existed at the time—an economy far different than the current one, especially as reflected by the recent Contraction shown in Tables 1 and 2 (Appendix) to be the longest and deepest since the 1930s.

The recession, noted as a "Great Recession," was marked by a classic financial crisis and Panic in modern form—collapses in asset prices from bursting asset price bubbles; the shutting-down of numerous money and credit markets; "runs" on banks as counterparty institutions pulled credit lines; a credit crunch within, and outside of, the financial system and in the real economy; huge contractions in the balance sheets of financial institutions, households and many businesses; and failures, or near failures, U.S. and globally, for some of the largest financial institutions involved in credit. This financial disarray and its interactions with the real economy, then back again to the financial system, and again to the economy helped cause the most widespread and pronounced economic and financial crises since the 1930s.

How much the economy has changed, and perhaps the business cycle, is underscored by this latest episode, how it evolved, its duration and depth, the difficulties for policymakers in seeing it coming, identification of the turning point, or Peak, of the Expansion, measuring what was in-process and diagnosing the severity, how financial and real economy phenomena interacted to intensify the downturn, and in determining the timing and content of the macroeconomic policies to deal with it.

As indicated by the latest downturn and expansion that preceded it, the U.S. economy has undergone many significant changes since the early work by BM on the measurement and description of business cycles. Changes in a changing U.S. economy have occurred in the financial system, financial markets, and financial instruments; in the complex derivative assets and liabilities used by financial institutions, businesses, and acquired by investors; in the structure of the economy as between goods and services; the labor market; in the globalization of economies and markets; and in the way psychology interacts and expectations are formed in the

economy and financial markets. *This raises a fundamental question—does the conceptualization, measurement, and dating of the business cycle need rethinking and revisiting?*

For example, *the role of the "Financial Factor" in the business cycle is abundantly clear.*[4]

The collapse of a new, leveraged derivative subprime lending function and in the values of subprime loans provided an early signal and lever for diminished activity in housing and residential construction. After the prior boom and real estate price bubble, the bubble burst and housing prices collapsed, taking down household wealth and then the growth of aggregate consumption. A declining economy, falling business sales and reductions in company earnings brought down equity prices, household wealth, and consumption. A far different set of financial institutions than traditionally, nonbanks more than banks, was providing the basic functions of deposit-gathering, lending and investments, but also trading and underwriting in a global economic and financial market setting where financial markets were characterized by varied and complex types and kinds of securities held widely across investment portfolios and geographic boundaries. When the markets for these securities failed to function and values fell, the resulting instability led to a massive switch from risk-taking to risk-aversion. The prices of assets and value of collateral fell across portfolios, similarly geographical boundaries, where assets correlated in price were pervasive in investor portfolios. Complex and diverse collateral and counterparty agreements did not hold, creating shortfalls in capital for many financial institutions and a shutdown in the availability of credit within the financial system itself. The complicated

[4]The "Financial Factor" is used here to encompass the financial system in its interaction with the real economy, financial institutions, banks and nonbanks, the stocks and flows of assets and liabilities, or balance sheet positions of various sectors and effects on spending, credit, and the potential for financial instability and financial crises. Hicks (1950, chs. 11 and 12) called it the "Monetary Factor," using a simplified money supply and single interest rate paradigm summarized by the LM curve in a dynamic multiplier-accelerator setting. Keynes (1936) and numerous others, e.g., Friedman-Schwartz (1963) and Brunner-Meltzer (1988), noted and analyzed the role of money, credit and interest rates in the business cycle. Minsky (1977) (1982) integrated financial instability into a multiplier-accelerator framework and then elaborated on the institutions and speculative behavior in markets as they affected the economy. Sinai (1992) developed an integrated financial and real economy flow-of-funds framework, emphasizing the evolution of balance sheet positions and interactions of balance sheets and flows-of-funds with the real economy, based on work going back to the DRI Model of the U.S. Economy; Eckstein-Sinai (1983) and Eckstein (1983, chs. 1 and 4). In Sinai (1992), the "financial factor" is endogenous within interactive, simultaneous, and integrated financial and real economy cycles.

derivative financial instruments that had evolved were far different, not only from the 1940s, 1950s and 1960s, but even from just a decade ago.

Financial institutions' balance sheets contracted and a widespread credit crunch inside and outside the financial system ensued, intensifying the economic downturn which, in turn, created more financial instability, aggravating the financial crisis, bringing down spending, which increased credit risk, intensified risk aversion and a flight-to-safety by investors. This negative feedback loop, although perhaps in this instance rare as to its scope and magnitude, really is not rare generically, having been present in virtually every business cycle downturn and a systematic part of at least the upper turning point in the business cycle. *But, mainstream macroeconomic analysis and the measurement of the business cycle have not yet fully integrated the "financial factor" into its analytical or empirical framework.*

If the financial factor is an essential ingredient in turning points, then measurement of the business cycle should take account of it. Knowing the turning point in the business cycle is essential for prompt and effective policies, and planning, given the inherent lags in recognition, the taking of policy actions, implementation and impacts on the economy.

The U.S. economy, fundamentally industrial and manufacturing back in the 1920s and beyond, is now services-centered, very different from when BM did their work. Yet, *business cycle measurement and dating use economic time-series that are heavily weighted toward the "goods" side of the economy rather than "services."* This can provide misleading information on the phase of the business cycle, depth and duration of the essential cycle elements, and what policies might be appropriate in light of the sources of downturns and upturns.

The U.S. labor market may have undergone fundamental structural changes over the years, both with respect to the demand for labor and now easy substitutability of capital for labor given its high costs including benefits, and ample availability outside the U.S..[5] From the supply-side,

[5]Business capital spending now is principally equipment, not plant, about 68% of the total, after adjustment for inflation, and in equipment outlays, a very high proportion, near 57%, is Information Processing and Computers, far

because of the labor demographics of an aging population, changes in the labor and work force, more open search-and-matching in the labor market and frictions in labor supply responses, this essential dimension and source of measurement for the business cycle may have been altered. *The labor market data used in measuring the business cycle and its turning points may now be out-of-synch with other data, such as output, on the business cycle than previously.*

The global nature of business cycles is far different because of the immense changes in global economic geography that have taken place, especially in recent years—ranging across demands and supplies in non-U.S. economies and global regions, cross-border investments, trade flows, financing and production, some countries that used to be Emerging now Developed, e.g., China, and for those still Developing or Emerging countries increased openness for more of them, reductions in trade propensities with the United States but increases globaregionally, and a greater mobility of resources across countries, especially for labor and technology.

Consider the present interrelated global economies and financial markets, central banks operating more-or-less independently in most countries, widespread and developed capital markets, more mobile movements of labor, capital, and funds flows across portfolios around-the-world, the ability to produce and distribute from almost anywhere, generally flexible exchange rates, increased trade flows except during recessions, and the huge volume of transactions in finance and information technology that surround economic activity. And, given new near instantaneous transmission of information in financial markets and the economy with modern telecommunications, computer networks, personal digital assistants and speeded-up decisionmaking, it is hard to think that the underlying dynamics of the U.S. business cycle would not be affected, especially where transactions-based economic activity is involved.

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different than back in the 1940s, 1950s, 1960s and 1970s. In 1960, the corresponding proportions were 37.6% and 16.3%, respectively. Between 2008:3 and 2009:2 changes of inventories plummeted, from a rate of -$29.7 billion to -$160 billion, a huge downcycle. With capital goods expenditures concentrated in short-lived equipment, particularly Information Processing and Software, and inventories fungible, an easy substitutability of capital and inventories exists for now very costly labor and so can easily be taken down. Nonresidential business fixed investment fell a huge 19.5%, 39.2% and 9.6%, at annual rates, from 2008:4 to 2009:2. Equipment spending fell 25.9%, 36.4% and 4.9%, at annual rates, over the same time span.

The relative size of countries, such as China, and the directions of trade flows have changed immensely. There is now a "decoupling" of the non-U.S. global economy from the U.S., reflected in the propensities of trade flows for non-U.S. countries with the U.S., enhanced intra-global regional trade, and changes in the wealth of nations as between West and East. *The amplitude of the last downturn may well have been increased by global interactions in finance and economic activity.* Trade flows and financial interactions across borders are the transmission mechanisms and measures related to them may be relevant to depicting and measuring the U.S. business cycle.

There also is the element of psychology in economic behavior and the role of expectations in business cycles, particularly in financial markets and asset pricing and in the transmission to spending, directly and through effects on balance sheets, little explored but clearly present especially in the latest downturn. Shifts of consumer sentiment, in business expectations, "disappointment" in expectations or in actual versus what was expected, financial market prices, the "herd-like" behavior of participants in financial markets as manifested in a flight-to-safety, and huge shifts in liquidity preference are evidence. *Expectations have long been part of macroeconomic dynamics, but are especially important for financial markets and the financial transmission mechanism to the real economy.*

In the formation of macroeconomic policy, expectations also play an important role since monetary and fiscal policies react to information on certain variables, often expectations of the variables, e.g., inflation (monetary policy) or the unemployment rate and joblessness (fiscal and monetary policy). Survey and anecdotal data, ample these days, would provide information that might be relevant for measuring the business cycle.

With this backdrop as context, this paper asks and attempts to answer, or simply to leave for further research, some possibly provocative questions about the business cycle in its modern setting and to present some evidence on some changes in a changing U.S. economy, potentially

relevant for the conceptualization, measurement, and dating of the business cycle. It seeks to motivate a revisiting and rethinking of the business cycle in light of the changed economy and methods of analysis and measurement meant for another age, for another time, perhaps essentially another world.

Would a rethinking and revisiting of the business cycle in the context of modern and tightly interwoven financial and real economic phenomena lead to a different conceptualization for its phases? Does a changed structure in the production of, and spending on, goods and services suggest different measures for measurement and dating? Are different indicators for measurement and perhaps even for the depth and duration of the business cycle called for rather than those, such as real GDP, that as an average summary measure may be less informative and timely than previously? Are there better ways to approach the measurement and dating of turning points? Might some of the conclusions drawn about business cycles, ranging from the "Great Moderation" to the information content of real GDP about "the economy" and its use for the timing and content of stabilization policies, be altered?

Why should we care about these questions? One answer is a better understanding of the business cycle. Another is better prediction of the business cycle and its risks for policy and planning. Finally, conceptualizing, measuring, and dating the business cycle in light of the changing U.S. economy could well have policy implications of considerable import, such as the timing and content of macroeconomic policies insofar as business cycle stabilization is concerned. Perhaps most important is whether rethinking and revisiting the business cycle will help in devising and implementing macroeconomic policies that can achieve the goals of maximum sustainable growth and price level stability with as few destabilizing excesses and imbalances in the economy and financial system as possible.

The organization of the paper is as follows. Section II looks at some features and changes in the economy that invite questions of conceptualization, measurement, and dating. There are five

of them; Sections IIA-IIE. This Section discusses the features of the economy that invite and can perhaps motivate a rethinking of how the business cycle is depicted, measured, and dated in the modern era. Section III provides some concluding perspectives on what is most clear and what is not in terms of revisiting and rethinking the business cycle.

II. Changes in a Changing Economy and the Business Cycle

What are some major changes in the economy that might invite a rethinking and revisiting of the business cycle? Has the business cycle changed?[6] Perhaps a more relevant way of putting it is whether the economy has changed and therefore the ways in which the business cycle should be depicted, measured, and dated be changed.

Five "changes" are discussed—1) the "Financial Factor" in the Business Cycle; 2) a "Goods" or "Services" Economy; 3) the Labor Market; 4) Globalization; and 5) Psychology and Expectations. (1) and (5), in some form, have always been present but not fully recognized. (2), (3) and (4) represent structural changes that may have evolved over recent decades, i.e., post-W.W.II.

A. The Financial Factor in the Business Cycle

Financial phenomena in the business cycle, no matter in what form, always seem to have been present and decisive, both in the upturns and downturns.[7]

The financial factor can be illustrated by the behavior of financial markets, asset prices, household wealth, and consumption in the latest downturn. This is only one dimension of the ways that the financial factor was integral to the last business cycle.

Table 3 shows the changes, peak-to-trough from 1947 to 2009 on NBER dating, compared with other recessions, for the U.S. stock market, residential real estate prices, the household

[6]Stock and Watson (2003).

[7]See Sinai (1992, pp. 1-2 and 5-6) for a discussion of the historical presence of financial phenomena and the financial factor in the business cycle. See Kindleberger-Aliber (2005) and Wolfson (1994) on financial crises. Most work on financial crises, except perhaps Minsky (1982), Eckstein and Sinai (1983), Sinai (1992) and Bernanke (1983), treat them as exogenous shocks and do not deal with how they arise.

sector balance sheet, household real wealth, consumer sentiment, and short- and long-term interest rates.

This aspect of the financial factor can be seen to have been more pronounced this time than any other post-W.W.II downcycle. Outsized declines in stock and real estate prices, 52.6% and 27.4%, respectively, peak-to-trough, arguably price "bubbles" that burst after a huge boom in housing, housing prices and unsustainably high equity prices, took down real household wealth in an unprecedented fashion, -29.3% over 2007 to 2009, double the decline in any previous downturn.

The decline in real household net worth was near $12.5 trillion between the fourth and first quarters of 2009 and the previous year. On Decision Economics, Inc. (DE) estimates of the marginal propensities to consume wealth, mainly equity and real estate, approximately $0.06 per dollar of lost wealth, the decline in aggregate consumption from this source would have been about $720 billion. Multiplier effects of the decline in consumption rippled-through the U.S. economy, bringing down the growth of spending in other areas.

Figure 1 shows two other financial determinants of consumer spending—gross cashout refinancing and capital gains realizations, huge sources for spending during the Boom phase of the upcycle and huge sources of reductions in consumption spending in the downcycle. DE estimates that the marginal propensity to consume capital gains realizations is approximately $0.25 per dollar of realizations over a period of one year; for gross cashout financing as much as $0.30 per dollar in the same time span.

With the greatest percentage declines in residential real estate and stock market prices for any episode since the 1930s (Table 3), the loss in funding to consumers from these two sources was massive and the impact greater than the effect of real disposable income, and accounted for a large portion of the unusually large declines in consumer spending that appeared in the second half of 2008 and first half of 2009.

Figure 2 shows the DE Household Financial Conditions Index (high levels “bad” and low levels “good”), a summary measure and weighted average for a variety of indicators that define the financial condition of the household sector.

What is represented at the levels reached in 2007 to 2009 is the most deteriorated financial position for the household sector in modern history. Years of excessive spending, borrowing, and debt accumulation are reflected in the Index, essentially benign while real estate and stock market prices were rising and asset values moving up sharply, but devastatingly negative as asset prices fell in 2007-09 by the most since the 1930s. Debt accumulated over many years remained but the asset values of collateral dropped sharply and incomes, especially in real terms, hardly rose. In such a situation, the burden of the household balance sheet relative to assets and incomes becomes quite large, the credit risk of the household sector rises, and the ability to obtain funds is compromised.

In Figure 3 is shown that the role of the consumer in this last downturn was pronounced, where the longest, and still in-process, shortfall of growth in consumer spending from historic trend since W.W.II has been occurring. Over only a two-quarter span, 2008:3 and 2008:4, but even longer before-and-after, aggregate consumption, in real terms and at annual rates, fell 3.5% and 3.1%, respectively. This was a major downward impulse not seen post-W.W.II that reverberated through the U.S. economy and to non-U.S. economies where a large proportion of exports was to American consumers. The downward impulse to trade, especially for countries like China, Japan and Germany, produced a negative shock to the world economy through the interactions of trade, and reductions of imports and exports around-the-world. This helped push the global economy into recession.

At over 71% of the U.S. economy at the time, the sharp declines in consumption spending were decisive, rippling-out to other sectors through multiplier-accelerator interactions and to the global economy through declines in exports for major export economies such as China, Japan

and Germany, and then the interactions in trade of these countries with others, especially for those with very open economies. *The shock to trade from the financial factor in the U.S. business cycle through consumption levered down the economies of numerous countries and then moved through them, along with financial strains, to bring extremely sharp downturns in real economic growth.*

Cashout refinancing is a relatively recent feature of the economy, innovated in the 1990s and first decade of the 21st century, as were the huge realized capital gains that occurred from an outsized equity market boom (Figure 1). These sources of funds had a huge effect, both in the prior upturn and downturn, directly and as collateral for additional debt-financed spending.

These changes in a changing economy affected the depth and duration of the business cycle downturn, with the "financial factor" interacting with aggregate consumption as an essential ingredient. The financial factor, at least this aspect of it, shows up far more negative than for any other recession in the modern era and underscores the need to more fully integrate the financial factor into the conceptualization, measurement, and dating of the business cycle.

B. Goods or Services Economy?

Tables 4 to 6 show some striking changes in the structure of the U.S. economy post-W.W.II as between "goods" and "services," both from the supply-side, that is the U.S. labor market and the demand-side, that is consumption. Much of theoretical economic analysis is "goods" oriented and so is the measurement and dating of business cycles circa BM and now.[8] There seems to be no real theory of the services economy in macroeconomics.

The data in these Tables illustrate the shift over time in the U.S. economy, not shown for other economies but likely the case, toward "services" production and spending vs. "goods" spending and output.

The changes in the economy as between goods and services is striking.

[8]NBER (2003) (2007).

In the labor market, shown in Tables 4 and 5 and represented by nonfarm payroll data on employment, *goods sector jobs now account for only 14% of total nonfarm payrolls. Services jobs are a huge 86% of payrolls.* In 1953-54, goods-producing sector jobs were around 30% of the total and service-producing jobs approximately 61%. Manufacturing jobs, 31%-or-so of nonfarm payroll in 1953-54, are now only about 9%.

These data are collected through the Establishment Survey of the Bureau of Labor Statistics (BLS), that is a survey of businesses as opposed to individuals, with the latter in the Civilian Household Survey used as the basis for calculating the unemployment rate. However, many of the jobs *located* in the goods-producing establishments are themselves services, e.g., human resources, finance, information, and technology support so that the penetration of services jobs in the economy is most likely even greater than indicated in Tables 4, 5.

Many of the measures used to define and depict the business cycle and, in particular, to assess turning points, such as industrial production, relate to the goods-side of the economy. Nonfarm payroll jobs, thought to be a coincident indicator with the business cycle, is yet another, with so much services content now that the behavior of this statistical aggregate could have changed. Services jobs, with a few exceptions, tend to be less volatile than goods jobs and likely lag or lead economic activity. Such may be the case for Temporary Help, part of Professional/Business Services, a rapidly growing service category. In recent business cycles Temps have been used as a kind of “inventories,” a buffer before permanent hiring takes place. This series appears to have led the last downturn in jobs and on recent data may be leading the next upturn.

Within the services sectors (Table 5) the growth in Education/Health Care jobs as a portion of the total has been very strong, as has Leisure/Hospitality and Professional/Business Services. Health Care jobs now are 14.8% of nonfarm payroll. This was near 5% in the late 1950s.

Leisure/Hospitality and Professional/Business Services jobs have almost doubled as a proportion of nonfarm payrolls compared with five decades ago.

From the demand-side, an illustration of the change between goods and services spending is the composition of aggregate consumption, shown over many decades in Tables 6 and 7.

Here, it can be seen that the proportion of real GDP in the consumption of services has risen across business cycles and of goods declined. Services consumption was 46.9% of total real GDP in October 2009; 38.2% in 1954. Within consumption spending (Table 7), which shows a breakdown of services expenditures in consumption, 67.5% of total consumption is in services compared with 43.5% in 1954. The Table also shows the growing size of Health Care spending, now 16.1% of total consumption and between 10% and 11% of real GDP. This is nearly triple the relative size of residential construction and near the share of exports in real GDP, not far below the share of business fixed investment in real GDP, and more than double the share of real GDP in federal government purchases.

The labor market and consumption data confirm that the U.S. is largely a "services" economy. These data suggest that conceptualizing and measuring the business cycle as industrial, or manufacturing, is outdated and that using economic time-series that reflect the services side of the economy would be better.

For example, nonfarm payroll data, in the aggregate, could be misleading on the economy, but perhaps if disaggregated, or weighted, or calculated in another form, an index for example, might be more useful in depicting, measuring, and dating the business cycle. Some sort of weighting mechanism, reflecting the changing proportions of employment by category could be used to create another series that might do a better job in measuring the business cycle and its turning points.

Years ago, three months of declining industrial production almost certainly marked the onset of recession. Even now, industrial production is indicated as a coincident indicator with the

economy and utilized by the NBER to identify cycle turning points. Real GDP, even though quarterly, the series with the highest weight for marking a recession or expansion according to the NBER, probably has become less reliable in judging business cycle turning points. In recent business cycle episodes, the aggregate economy has continued to expand even after three-or-more months of declines for industrial production. The industrial production measure reflects the state of manufacturing in the U.S. economy rather than a more complete depiction of the overall economy and should no longer be used in the way that it has.

C. The Labor Market—A Structural Change?

The first "jobless" recovery occurred after the 1990-91 recession when nonfarm payroll jobs, previously typically coincident with economic activity, continued to decline for several months after the upturn began, and did not show any significant, sustained increases until about one year later. Previously, jobs generally had started to rise approximately at the turning point between Recession and Recovery and were used to mark that turning point.

After the 2001 recession, however, a pattern similar to post-1990-91 occurred, but this time it was 12 months before nonfarm payroll jobs began to rise and over two years until the increases of jobs were significant, defined as sustained rises of 100,000-or-more.

Table 8 shows the pattern of jobs creation relative to business cycle upturns since World War II. It is easy to see that nonfarm payroll jobs were essentially coincident with the business cycle turning point most of the time, but that a change occurred after the recessions of 1990-91 and 2001.

Currently, joblessness has continued despite a probable dating of recovery in September or October 2009. At times, the NBER has dated the turning point of an upturn when nonfarm payroll jobs were still declining.

Of ten prior post-recession upturns, the median number of months after a turning point until nonfarm payroll jobs turned positive has been 2.3 and for significant rises in jobs (more than

100,000), 5.3 months. But in the last two upturns, only small gains in nonfarm payroll jobs continued well beyond the business cycle turning point. Jobs fell for three months after the upturn in 1991 and for seven months after the November 2001 turning point. Joblessness, defined by gains of 100,000 jobs or less, continued well beyond the business cycle turning points in both episodes, for 13 months post-1991 and 27 months post-2001.

Could these two recent situations represent a new trend, a secular change?[9] What can explain the phenomenon? Businesses appear to have shifted hiring behavior post-1991 and seem to be continuing the new pattern.

One possibility is that businesses have become reluctant to hire quickly after a turning point given how costly labor has become over the years, the now many alternatives to labor because of technology, ability to outsource outside a company and outside the U.S., and because of the uncertainty associated with recoveries such as the last two, which initially were very weak.

After the 1990-91 and 2001 recessions, deemed mild because of shallow downturns in real GDP, the first year of the upturn saw quite subdued real economic growth, just 2.6% and 1.9%, respectively. These compare with a median 6.8% rate of growth for real GDP in the first year after a recession. Doubt on the permanence of increases in sales and earnings could have led to cautious hiring, indeed continued firing to hold down expenses, maintain profits, and to maximize shareholder value.

Maximizing shareholder value is relatively new for business but in the U.S. has become its mantra, especially since 1990.

Seriously taken, it suggests heightened attention to keeping expenses down and growing revenues in a more pronounced way than historically. The biggest expense to firms is labor, all-in now including wages, bonuses, social security, retirement pensions, and benefits such as

[9]See Hall (2007) who has called attention to the shift in behavior of employment and output and noted that only real GDP has moderated over postwar recessions, not employment as measured on the Establishment Survey basis. For business cycle analysis, measurement and dating, this change, if structural, would be significant.

401k's and health care. The benefits portion of compensation has risen sharply, particularly for health care.

With weak real economic growth initially in the upturns and increasingly higher costs of labor, businesses have been incented to look for ways to produce output and gain sales other than by hiring labor.

Many alternatives exist, particularly through labor-saving technology, systems shifts, robotics, communications technology, reorganizations of organizations, cost-saving engineering, outsourcing, use of temp workers, the removal of layers of administration and productivity enhancements, all now more possible in a globalized setting. *So, it should not be surprising that increased joblessness, in amount and time, has characterized each of the last two recoveries.*

Maximizing shareholder value, or the stock price as it discounts future earnings and interest rates, involves keeping expenses down and revenues up. In the "modern" U.S. business cycle, companies pay more attention than ever to keeping expenses down in good times and bad. *Given how costly labor is and the emphasis on maximizing shareholder value, continuing joblessness is to be expected.*

Indeed, without changes in macroeconomic policies to stimulate U.S. economic growth to a much faster pace, specifically to reduce joblessness, or reductions in any, or all, elements of the cost-of-labor, another episode of joblessness could occur with the peak in the unemployment rate, whenever reached, sticky-high and millions of Americans unemployed, working less than desired, or having dropped-out that could produce the worst labor market since the 1930s.

D. Shifting Global Economic Geography

Few are fully aware of the seismic shift in global economic and financial market geography that has taken place in recent years, changing probably for decades the way in which the U.S. economy interacts with the rest-of-the-world and how the economies, markets and policies of other countries affect the U.S. and potentially the business cycle.

The paradigm has been that the global economy is U.S. driven, a correct one for a long time, especially for the decades during which BM and the NBER have chronicled and dated business cycles. But this paradigm may no longer be so.

Although still a relatively small share of U.S. real GDP, certainly relative to consumption spending and generally business capital spending, exports and imports, that is, trade, and the current account deficit are becoming more-and-more important for the cyclical behavior of the U.S. economy.

The Asian Crisis of 1998-99 was an example of the effect of the rest-of-the-world economies. A collapse occurred in developing country economies, markets, exchange rates, and business and finance. This negative economic shock impacted U.S. financial markets and the economy through a worsening of trade as a transmission channel from the rest-of-the-world to the U.S.. But, the U.S. economy benefitted from the Asian Crisis shock through a flight of investment into the United States, improving U.S. financial markets and along with supportive monetary policies, a cushioning of any downturn that might have occurred.

In this most recent cycle episode, the financial factor and financial crisis in the U.S. reverberated through U.S. consumption into the exports of numerous non-U.S. countries, whose exports to the U.S. had been a significant proportion of their total and where intraregional trade flow propensities were high, taking down non-U.S. economies' real economic growth, intensifying the financial crisis, then the U.S. economic downturn, global economic downturn, back to the financial crisis, etc..

Was this a one-time event or did it represent fundamental changes in the U.S. and global economies that invite a rethinking and revisiting of the business cycle?

Tables 9-13 provide some insight into this question.[10]

[10]See Sinai (2007) for a discussion of the shifts in-process in the global economy and markets and potential implications for the business cycle.

Table 9 shows a changing global economic geography for selected years since 1995, with 2008 the latest figures available on an annual basis, but likely reflecting trends and tendencies that continued in 2009 despite the widespread deep recessions that occurred in every country except China, India and Australia.

The rankings are by nominal GDP and in billions of U.S. dollars, calculated using bilateral exchange rates over the periods indicated. Other methods of ranking can be used but very likely would not change the thrust of the implications that can be drawn. Average real GDP growth rates over the 1995-2008 timeframe provide an indication of the direction of momentum in the rankings. These may not change much, but the size of the relative gaps between various ranked countries will and is worth noting.

The U.S., of course, ranks first over the period, with GDP almost double in 2008 what it was in 1995. China, ranked #7 in 1995, was #3 in 2008, and has moved up significantly. China's nominal GDP is some six times what it was in 1995, reflecting the near double-digit average rate of growth in the Chinese economy over these years. In 2008, China surpassed Germany as the third-ranked country globally and can be seen to be closing the gap with #2 ranked Japan quite rapidly. On some accounts, in 2009, China's ranking moved to second place, ahead of a slow-growing Japanese economy.

Japan held second place for the whole period but with nominal GDP lower in 2008 than 1995, reflecting a long period of stagnation and deflation. The position of Japan in the ranking does not really represent its position in terms of growth and economic impact, which has diminished steadily since the late 1980s.

For Europe and the U.K. collectively, designated generally as part of the G-7, the position globaregionally has fallen, replaced by a collection of countries deemed "Emerging" but now in momentum overtaking in importance the Eurozone, U.K., and U.S..

In Tables 10 and 11 are shown the export propensities and exposures from 1995 to 2009:2 for the major countries in the global economy, indicating a "decoupling" going on in world trade. Those countries who export much to the United States now show much less exports with the U.S. destination as a proportion of the total and a greater proportion of total exports intraregionally for countries closer in geographic location, or in similar economic activities. The exposure to the U.S. of these countries in terms of exports as a proportion of GDP generally is far less than it has been and in many situations strikingly so.

The upshot of the tendencies shown in Tables 10 and 11 should be more resilience to declines in U.S. economic activity than previously, depending on its source, particularly if other major countries do not suffer downturns at the same time.

To some extent, the aftermath of the economic and financial crises of the last U.S. downturn reflect this with Asia ex-Japan countries' economies reviving in a more "V"-like fashion than the U.S.. The U.S. has exited its downturn but only softly, more "L"-like with an uptilt for the bottom of the "L" rather than the more typical exit from recession of a "V."

In Table 12 is the current account deficits of 46 countries, a measure of competitive strength, or weakness, and potential resiliency to shocks. Although perhaps better indicated as a portion of GDP, levels of the current account balances are of interest. So are foreign exchange reserve positions, a measure of financial strength at the country level.

The U.S. current account deficit looks to be in the neighborhood of $500 billion for 2009, almost seven times its magnitude in 1990 but within the range of -$400 billion to -$800 billion shown over the past decade. In contrast, China shows a $380 billion current account surplus, far higher than during the 1999 to 2003 time span, but in the neighborhood of where it has been the past four-or-five years.

For China, the long period of trade surpluses has led to a huge foreign exchange position, some $2.3 trillion, the highest in absolute terms and relative to GDP of any country in the global

economy. The U.S., on the other hand, has only about $120 billion in foreign exchange reserves, a tiny fraction of its GDP.

Countries with significantly positive current account surpluses and foreign exchange reserves include Japan ($160 billion), Germany ($132 billion), Norway ($60 billion), the Netherlands ($45 billion), Switzerland ($45 billion), Malaysia ($37.3 billion) and even Russia ($48.4 billion). As a percentage of GDP, many countries' positions far exceed that of the United States. Foreign exchange reserves follow current account deficits or surpluses so that the countries with positive current account balances also show good-sized foreign exchange reserves, particularly in relation to GDP, e.g., Russia at near $500 billion in foreign exchange reserves and Japan over $1 trillion.

Similar observations can be made for country positions and government budget deficits and debt, in absolute terms and relative to GDP, not shown here. But the figures for these measures of country financial positions show that the U.S. is far up in the rankings of countries with deficits and gross debt-to-GDP now at over 10% and 70%, respectively, and headed for 100 percent plus in coming years under existing fiscal policy and economic prospects, while China and India, for example, have budget deficits relative to GDP only in relatively low single-digits. Debt-to-GDP ratios in numerous so-called emerging countries are well below those in, and expected, for the United States.

The economic positions of a number of countries around-the-world thus have changed, and are changing, immensely over the last 15 years as has their "wealth" and "financial condition" relative to the United States—in their favor. The U.S. dollar (Table 13) reflects this.

In the U.S., the share of exports and imports in real GDP is roughly 12%, significantly higher than in most previous years and reflecting the increased importance of the non-U.S. world economy in the U.S. business cycle.

Implications for understanding and depicting the U.S. business cycle are potentially numerous, not the least of which is the dynamics of trade flows under situations such as a decline

in non-U.S. economic activity, especially the larger economies, for the U.S. business cycle and the potential compensating effect on the U.S. real economy in a U.S. downturn where falling imports can help cushion real GDP.

In such a situation, essentially what happened in this last episode where U.S. consumption tumbled, taking down the exports of numerous other countries and non-U.S. real economic activity, reductions in U.S. imports as well as exports resulted, net, an offsetting pickup of real exports and real GDP against the declines registered in the U.S. private domestic economy. This is a general problem for business cycle measurement from this well-known average aggregate summary measure, along with its quarterly frequency, delays and revisions.

Real GDP, therefore, as a measure of the business cycle and a key indicator for cyclical turning points may be less informative on the extent of the downturn, its depth and duration since it averages real net exports into the real GDP aggregate along with consumption and business fixed investment.

E. Psychology and Expectations—Survey Measures and Anecdotal Evidence

In recent years, "behavioral economics" has become a significant area of research and application in economics. Psychology and expectations, normally assumed as given, are highlighted in this branch of study. In microeconomics, given preferences, or utility functions, based on "rational" choice theory, have formed the basis for much of microeconomic theory and its applications. In macroeconomics, particularly business cycles, and especially where financial markets and the financial factor interact with the real economy, a role for psychology and expectations seems quite plausible.

Expectations formation in macroeconomic dynamics has been present in cyclical analysis for many decades, particularly in the area of capital goods spending whether for inventories, business fixed investment, or consumer durables expenditures. Distributed lags in capital

spending motivated by stock-adjustment or derived from expectations in a dynamic setting characterize the real economy and, to some extent, financial market processes as well.

Expectations and psychology, reactions to risk, greed and fear, perceptions, and even delusions and mania have been described in relation to financial crises.[11]

Nowhere, perhaps, is the role of expectations as prominent as in financial markets and business cycles, especially cyclical movements around business cycle turning points.

This relatively unexplored area of business cycle analysis, especially given the real economy orientation of macroeconomics in the analytical models of business cycles and its characterization and measurement, perhaps offers much in the way of data to help measure the business cycle.

The swings in financial markets, such as those in the recent downturn reported in Table 3 defy full explanation on standard paradigms and models.

Since financial markets discount risk and react to perceptions, true or not, mixed with human behavior and emotion, considerable data—survey and anecdotal—that describe the "psychology" and "expectations" of financial market participants and decisionmakers are worth examining for content that can help describe the business cycle and, in particular, turning points. "Disappointment" of expectations is a source of cyclical fluctuations and disequilibria that, in turn, can interact systematically within financial markets and through financial market transmission mechanisms to the real economy and the business cycle as conventionally measured. To monitor, analyze, measure, and depict the business cycle especially as turning points are approached, survey measures and anecdotal evidence may have much to offer.

Given that expectations, "disappointment," deviations of expectations from actual results, and psychology as affects expectations can affect financial market participants and decisionmaker behavior, hence financial market prices, flows-of-funds for lending, borrowing

[11]See Mackay for a classic early work (1852); also Kindleberger-Aliber (2005).

and investments, and through financial transmission mechanisms to the real economy, how could data on expectations, if available, be used in measuring and dating the business cycle?

Ample survey data exists in a number of areas relating to financial markets, the economy, and potential spending and borrowing behavior. Some of these data could well be relevant and synchronous with the business cycle as well as providing content for assessing turning points, both upper and lower.

Surveys of consumers—consumer sentiment and consumer confidence—are provided by the University of Michigan/Reuters and the Conference Board. Much disaggregated content is contained in them. Long time-series data on overall measures of sentiment, and many subcategories, exist and may be correlated with various cyclically sensitive subsectors of the economy and stages in the business cycle.

For example, one month's survey on consumer sentiment (U. of M./Reuters) does *not* correlate well with current consumption. But, several months-or-more of directional movements in consumer confidence and persistence in levels does correlate with current consumption.

Surveys of Purchasing Managers are now regularly done in the U.S. and in non-U.S. countries, the Purchasing Managers' or PMI Surveys. These are analyzed by forecasters and others for insights as to how the economy is doing and what might happen in the future. The surveys have shortcomings and do not have a long history, but show promise, sometimes with very little lead time, i.e., synchronous, for measuring the business cycle.

Rather than use industrial production or manufacturing and retail sales and trade as key variables to assess expansion, contraction or turning points, the Purchasing Managers' Surveys of Manufacturing and Non-Manufacturing could provide better alternatives.

Anecdotal evidence, while nonrandom, provides another source for the measurement of the business cycle. Numerous high-frequency measures are available, or could be devised, to take advantage of individual consumers or individual firms in assessing the state of the business cycle

or whether a turning point is being approached, or reached, either for recession or for recovery. Surveys designed for this purpose could be devised by statistical agencies, or others, and might reflect almost in real-time the views of economy participants as to the stage of the business cycle.

Although unconventional and perhaps nonrandom, forecasters have used anecdotal evidence for years along with statistical data and a conditioned understanding of business cycle phenomena to make judgments on the current state of the business cycle, not just to forecast the future.

Concluding Perspectives—Revisiting and Rethinking the Business Cycle

In the years since Burns and Mitchell (1946) did pioneering work on measuring the business cycle, has the economy changed so as to affect how we should conceptualize, measure, and date the U.S. business cycle? What is clear and what is not in the changes in a changing economy that might cause a rethinking and revisiting of the business cycle?

In this paper, the focus has been not so much on has the business cycle changed, but whether changes in the economy have occurred that suggest a rethinking and revisiting of the conceptualization, measurement, timing, and dating of the business cycle.

Given the role and prominence for matters financial in the business cycle, highlighted by the recent Expansion and Contraction, the economic time-series used to measure and date the business cycle should be reassessed. Most of the data measure real economy phenomena, not financial phenomena.

The financial services sector now comprises a larger part of the economy than in past decades and affects the economy in a cause-and-effect manner much more than previously. This has been underscored by the latest business cycle upturn and downturn, which was highly financial in the extent of the upswing and the long and deep downturn. Financial institutions and financial services are a significant part of the economy with market capitalization in the S&P500

near 20%; in recent years, showing the highest capitalization weight of all sectors in the S&P500. Considerable data exist for financial services and on financial markets to examine in relation to the business cycle.

With ample evidence for the regular and periodic nature of financial crises, credit crunches, financial disarray, and a systematic financial factor in business cycles, the range of indicators used should include more financial market and high-frequency financial indicator time-series, especially in determining timing and turning points.[12]

Many of the indicators used to describe, depict, measure, and date the business cycle may have been relevant many years ago—but may not be now. Industrial production, e.g., a coincident indicator and one used in dating the business cycle and cyclical turning points, measures now what is only a small part of the economy, the "goods-producing" sectors.

Yet another indicator, nonfarm payroll employment, previously a key coincident indicator, may no longer be so given the pattern of persistent joblessness after the 1990-91 and 2001 recessions and possibly post-the 2007-09 downturn, which perhaps represents a structural change for labor in the economy. Before the 1990-91 recession, nonfarm payroll employment was a coincident indicator on standard statistical grounds, but now appears to be more of a lagging indicator.

Has the U.S. labor market fundamentally changed and, if so, is its use in measurement now diminished? Changes in the substitutability of equipment for labor, high cost of labor including benefits, global labor mobility, and the business mantra of maximizing shareholder value suggest less jobs creation in the upturn and more jobs destruction in the downturn. How should the labor market be measured and used in the dating and timing of the business cycle?

Another change relates to the increased globalization and interrelated nature of economies and financial markets where the economies of countries such as China are growing in relative importance (Table 9), decoupling from the U.S. in numerous ways (Tables 10, 11), and

[12]Stock-Watson (1989) look at financial indicators in the context of leading indicator analysis.

becoming a major source of global and U.S. economic growth. The global economic recovery in process now and in the U.S. may be due more to a revival in China and Asia than in the U.S. and North America. U.S. exports and imports comprise a larger share of real GDP than used to be the case. Data on these aggregates and their components, available on a relatively high frequency, could be used to examine the impact of trade and be a source of measurement.

Finally, the role of psychology and expectations must be noted. Here, there is ample anecdotal and survey data, both on the financial and real economies. Reflecting much of what goes on in the microeconomic and financial activities of individual firms, these data are a possible source of measurement for the business cycle. This general area is a little explored source of data, but informally is being used by forecasters and forecasting organizations to assess the stage of the business cycle and its timing. In addition, disappointments in expectations can affect the dynamics of the business cycle—perhaps its amplitude and duration.[13] Considerable information content, for example, resides in the company earnings reports of the S&P 500 every quarter as companies report earnings and comments on business conditions as affects their company and earnings against market expectations.

Conceptualization of the business cycle should take account of the changes in a changing economy, recognize its financial and real economy dimensions by using existing data, or developing new data, perhaps integrating the processes and dynamics of sector subcycles with the data used in measurement, and use knowledge and the measurement of lags in various subcycles, such as those for consumer durables spending, inventories and credit, in depicting and measuring the business cycle.

Rather than measuring turning points with static data that may depict an economy of the past, a combination of high-frequency financial time-series with high-frequency real economy data

[13]Eckstein (____) made this point, a significant one. Knowledge and use of survey data can help in analyzing the processes underlying business subcycles in the economy as well as in measuring the business cycle.

weighted by a tracking of underlying cyclical processes might do better in measuring shifts in the direction of the economy.

Solutions for conceptualization, measurement and dating of the business cycle, however, are not really offered here, mainly the motivation and some justification for rethinking and revisiting the business cycle and its measurements in a changed economy.

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Appendix

Tables and Figures

Table 1
Chronology and Dates for the U.S. Business Cycle, 1857-to-the-Present

Business Cycle Reference Dates (*Quarterly Dates in Parentheses*)		Duration in Months			
		Contraction	**Expansion**	**Cycle**	
Peak	**Trough**	Peak to Trough	Previous Trough to this Peak	Trough from Previous Trough	Peak from Previous Peak
--	December 1854 (IV)	--	--	--	--
June 1857(II)	December 1858 (IV)	18	30	48	--
October 1860(III)	June 1861 (III)	8	22	30	40
April 1865(I)	December 1867 (I)	32	46	78	54
June 1869(II)	December 1870 (IV)	18	18	36	50
October 1873(III)	March 1879 (I)	65	34	99	52
March 1882(I)	May 1885 (II)	38	36	74	101
March 1887(II)	April 1888 (I)	13	22	35	60
July 1890(III)	May 1891 (II)	10	27	37	40
January 1893(I)	June 1894 (II)	17	20	37	30
December 1895(IV)	June 1897 (II)	18	18	36	35
June 1899(III)	December 1900 (IV)	18	24	42	42
September 1902(IV)	August 1904 (III)	23	21	44	39
May 1907(II)	June 1908 (II)	13	33	46	56
January 1910(I)	January 1912 (IV)	24	19	43	32
January 1913(I)	December 1914 (IV)	23	12	35	36
August 1918(III)	March 1919 (I)	7	44	51	67
January 1920(I)	July 1921 (III)	18	10	28	17
May 1923(II)	July 1924 (III)	14	22	36	40
October 1926(III)	November 1927 (IV)	13	27	40	41
August 1929(III)	March 1933 (I)	43	21	64	34
May 1937(II)	June 1938 (II)	13	50	63	93
February 1945(I)	October 1945 (IV)	8	80	88	93
November 1948(IV)	October 1949 (IV)	11	37	48	45
July 1953(II)	May 1954 (II)	10	45	55	56
August 1957(III)	April 1958 (II)	8	39	47	49
April 1960(II)	February 1961 (I)	10	24	34	32
December 1969(IV)	November 1970 (IV)	11	106	117	116
November 1973(IV)	March 1975 (I)	16	36	52	47
January 1980(I)	July 1980 (III)	6	58	64	74
July 1981(III)	November 1982 (IV)	16	12	28	18
July 1990(III)	March 1991(I)	8	92	100	108
March 2001(I)	November 2001 (IV)	8	120	128	128
December 2007 (IV)	October 2009 (III)*	23	73	95	81
	Postwar (W.W.II) Cycles				
	Average	11	60	71	71
	Median	10	52	60	65
	Prewar (W.W.II) Cycles				
	Average	21	26	48	48
	Median	18	22	42	41
	All Cycles				
	Average	18	39	56	56
	Median	14	30	47	48

*DE estimate.
Source: National Bureau of Economic Research; Decision Economics, Inc.

Table 2
U.S. Postwar Recessions, Length and Depth

	Peak	Trough	Length (Mos.)	Pct. Chg. in Real GDP: Peak-to-Trough
1	Nov. 1948	Oct. 1949	11	-1.58
2	Jul. 1953	May. 1954	10	-1.93
3	Aug. 1957	Apr. 1958	8	-3.14
4	Apr. 1960	Feb. 1961	10	-0.53
5	Dec. 1969	Nov. 1970	11	-0.16
6	Nov. 1973	Mar. 1975	16	-3.19
7	Jan. 1980	Jul. 1980	6	-2.23
8	Jul. 1981	Nov. 1982	16	-2.64
9	Jul. 1990	Mar. 1991	8	-1.36
10	Mar. 2001	Nov. 2001	8	0.73
11	Dec. 2007	Oct. 2009E	23	-2.20 (-3.66*)
	Average Length (10)		10.4	-1.60
	Median Length (10)		10.0	-1.76
	Average Length (11)		11.5 (11.2*)	-1.66 (-1.79*)
	Median Length (11)		10.0	-1.93

*If 2009Q2 is treated as end of recession for real GDP.

Sources: National Bureau of Economic Research, Bureau of Economic Analysis, Decision Economics, Inc. (DE).

Table 3
Asset Prices, Consumer Sentiment, and the Household Balance Sheet in Postwar Recessions
Peak-to-Trough (Pct. Chg.)

				Household Sector					
Business Downturn	S&P500 Price	Crude Oil Price	Median Home Price	Real Net Worth	Stock Mkt. Net Worth	Real Estate Net Worth	U. of M. Consumer Sentiment	3-Mos. Treasury Bill Rate	10-Yr. Treasury Yield
1948-1949	-15.41	--	--	--	--	--	--	NM	--
1953-1954	NM	--	--	NM	-18.85	-2.26	--	-70.78	-26.05
1957-1958	-16.53	--	--	-1.73	-12.59	-3.28	--	-76.82	-27.46
1960-1961	-10.85	--	--	-1.15	-11.93	-2.14	--	-50.11	-21.40
1969-1970	-32.90	NM	NM	-8.12	-41.13	-0.29	-22.6	-57.05	-27.94
1973-1975	-46.18	-18.10	NM	-13.04	-59.69	-13.55	-44.2	-51.45	NM
1980	-10.57	NM	NM	-0.83	-11.23	-2.99	-22.8	-53.46	-23.29
1981-1982	-21.26	-23.94	NM	-0.33	-32.60	-2.46	-19.7	-52.71	NM
1990-1991	-15.84	-49.85	-6.54	-3.95	-20.92	-9.90	-33.3	-67.51	-40.04
2001	-46.28	-44.31	NM	-13.21	-54.36	NM	-24.0	-85.14	-31.38
2007-2009	-52.56	-70.59	-27.44	-29.28	-50.30	-63.35	-42.9	-99.31	-52.55
Excluding 2007-2009:									
Average	-23.98	-34.05	-6.54	-5.29	-29.26	-4.61	-27.8	-62.78	-28.22
Median	-16.53	-34.13	-6.54	-2.84	-20.92	-2.73	-23.4	-57.05	-27.46
Including 2007-2009:									
Average	-26.84	-41.36	-16.99	-7.96	-31.36	-11.14	-29.9	-66.43	-31.26
Median	-18.89	-44.31	-16.99	-3.95	-26.76	-2.99	-24.0	-62.28	-27.70

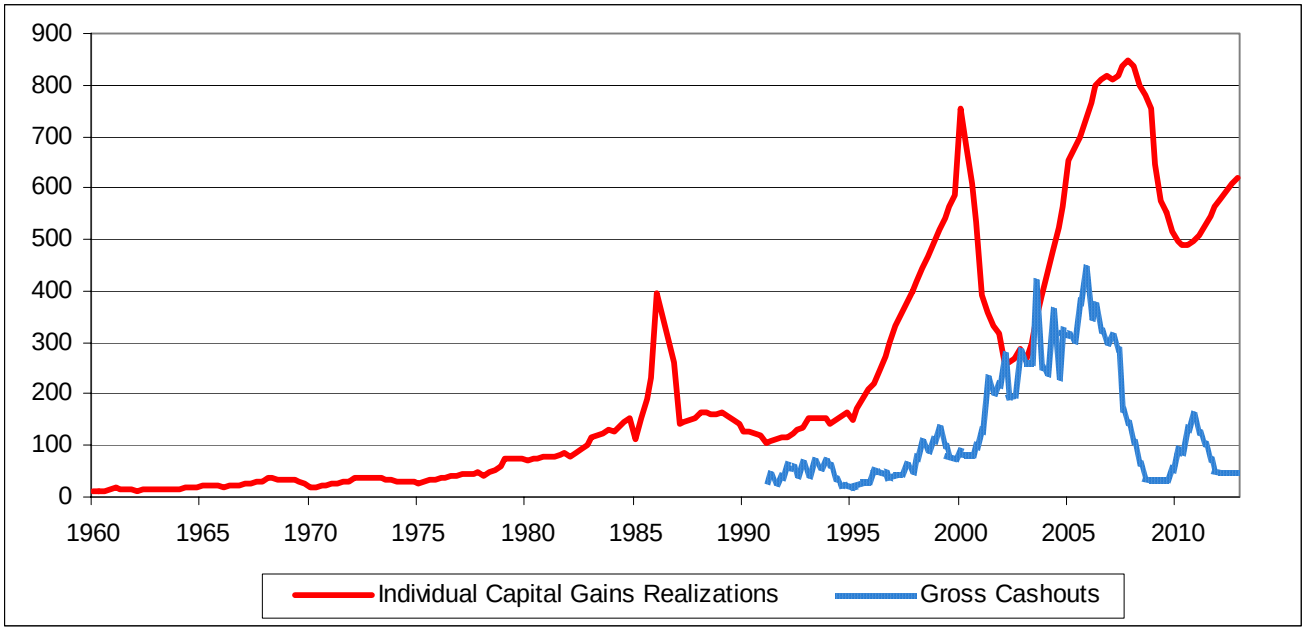
NM=Not Meaningful (no significant peak/trough).

"--" No data available for time period.

Home Prices=Quantity weighted average of new and existing median home sale prices.

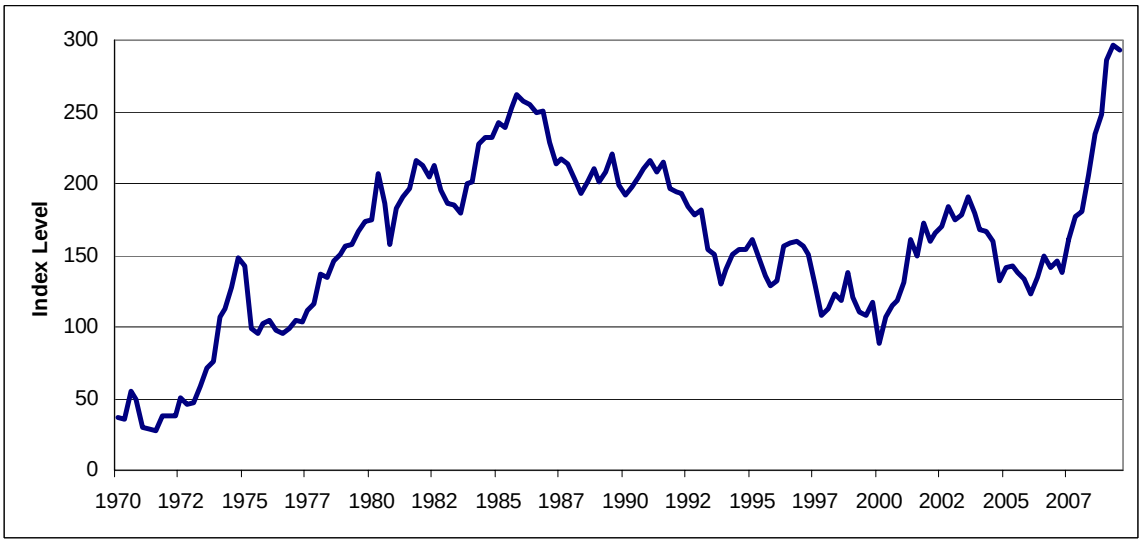
Sources: Standard and Poor's, OECD, University of Michigan, National Association of Realtors, Federal Reserve, Decision Economics, Inc. (DE).

Figure 1
Sources of Funds for Household Spending*
(Bils. $s)



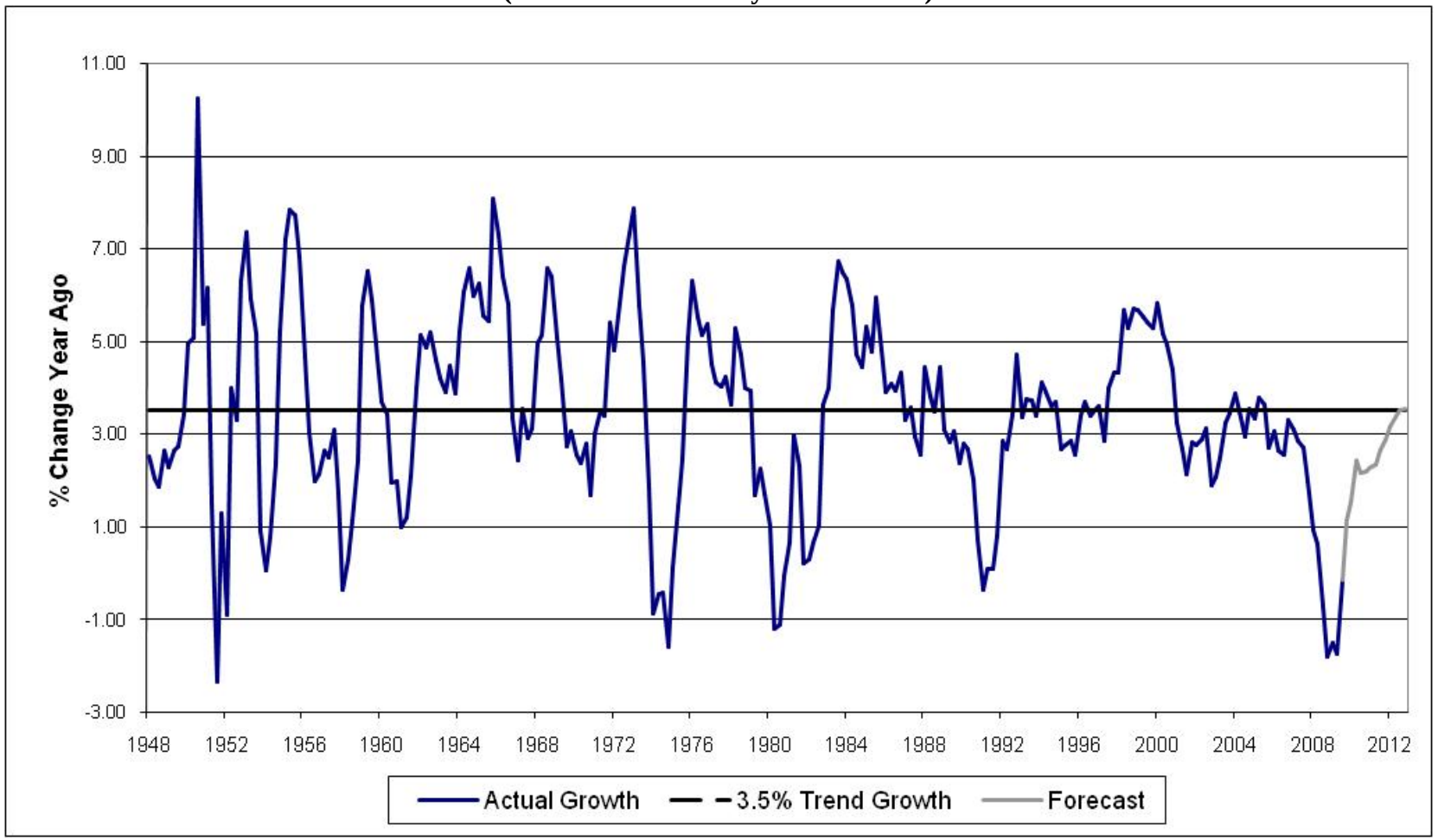
Sources: Department of the Treasury; A. Greenspan & J. Kennedy "Estimates of Home Mortgage Originations, Repayments, and Debt on One-to-Four-Family Residences" 2009; Decision Economics, Inc.
*Individual Capital Gains Realizations and Gross Cashouts.

Figure 2
DE Household Financial Conditions Index*
(1970-2009:3)



Source: Decision Economics, Inc.
Constructed using a weighted average of eight household sector variables that characterize consumer financial conditions.
Note: Higher levels indicate worse financial conditions.

Figure 3
Actual vs. Historic Trend Growth in Real Consumption
(1947 to 2012: History and Forecast)



Sources: Bureau of Economic Analysis; Decision Economics, Inc.

Table 4
Changes in a Changing Economy: Goods or Services?
Shares of Nonfarm Payrolls at Business Cycle Peaks and Troughs: 1948-2009

	Goods-Producing		Services-Producing		Manufacturing	
Business Downturn	**Peak**	**Trough**	**Peak**	**Trough**	**Peak**	**Trough**
1948-1949	38.9	36.6	61.1	63.4	31.6	30.0
1953-1954	39.4	37.7	60.6	62.3	32.4	30.6
1957-1958	37.1	35.5	62.9	64.5	29.9	28.4
1960-1961	35.5	34.4	64.5	65.6	28.6	27.6
1969-1970	32.1	30.3	67.9	69.7	25.9	24.2
1973-1975	30.4	27.8	69.6	72.2	24.1	22.0
1980	27.5	26.4	72.5	73.6	21.2	20.3
1981-1982	26.5	24.5	73.5	75.5	20.5	18.8
1990-1991	21.6	21.0	78.4	79.0	16.1	15.8
2001	18.4	17.7	81.6	82.3	12.8	12.1
2007-2009*	16.0	14.0	84.0	86.0	10.0	8.9
Excluding 2007-2009:						
Average	30.8	29.2	69.2	70.8	24.3	23.0
Median	31.3	29.0	68.7	71.0	25.0	23.1
Including 2007-2009:						
Average	29.4	27.8	70.6	72.2	23.0	21.7
Median	30.4	27.8	69.6	72.2	24.1	22.0

Sources: Bureau of Labor Statistics and Decision Economics, Inc.
*October 2009 trough assumed.

Table 5
Changes in a Changing Economy:
Shares of Services Jobs in Nonfarm Payrolls at Business Cycle Peaks and Troughs:
1948-2009

	Service-Providing		Trade/ Transport		Retail Trade		Education/ Health Care		Financial Svcs.		Leisure/ Hospitality		Professional/ Business Svcs		Government			
															Federal		State/Local	
Business Downturn	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**
1948-1949	61.1	63.4	21.6	22.0	10.1	10.5	4.6	4.9	3.9	4.1	6.1	6.3	6.4	6.6	4.5	4.6	8.5	9.3
1953-1954	60.6	62.3	20.8	21.1	9.9	10.2	4.6	4.8	4.0	4.3	6.0	6.2	6.4	6.5	4.8	4.7	8.5	9.3
1957-1958	62.9	64.5	20.6	20.8	10.1	10.2	5.1	5.2	4.4	4.7	6.2	6.3	6.6	6.7	4.4	4.5	10.2	10.9
1960-1961	64.5	65.6	20.6	20.5	10.3	10.3	5.3	5.6	4.6	4.8	6.4	6.4	6.7	6.9	4.6	4.4	11.0	11.6
1969-1970	67.9	69.7	19.8	20.1	10.4	10.6	6.3	6.6	4.9	5.1	6.7	6.8	7.4	7.5	4.0	4.0	13.5	14.2
1973-1975	69.6	72.2	19.9	20.3	10.9	11.1	6.7	7.1	5.1	5.2	7.0	7.2	7.5	7.8	3.6	3.8	14.4	15.5
1980	72.5	73.6	20.4	20.4	11.3	11.3	7.6	7.9	5.5	5.6	7.4	7.5	8.2	8.4	3.2	3.4	14.7	14.9
1981-1982	73.5	75.5	20.4	20.7	11.4	11.7	8.0	8.5	5.6	5.9	7.5	7.8	8.5	8.8	3.2	3.3	14.5	14.7
1990-1991	78.4	79.0	20.7	20.6	12.0	11.9	10.0	10.5	6.0	6.1	8.5	8.5	9.9	9.9	3.0	2.9	13.9	14.2
2001	81.6	82.3	19.8	19.6	11.6	11.6	11.7	12.1	5.9	6.0	9.1	9.2	12.6	12.3	2.1	2.1	13.7	14.2
2007-2009*	84.0	86.0	19.3	19.1	11.3	11.2	13.4	14.8	6.0	5.9	9.8	10.0	13.1	12.7	2.0	2.2	14.2	15.0
Excluding 2007-2009:																		
Average	69.2	70.8	20.5	20.6	10.8	10.9	7.0	7.3	5.0	5.2	7.1	7.2	8.0	8.1	3.7	3.7	12.3	12.9
Median	68.7	71.0	20.5	20.6	10.7	10.9	6.5	6.8	5.0	5.2	6.8	7.0	7.4	7.6	3.8	3.9	13.6	14.2
Including 2007-2009:																		
Average	70.6	72.2	20.4	20.5	10.8	11.0	7.6	8.0	5.1	5.2	7.3	7.5	8.5	8.6	3.6	3.6	12.5	13.1
Median	69.6	72.2	20.4	20.5	10.9	11.1	6.7	7.1	5.1	5.2	7.0	7.2	7.5	7.8	3.6	3.8	13.7	14.2

Source: Bureau of Labor Statistics and Decision Economics, Inc.
*October 2009 trough assumed.

Table 6
Changes in a Changing Economy: Goods or Services?
Consumption Spending on Goods and Services as a Share of Real GDP
at Peaks and Troughs of Business Cycles: 1948-2009

	Consumption Goods					
	Durables		Nondurables		Services	
Business Downturn	**Peak**	**Trough**	**Peak**	**Trough**	**Peak**	**Trough**
1948-1949	3.0	3.5	23.4	24.0	37.8	38.8
1953-1954	3.1	3.1	20.9	21.4	36.3	38.2
1957-1958	3.3	3.0	21.4	22.0	38.8	41.0
1960-1961	3.2	3.0	21.2	21.4	40.2	41.2
1969-1970	3.9	3.6	19.3	19.8	41.3	42.8
1973-1975	4.3	4.1	18.3	18.3	42.0	44.8
1980	4.4	4.2	17.4	17.5	43.8	45.0
1981-1982	4.2	4.3	17.1	17.9	43.8	46.7
1990-1991	5.2	5.0	16.1	16.2	45.9	46.5
2001	7.5	8.1	15.3	15.5	45.9	46.1
2007-2009*	9.1	8.7	15.6	15.7	45.3	46.9
Excluding 2007-2009:						
Average	4.2	4.2	19.1	19.4	41.6	43.1
Median	4.0	3.8	18.8	19.1	41.7	43.8
Including 2007-2009:						
Average	4.6	4.6	18.7	19.1	41.9	43.5
Median	4.2	4.1	18.3	18.3	42.0	44.8

Source: Bureau of Economic Analysis and Decision Economics, Inc.
*QIII trough assumed.

Table 7
Changes in a Changing Economy: Goods or Services?
Consumption Services Spending as a Share of Total Consumption at Peaks and Troughs of Business Cycles: 1948-2009

	Total Services		Housing/ Utilities		Health Care		Transport		Recreation		Food Services		Financial Services		Other Services		Non-Profit	
Business Downturn	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**	**P**	**T**
1948-1949	39.0	39.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1953-1954	41.9	43.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1957-1958	44.3	45.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1960-1961	46.4	47.6	16.9	17.5	4.8	5.0	2.7	2.8	1.9	2.0	6.2	6.2	4.1	4.3	8.1	8.2	1.6	1.5
1969-1970	50.1	51.4	16.8	17.1	7.0	7.6	3.0	3.1	2.1	2.2	6.2	6.4	4.8	4.9	8.4	8.4	1.7	1.7
1973-1975	51.4	52.6	16.9	17.2	8.0	8.6	3.0	3.1	2.2	2.3	6.6	6.6	4.9	5.3	8.1	7.8	1.7	1.7
1980	53.6	54.7	17.3	17.9	9.5	9.9	3.2	3.2	2.3	2.3	6.9	6.9	5.4	5.4	7.2	7.2	1.8	1.8
1981-1982	55.1	57.2	18.2	18.5	10.5	11.0	3.1	3.0	2.5	2.5	6.9	6.8	5.1	6.1	7.0	7.3	1.9	1.9
1990-1991	61.4	62.0	18.2	18.4	13.3	13.7	3.3	3.1	3.2	3.2	6.9	6.8	6.6	7.0	7.8	7.6	2.1	2.1
2001	64.5	64.4	18.0	17.9	13.7	14.2	3.8	3.5	3.7	3.6	6.0	5.8	8.0	7.8	8.7	8.9	2.5	2.6
2007-2009*	65.6	67.5	17.8	18.5	15.0	16.1	3.1	3.0	3.8	3.8	6.0	6.0	8.4	8.2	8.9	9.3	2.6	2.6
Excluding 2007-2009:																		
Average	50.8	51.8	17.5	17.8	9.5	10.0	3.2	3.1	2.6	2.6	6.5	6.5	5.6	5.8	7.9	7.9	1.9	1.9
Median	50.7	52.0	17.3	17.9	9.5	9.9	3.1	3.1	2.3	2.3	6.6	6.6	5.1	5.4	8.1	7.8	1.8	1.8
Including 2007-2009:																		
Average	52.1	53.2	17.5	17.9	10.2	10.7	3.2	3.1	2.7	2.7	6.5	6.4	5.9	6.1	8.0	8.1	2.0	2.0
Median	51.4	52.6	17.6	17.9	10.0	10.4	3.1	3.1	2.4	2.4	6.4	6.5	5.2	5.8	8.1	8.0	1.8	1.9

Source: Bureau of Economic Analysis and Decision Economics, Inc.
*QIII trough assumed.
"--" No data available for time period.

Table 8
"Jobless" Recoveries: A Structural Change?*

Business Cycle Recession (Years)**	No. of Mos. Before Payroll Jobs Turned Positive	No. of Mos. Before Payroll Jobs Reached 100,000-or-More
1948-49	1	1
1953-54	3	6
1957-58	2	3
1960-61	1	1
1969-70	1	1
1973-75	2	2
1980	2	2
1981-82	2	2
1990-91	3	13
2001	7	27***
2007-09	?	?
Mean	2.4	5.3
Median	2.0	2.0

*Source: National Bureau of Economic Research (NBER).
**NBER-dated.
***Declines and scattered positives after 10 months, falling back to less than 100,000 25 months into the Recovery.

Table 9
Changing Global Economic Geography: Selected Years, 1995-2008*
(Ranking by Nominal GDP; Bils. U.S. $s)

2008			2004			2000			1995		
Country	GDP	Rank	Country	GDP	Rank	Country	GDP	Rank	Country	GDP	Rank
U.S.	14441.4	1	U.S.	11867.8	1	U.S.	9951.5	1	U.S.	7414.7	1
Japan	4909.8	2	Japan	4608.1	2	Japan	4666.1	2	Japan	5245.8	2
China	4326.3	3	Germany	2736.9	3	Germany	1900.9	3	Germany	2522.8	3
Germany	3647.5	4	U.K.	2203.2	4	U.K.	1477.5	4	France	1570.7	4
France	2850.8	5	France	2058.8	5	France	1329.8	5	U.K.	1135.8	5
U.K.	2653.3	6	China	1931.6	6	China	1198.5	6	Italy	1127.5	6
Italy	2301.0	7	Italy	1728.3	7	Italy	1097.6	7	China	727.9	7
Russia	1675.1	8	Spain	1044.6	8	Canada	724.8	8	Brazil	704.2	8
Spain	1593.0	9	Canada	991.7	9	Brazil	644.6	9	Spain	597.1	9
Brazil	1573.7	10	Mexico	759.3	10	Mexico	628.9	10	Canada	590.5	10
Canada	1499.4	11	Korea	721.8	11	Spain	580.8	11	Korea	517.0	11
India	1225.0	12	India	695.9	12	Korea	533.4	12	Switzerland	439.8	12
Mexico	1085.7	13	Brazil	663.5	13	India	467.9	13	Netherlands	418.7	13
Australia	989.8	14	Australia	639.7	14	Australia	388.0	14	Australia	371.2	14
Korea	930.7	15	Netherlands	610.1	15	Netherlands	385.2	15	India	366.4	15

*Source: calculations by Decision Economics, Inc.

Table 10
Export Destinations for Major Countries in the Global Economy*
(Top Ten in Order, Pct. of Total Exports, Selected Periods)

U.S. (Pct. of Exports)	Recent	2005	2000	1995
Canada	17.4	23.4	22.6	21.6
Mexico	12.0	13.3	14.1	7.9
China	6.3	4.6	2.1	2.0
Japan	5.3	6.1	8.4	11.0
U.K.	4.5	4.3	5.4	4.9
Germany	3.7	3.8	3.8	3.8
Netherlands	3.3	2.9	2.8	2.8
Korea	2.9	3.1	3.5	4.4
France	2.7	2.5	2.6	2.4
Brazil	2.5	1.7	2.0	2.0

Japan (Pct. of Exports)	Recent	2005	2000	1995
China	17.8	13.4	6.3	4.9
U.S.	17.2	22.9	30.1	27.5
Korea	8.0	7.8	6.4	7.1
Hong Kong	5.6	6.1	5.7	6.3
Thailand	3.2	3.8	2.9	4.4
Singapore	3.0	3.1	4.4	5.2
Germany	2.8	3.2	4.2	4.6
Russia	2.3	0.7	0.1	0.3
Malaysia	2.2	2.1	2.9	3.8
Australia	2.1	2.1	1.8	1.8

China (Pct. of Exports)	Recent	2005	2000	1995
U.S.	17.9	21.4	20.9	16.6
Hong Kong	13.5	16.3	17.9	24.2
Japan	7.8	11.0	16.7	19.1
Korea	4.9	4.6	4.5	4.5
Germany	4.1	4.3	3.7	3.8
Netherlands	3.0	3.4	2.7	2.2
U.K.	2.6	2.5	2.5	1.9
India	2.6	1.2	0.6	0.5
Singapore	2.3	2.2	2.3	2.3
Italy	1.9	1.5	1.5	1.4

Germany (Pct. of Exports)	Recent	2005	2000	1995
France	10.5	10.2	11.4	11.6
U.S.	7.0	8.8	10.3	7.5
Netherlands	6.8	6.1	6.5	7.4
U.K.	6.5	7.9	8.3	8.0
Italy	6.4	6.9	7.6	7.5
Austria	5.8	5.4	5.3	5.4
Belgium	5.1	5.6	5.1	N/A
China	4.6	2.7	1.6	1.5
Switzerland	4.3	3.8	4.4	5.5
Poland	3.9	2.8	2.4	1.7

U.K. (Pct. of Exports)	Recent	2005	2000	1995
U.S.	14.5	15.1	15.8	12.2
Germany	11.0	10.5	11.9	12.1
France	7.7	8.9	9.7	9.2
Netherlands	7.2	5.5	7.9	7.4
Ireland	6.8	7.3	6.8	4.6
Belgium	5.0	5.0	5.3	N/A
Spain	4.0	4.4	4.3	3.8
Italy	3.7	4.0	4.5	4.8
China	2.3	1.4	0.8	0.5
Canada	1.9	1.6	1.9	1.2

Russia (Pct. of Exports)	Recent	2005	2000	1995
Ukraine	9.4	5.2	4.9	8.9
Germany	9.4	8.3	9.0	7.8
China	7.1	5.5	5.1	4.4
Netherlands	6.2	10.3	4.2	4.1
Turkey	5.8	4.5	3.0	2.1
Italy	5.3	7.9	7.0	4.2
U.S.	4.4	3.1	7.7	6.6
France	3.7	2.6	1.9	2.0
Poland	3.5	3.6	4.3	2.1
Japan	2.9	1.6	2.7	4.1

Canada (Pct. of Exports)	Recent	2005	2000	1995
U.S.	74.4	83.8	87.4	80.4
China	3.4	1.7	0.9	1.2
U.K.	2.9	1.9	1.4	1.4
Japan	2.4	2.1	2.2	4.5
Mexico	1.4	0.8	0.5	0.4
Korea	1.0	0.6	0.5	1.0
Germany	1.0	0.7	0.7	1.2
Netherlands	0.8	0.5	0.3	0.6
France	0.7	0.6	0.5	0.7
Norway	0.6	0.4	0.2	0.3

South Korea (Pct. of Exports)	Recent	2005	2000	1995
China	23.2	21.8	10.7	7.0
U.S.	9.5	14.6	21.9	18.5
Japan	5.3	8.5	11.9	13.0
Hong Kong	4.0	5.5	6.2	8.1
Singapore	3.0	2.6	3.3	5.1
Russia	2.7	1.4	0.5	1.1
Mexico	2.3	1.3	1.4	0.7
Indonesia	2.3	1.8	2.0	2.3
India	2.3	1.6	0.8	0.9
Brazil	2.2	0.8	1.0	1.2

*Sources: IMF, DOT Statistics: recent is 2009 Q2; ranking is current.

Table 11
Export Exposure to the U.S. and Other Major Trading Partners*
Selected Countries—Latest and Selected Years
(Top Five Countries, Pct. of Total Exports and GDP)

China (Pct. of Exports)	Latest	2005	2000	1995
U.S.	17.9	21.4	20.9	16.6
H.K.	13.5	16.3	17.9	24.2
Japan	7.8	11.0	16.7	19.1
Korea	4.9	4.6	4.5	4.5
Germany	4.1	4.3	3.7	3.8
(Pct. of GDP)				
U.S.	1.2	7.3	4.4	3.3
H.K.	0.9	5.6	3.7	4.8
Japan	0.5	3.8	3.5	3.8
Korea	0.3	1.6	0.9	0.9
Germany	0.3	1.5	0.8	0.7

Japan (Pct. of Exports)	Latest	2005	2000	1995
China	17.8	13.4	6.3	4.9
U.S.	17.2	22.9	30.1	27.5
Korea	8.0	7.8	6.4	7.1
H.K.	5.6	6.1	5.7	6.3
Thailand	3.2	3.8	2.9	4.4
(Pct. of GDP)				
China	2.0	1.8	0.7	0.4
U.S.	2.0	3.0	3.1	2.3
Korea	0.9	1.0	0.7	0.6
H.K.	0.6	0.8	0.6	0.5
Thailand	0.4	0.5	0.3	0.4

Korea (Pct. of Exports)	Latest	2005	2000	1995
China	23.2	21.8	10.7	7.0
U.S.	9.5	14.6	21.9	18.5
Japan	5.3	8.5	11.9	13.0
H.K.	4.0	5.5	6.2	8.1
Singapore	3.0	2.6	3.3	5.1
(Pct. of GDP)				
China	2.6	7.3	3.5	N/A
U.S.	1.1	4.9	7.1	N/A
Japan	0.6	2.8	3.8	N/A
H.K.	0.5	1.8	2.0	N/A
Singapore	0.3	0.9	1.1	N/A

Singapore (Pct. of Exports)	Latest	2005	2000	1995
H.K.	11.5	9.4	7.9	8.6
Malaysia	11.4	13.3	18.1	19.2
China	9.8	8.6	3.9	2.3
Indonesia	9.7	9.6	0.0	NA
U.S.	6.6	10.4	17.3	18.3
(Pct. of GDP)				
H.K.	4.4	17.8	11.7	12.0
Malaysia	4.4	25.1	27.0	26.9
China	3.8	16.3	5.8	3.3
Indonesia	3.7	18.3	0.0	N/A
U.S.	2.5	19.7	25.8	25.6

India (Pct. of Exports)	Latest	2005	2000	1995
U.S.	11.6	16.7	21.3	17.4
U.A.E.	10.8	8.5	5.8	4.3
China	8.7	6.6	1.8	0.9
U.K.	3.4	4.9	5.2	6.2
Germany	3.4	3.4	4.4	6.0
(Pct. of GDP)				
U.S.	2.6	2.0	1.9	1.4
U.A.E.	2.4	1.0	0.5	0.4
China	1.9	0.8	0.2	0.1
U.K.	0.8	0.6	0.5	0.5
Germany	0.8	0.4	0.4	0.5

Germany (Pct. of Exports)	Latest	2005	2000	1995
France	10.5	10.2	11.4	11.6
U.S.	7.0	8.8	10.3	7.5
Netherlands	6.8	6.1	6.5	7.4
U.K.	6.5	7.9	8.3	8.0
Italy	6.4	6.9	7.6	7.5
(Pct. of GDP)				
France	0.8	3.6	3.3	2.3
U.S.	0.6	3.1	3.0	1.5
Netherlands	0.5	2.1	1.9	1.5
U.K.	0.5	2.8	2.4	1.6
Italy	0.5	2.4	2.2	1.5

U.K. (Pct. of Exports)	Latest	2005	2000	1995
U.S.	14.5	15.1	15.8	12.2
Germany	11.0	10.5	11.9	12.1
France	7.7	8.9	9.7	9.2
Netherlands	7.2	5.5	7.9	7.4
Ireland	6.8	7.3	6.8	4.6
(Pct. of GDP)				
U.S.	0.6	2.5	3.0	2.5
Germany	0.4	1.7	2.3	2.5
France	0.3	1.4	1.9	1.9
Netherlands	0.3	0.9	1.5	1.5
Ireland	0.3	1.2	1.3	1.0

Canada (Pct. of Exports)	Latest	2005	2000	1995
U.S.	74.4	83.8	87.4	80.4
China	3.4	1.7	0.9	1.2
U.K.	2.9	1.9	1.4	1.4
Japan	2.4	2.1	2.2	4.5
Mexico	1.4	0.8	0.5	0.4
(Pct. of GDP)				
U.S.	4.2	26.7	33.2	25.9
China	0.2	0.5	0.3	0.4
U.K.	0.2	0.6	0.5	0.5
Japan	0.1	0.7	0.8	1.4
Mexico	0.1	0.2	0.2	0.1

Mexico (Pct. of Exports)	Latest	2005	2000	1995
U.S.	74.7	85.7	88.7	83.6
Canada	5.3	2.0	2.0	2.5
Brazil	1.7	0.4	0.3	1.0
Germany	1.4	1.1	0.9	0.6
Colombia	1.2	0.7	0.3	0.6
(Pct. of GDP)				
U.S.	5.4	5.4	25.4	23.2
Canada	0.4	0.1	0.6	0.7
Brazil	0.1	0.0	0.1	0.3
Germany	0.1	0.1	0.3	0.2
Colombia	0.1	0.0	0.1	0.2

Russia (Pct. of Exports)	Latest	2005	2000	1995
Ukraine	9.4	5.2	4.9	8.9
Germany	9.4	8.3	9.0	7.8
China	7.1	5.5	5.1	4.4
Netherlands	6.2	10.3	4.2	4.1
Turkey	5.8	4.5	3.0	2.1
(Pct. of GDP)				
Ukraine	0.6	1.6	1.9	2.2
Germany	0.6	2.6	3.6	1.9
China	0.4	1.7	2.0	1.1
Netherlands	0.4	3.2	1.7	1.0
Turkey	0.3	1.4	1.2	0.5

Argentina (Pct. of Exports)	Latest	2005	2000	1995
Brazil	27.1	15.7	26.5	26.2
China	6.6	7.9	3.0	1.4
U.S.	6.5	11.3	12.0	7.4
Chile	5.9	11.1	10.2	6.9
Netherlands	3.7	3.3	2.9	5.7
(Pct. of GDP)				
Brazil	1.4	3.5	2.5	2.1
China	0.3	1.8	0.3	0.1
U.S.	0.3	2.5	1.1	0.6
Chile	0.3	2.5	0.9	0.5
Netherlands	0.2	0.7	0.3	0.5

Brazil (Pct. of Exports)	Latest	2005	2000	1995
China	14.0	5.8	1.8	2.6
U.S.	13.0	19.2	22.4	18.9
Argentina	8.4	8.4	10.5	8.7
Netherlands	4.0	4.5	4.7	6.3
Germany	3.5	4.2	4.2	4.6
(Pct. of GDP)				
China	0.4	0.8	0.2	0.2
U.S.	0.4	2.6	2.1	1.1
Argentina	0.3	1.1	1.0	0.5
Netherlands	0.1	0.6	0.4	0.4
Germany	0.1	0.6	0.4	0.3

*Sources: IMF, DOT Statistics: recent is 2009 Q2; ranking is current.

Table 12
Global Country Current Account Balances*
(Bils. U.S. $s, Selected Years)

Country	Latest (2009F)	2008	2006	2003	2000	1995	1990
United States	-500.5	-706.1	-803.5	-521.5	-417.4	-113.6	-79.0
Canada	-27.0	9.2	17.9	10.5	19.7	-4.4	-19.8
United Kingdom	-50.0	-42.7	-81.1	-30.0	-38.8	-13.4	-39.1
France	-52.0	-64.0	-11.7	14.8	22.3	10.9	-9.3
Germany	132.0	244.5	189.8	47.8	-34.0	-29.4	46.9
Italy	-69.0	-77.9	-47.9	-19.5	-5.7	25.1	-16.5
Switzerland	45.0	12.0	59.5	43.4	30.1	20.6	8.4
Japan	160.1	157.5	171.6	136.3	118.2	114.3	46.6
Australia	-32.5	-47.8	-40.2	-28.3	-15.0	-19.3	-16.2
New Zealand	-4.0	-11.4	-9.1	-3.4	--	-3.1	-1.4
South Korea						-8.7	-2.0
Taiwan	28.8	25.1	26.3	30.5	8.9	5.5	10.9
Hong Kong	26.3	30.5	22.9	16.5	7.0	---	---
Singapore	22.0	27.1	35.4	22.1	10.7	14.4	3.2
Argentina	9.0	7.1	7.8	8.1	-9.0	-5.1	4.6
Brazil	-13.5	-28.2	13.6	4.2	-24.2	-18.4	-3.8
Mexico	-12.0	-15.8	-4.4	-7.2	-18.7	-1.6	-7.5
Venezuela	14.5	37.4	26.5	11.8	11.9	2.0	8.3
Chile	1.4	-3.4	7.2	-0.8	-0.9	-1.3	-0.5
Spain	-100.0	-154.1	-110.9	-30.9	-23.2	-1.6	-18.0
Portugal	-23.0	-29.6	-19.5	-9.6	-11.6	-0.1	-0.2
Netherlands	45.0	42.6	63.1	29.9	7.3	25.7	8.1
Belgium	-10.0	-12.1	8.0	12.9	9.4	15.4	---
Austria	10.6	13.4	9.2	4.3	-1.4	-5.4	1.2
Greece	-42.0	-50.9	-29.7	-12.0	-9.8	-2.9	-3.5
Ireland	-9.0	-14.2	-7.9	0.1	-0.4	1.7	-0.4
Denmark	5.0	7.5	8.2	7.3	2.6	1.9	1.4
Sweden	30.0	30.2	33.8	22.4	9.8	8.4	-6.7
Norway	60.0	88.2	58.1	27.7	25.1	5.3	4.0
Finland	-0.5	8.0	9.5	8.5	9.8	5.5	-7.0
Poland	-7.2	-26.8	-9.4	-5.5	-10.4	0.9	3.1
Hungary	-5.6	-11.1	-8.4	-6.7	-4.0	-1.6	0.4
Czech Republic	-2.9	-6.6	-3.6	-5.8	-2.7	-1.4	---
Turkey	-17.5	-41.8	-32.1	-7.5	-9.9	-2.3	-2.6
Russia	48.4	102.4	94.7	35.4	46.8	7.0	---
China	380.0	426.1	249.9	45.9	20.5	1.6	12.0
India	-14.2	-36.1	-9.3	8.8	-4.6	-5.6	-7.0
Indonesia	10.0	0.3	10.8	--	--	-6.4	-3.0
Malaysia	37.3	39.0	25.5	13.3	8.5	-8.6	-0.9
Philippines	7.0	4.2	5.3	0.3	-2.2	-2.0	-2.7
Thailand	21.8	1.7	2.3	4.8	9.3	-13.6	-7.3
Israel	5.7	2.1	7.3	0.6	-2.2	-4.8	0.2
Egypt	1.7	-1.4	2.6	3.7	-1.0	0.4	---
Jordan	-1.5	-2.4	-1.6	1.2	0.1	-0.2	-0.1
South Africa	-18.6	-21.0	-16.2	-1.9	-0.2	-2.5	1.6

*Sources: IMF, IFS, Central Banks.

Table 13
Exchange Rate Realignment of U.S. Dollar*
(1997-2009)

	Recent (Nov. 23)	$ Peak/Date	Pct. Chg. from Peak	Selected Years 2006	2003	2000	1997
Federal Reserve Major Currency Index	0.726	1.120 (2/02)	-35.2	0.826	0.930	1.016	0.939
Eurozone ($/Euro)	1.497	0.853 (6/01)	-43.0	1.255	1.129	0.922	1.133
Switzerland (Swiss Franc)	1.010	1.785 (6/01)	-43.4	1.254	1.345	1.689	1.451
Japan (Yen)	88.97	133.6 (2/02)	-33.4	116.3	115.9	107.8	121.0
U.K. ($/GPB)	1.66	1.40 (6/01)	-15.7	1.84	1.63	1.51	1.64
Australia ($/A$)	0.924	0.502 (4/01)	-45.7	0.853	0.649	0.579	0.742
Korea (Won)	1151.5	1326.7 (4/01)	-13.2	954.8	1191.4	1130.8	951.3
Singapore ($/S)	1.39	1.84 (1/02)	-24.5	1.59	1.74	1.73	1.49
Mexico (Peso)	12.97	11.51 (5/04)	12.7	10.91	10.80	9.46	7.92
Brazil (Real)	1.73	3.80 (10/02)	-54.5	2.18	3.08	1.83	1.08
China (Yuan)	6.828	8.276 (6/05)	-17.5	7.972	8.277	8.278	8.290

*Sources: market data; calculations by DE.