



C A M B R I D G E A S S O C I A T E S L L C

ASSET ALLOCATION IN THE CURRENT ENVIRONMENT

Hard Choices for Hard Times

February 2009

Aaron Costello
Sean Duffin

Copyright © 2009 by Cambridge Associates LLC. All rights reserved.

This report may not be displayed, reproduced, distributed, transmitted, or used to create derivative works in any form, in whole or in portion, by any means, without written permission from Cambridge Associates LLC ("CA"). Copying of this publication is a violation of federal copyright laws (17 U.S.C. 101 et seq.). Violators of this copyright may be subject to liability for substantial monetary damages. The information and material published in this report are confidential and non-transferable. This means that authorized members may not disclose any information or material derived from this report to third parties, or use information or material from this report, without prior written authorization. An authorized member may disclose information or material from this report to its staff, trustees, or Investment Committee with the understanding that these individuals will treat it confidentially. Additionally, information from this report may be disclosed if disclosure is required by law or court order, but members are required to provide notice to CA reasonably in advance of such disclosure. This report is provided for informational purposes only. It is not intended to constitute an offer of securities of any of the issuers that are described in the report. This report is provided only to persons that CA believes to be "Accredited Investors" as that term is defined in Regulation D under the Securities Act of 1933. When applicable, investors should completely review all Fund offering materials before considering an investment. No part of this report is intended as a recommendation of any firm or any security. Factual information contained herein about investment firms and their returns which has not been independently verified has generally been collected from the firms themselves through the mail. CA can neither assure nor accept responsibility for accuracy, but substantial legal liability may apply to misrepresentations of results delivered through the mail. The CA manager universe statistics, including medians, are derived from CA's proprietary database covering investment managers. These universe statistics and rankings exclude managers that exclude cash from their reported total returns, and for calculations including any years from 1998 to the present, those managers with less than \$50 million in product assets. Returns for inactive (discontinued) managers are included if performance is available for the entire period measured. Performance results are generally gross of investment management fees. CA does not necessarily endorse or recommend the managers in this universe.

Cambridge Associates, LLC is a Massachusetts limited liability company with offices in Arlington, VA; Boston, MA; Dallas, TX; and Menlo Park, CA. Cambridge Associates Limited is registered as a limited company in England and Wales No. 06135829 and is authorised and regulated by the Financial Services Authority in the conduct of Investment Business. Cambridge Associates Limited, LLC is a Massachusetts limited liability company with a branch office in Sydney, Australia (ARBN 109 366 654). Cambridge Associates Asia Pte Ltd is a Singapore corporation (Registration No. 200101063G).

This is the seventh in what has evolved into a series of occasional papers on the evolution of the secular bear market in equities and our thoughts on how investors can best cope with the prevailing uncertainties. These papers are grouped together in the research section of our website under the name “Asset Allocation in the Current Environment.” We also provide updates to our views on asset allocation on a quarterly basis in our report *Market Update: Expanded Quarterly Edition*.

As always, we welcome your feedback.

Papers in the Asset Allocation in the Current Environment Series

Hard Choices for Hard Times, February 2009

The Eye of the Storm, April 2008

It’s Getting Late—Risks Are Rising, March 2007

The Best Offense Is a Good Defense, June 2004

Where We Are Now and What To Do About It, June 2003

Asset Allocation in a Bear Market, August 2002

How Will You Earn What You Spend?, May 2002

C O N T E N T S

The State of the Global Economy	1
Are We on the Verge of Another Great Depression?	4
Will the U.S. Economy Turn Japanese?	5
Where Does This Leave Investors?	7
Summary of Our Outlook for the Current Environment.....	9
What Should Investors Do?	10
Appendix: The Great Depression.....	13

Tables

A OECD Composite Index of Leading Economic Indicators.....	15
B Consensus Real GDP Forecasts	16
C Savings as a Share of Disposable Income.....	17
D U.S. Mortgage Market	18
E U.S. Monetary Supply and Excess Reserves of Banks	19
F Historical U.S. Inflation.....	20
G Nominal Prices of S&P GSCI™ Indices	21
H The Great Depression in Pictures	22
I U.S. Budget Deficit and Total U.S. Federal Government Debt as a Share of GDP	23
J Japan's Post-Bubble Economy	24
K Credit Market Debt as a Percentage of Nominal GDP	25
L The Diminishing Impact of Credit on the U.S. Economy.....	26
M U.S. Economy's Debt by Sector as a Percentage of GDP	27
N MSCI All Country World Index	28
O Global and U.S. Real Earnings	29
P Global Earnings per Share	30
Q S&P 500 Index Real Price Level and Deviation from Trend.....	31
R S&P 500 Normalized Real Price-Earnings Ratios Since 1910.....	32
S MSCI Developed Markets Return on Equity–Adjusted Price-Earnings Ratios.....	33

C O N T E N T S

Tables (continued)

T	MSCI Emerging Markets Regional Price-Earnings Valuations.....	34
U	Bear Markets.....	35
V	Ten-Year Government Bond Yields	36
W	Cambridge Associates Current Valuations Summary.....	37
X	OAS on Agencies, Mortgages, Corporates and High Yield.....	38
Y	Intra-Day Volatility.....	39

Hard Choices for Hard Times

“The function of economic forecasting is to make astrology look respectable.”—John Kenneth Galbraith

The events of the past year need little review, raw as they are in most investors’ minds. We felt strongly that 2008 would be a treacherous year for investors and following the rescue of U.S. investment bank Bear Stearns we believed market optimism that the “worst was over” was dangerously misplaced.¹ Nonetheless, we have been surprised by the ferocity of wealth destruction and dislocations across financial markets over the final months of last year. It should suffice to say that we are experiencing the most volatile market environment in the living memory of most investors, and that a series of events have transpired—nearly all of which were once deemed highly unlikely—that have shaken investors from mild complacency to a near-crippling sense of uncertainty.

And such trepidation is deserved. As we will outline below, the outlook for the global economy and financial markets continues to be exceptionally clouded. Although some positive signs are emerging and some investment opportunities are presenting themselves, the risk remains that economic conditions may worsen before they improve and the odds of another sharp downdraft in the markets occurring in the interim are high. Given the losses most portfolios have already incurred and what seems likely be a difficult investment climate going forward, investors need to make sure they are properly positioned to navigate a period of continued market stress. While we believe asset markets are priced for long-term positive returns, it may still be some time before a sustainable rally in risk assets emerges. Investors need to review the fundamental principles that shaped their investment plan and adjust portfolios and expectations as appropriate given their current assets, liquidity constraints, and spending needs. In short, investors face some hard choices for hard times.

The State of the Global Economy

The current economic picture is grim. Following the collapse of Lehman Brothers, frozen credit markets effectively brought the global economy to a screeching halt over the fourth quarter. Denial of letters of credit to exporters caused trade volumes to plummet at the same time that businesses across the globe looked to cut production and slash capital expenditures in an attempt to reduce rapidly growing inventories. J.P. Morgan estimates that global GDP contracted at a 4.5% annual rate in the fourth quarter, the worst pace in 25 years.

Unfortunately, incoming economic data are likely to be just as dismal. The OECD global composite of leading economic indicators is falling at its fastest rate since the 1970s, implying little likelihood of a near-term recovery (Table A). Global employment figures show accelerating weakness, which will feed back into

¹ Please see our December 2007 Market Commentary *Outlook 2008: A Year of Living Dangerously* and our April 2008 report *The Eye of the Storm*.

weakening consumption and demand. J.P. Morgan estimates that global unemployment rates may rise later this year to their highest levels since the early 1980s.

With the Eurozone, U.K., and U.S. economies already in recession, Asia has not managed to “decouple”—if anything the region has been the hardest hit so far given its reliance on exports. Recent economic data show a sharp slowdown in China; Japan, Korea, and Singapore have also slipped into recession. While China has reported 6.8% annual growth compared to the same quarter a year ago, some private economists think the Chinese economy actually contracted in the fourth quarter, highlighting the freeze in global demand.

Some market observers argue that what we are currently witnessing is an abrupt adjustment by businesses to reflect the reality of an ongoing global recession. After aggressively laying off workers and cutting production to run down inventories over the next few quarters, the argument goes, we may be past the worst of the immediate contraction. With short-term credit markets functioning again, businesses will be ready to restock and consumers, having delayed purchases since late last year, will show a modicum of pent-up demand. The steeper the contraction, the sharper the subsequent bounce, and some analysts point to the potential for a strong rebound in production along the lines of that in the mid-1970s, when the collapse in leading economic indicators over 1972–74 preceded the strongest rise on record.

Based on these observations rests the current consensus view that the global economy will stabilize in the second half of the year as aggressive monetary and fiscal stimuli gain traction in the United States and elsewhere, especially in China. Stock markets therefore will be able to rally in anticipation of economic recovery heading into 2010. (See Table B.)

While the consensus outlook is certainly feasible, and perhaps probable, it is by no means guaranteed, and in our opinion misses the larger issues at play. Namely, we are not in a normal economic recession, which is typically driven by inventory and interest rate cycles. Instead, we are embarking on a period of deleveraging, where global consumption slows and savings rise as households in the United States, United Kingdom, and parts of Europe are forced to cut back after years of spending beyond their means. The Western financial system as a whole is hobbled by bad debts and will need to repair its balance sheet. This process will take some time to unfold. So while investors should not underdiscount the potential for a rebound in business activity in the near term, we are less confident about the resumption of sustained economic growth. In other words, instead of anticipating a V-shaped or U-shaped recovery, investors need to be prepared for a W-shaped, or even an L-shaped one.

Our big-picture view is that the global economy is undergoing a structural rebalancing, where the United States and other so-called Anglo-Saxon economies move away from credit-fueled excess consumption, while the rest of the world moves toward a more balanced growth model, driven less by exports and more by domestic demand. The need for structural rebalancing is especially acute in Asia,²

² Please see our December 2008 Market Commentaries *Asia ex Japan 2009: The Moment of Truth* and *Japan 2009: Darkest Before the Dawn?*

which is the primary source of “savings” in the global economy to offset U.S. spending. The adjustment will not be smooth or quick, but is necessary. Until this rebalancing process is complete, global growth may be slower for some time.

For even if the global economy does return to growth in the second half of this year and chugs on throughout 2010 on the back of monetary and fiscal priming, such an outcome raises the question “when do policymakers begin to tighten the reins?” If a sharper-than-expected recovery leads to increasing inflation concerns, policymakers—forced to drain stimulus and raise interest rates—would set the stage for another growth relapse. Although clearly hypothetical (policymakers could remain overly cautious), given the adjustments facing the global economy our broader point is that a return to the level of steady, broad-based economic growth seen over the past few years is unlikely. Policymakers are playing a high stakes game between deflation and inflation, with unknown consequences. The so-called Great Moderation in economic variability may be over. Still, we keep this report’s opening words from Professor Galbraith in mind at all times: economic prognostication is a treacherous business.

Liquidity Trap

For now, however, the global economy has short-circuited and growth risks are skewed to the downside. First of all, it should be clear that U.S. consumers are pulling back. U.S. nominal retail sales fell 10% year-over-year in December, the largest contraction in 40 years (retail sales volumes also showed a record decline). The U.S. savings rate has risen to nearly 3.0% from effectively zero in early 2008 and indeed from a negative savings rate in 2005 (Table C). If U.S. households were to return to the average savings rate of 8.0% seen over the 1950–99 period, this reduction in demand could be prolonged. At current levels returning to an 8.0% rate would require an additional \$540 billion in savings, or a headwind equivalent to nearly 4% of U.S. nominal GDP.

Housing markets in the United States and United Kingdom show few signs of stabilization, fueling the need to deleverage and rebuild savings. U.S. house prices are not expected to bottom until at least 2010, as the inventory of unsold homes remains high despite low mortgage rates (Table D). Further compounding matters, rising unemployment, both in the developed and emerging world, could force additional increases in savings and decreases in consumption.

Meanwhile, the pressure on households and businesses to retrench feeds back to the financial sector in the form of growing losses on a wide range of assets, not only toxic U.S. subprime mortgages, but prime consumer credit, commercial real estate, and business loans.

As a result, estimates of likely global credit write-downs continue to rise, and currently stand at US\$2.0 trillion. This figure is remarkable given that just this past summer such estimates called for aggregate losses of less than US\$1.0 trillion, meaning we have effectively seen a doubling of expected losses in a few months. Goldman Sachs estimates that U.S. banks still have \$500 billion in unrecognized losses on their balance sheets. For context, the market capitalization of the entire S&P 500 financial sector is roughly \$750 billion. And of course such loss estimates could continue to swell.

Without functioning credit markets, modern economies cannot grow, making the rot in the financial sector the key issue for policymakers to address. The actions of the Federal Reserve, Bank of England, and European Central Bank have had some success in restoring the basic functioning of short-term credit markets, thereby alleviating the liquidity crunch that erupted following the collapse of Lehman Brothers. Still, the heart of the current credit crisis is a solvency, not a liquidity, problem. In our opinion, until the financial sector has been adequately purged of bad debts, it is unlikely that much new longer-term lending will take place, even to creditworthy borrowers, as banks continue to hoard cash in anticipation of further asset write-downs. Until a mechanism is put in place to remove impaired assets from bank balance sheets, policymakers' attempts to stimulate credit growth will be ineffective.

In other words, we are experiencing a classic liquidity trap; despite a surging money supply, the velocity of money is falling even faster as the banking system is not extending funds to the broader economy. Notwithstanding the extraordinary steps by central banks to pump liquidity into the markets, credit will not flow until the solvency issue is addressed. (See Table E.)

The recent momentum in favor of asset guarantee programs and establishing “bad banks” to purchase assets from institutions is a step in the right direction. While both ideas have their own drawbacks (how much will insuring the losses ultimately cost?; what price do banks pay for the assets?), they would mark a decisive move to address the bad assets on bank balance sheets, aside from outright nationalization (which may still occur). As we noted last July, until such actions take place, there will not be a floor under the value of tumbling financial stocks.³

Still, even if these measures clear the political hurdles, the lag between when these policies are enacted and begin having an impact on growth may be substantial. And while fixing the financial sector is of the utmost importance, it is still only half the battle. Households and businesses are wary of increasing leverage, a lack of demand that cannot be stoked by a pumped-up credit supply. And it is the *demand for credit* over which central banks and policymakers have little control. Only a rejuvenation of the private sector's “animal spirits” (or confidence in the future) will truly lead to a resumption of robust economic growth.

Are We on the Verge of Another Great Depression?

The forces currently wending their way through the economy are clearly deflationary and more than offset the impact of central bank money printing. Inflation measures have fallen across the globe, with headline U.S. CPI looking to head into negative territory for the first time since the 1950s. This downward turn partly reflects the collapse in commodity prices, but contracting demand creates further downward pressure on prices globally. Deflation, not inflation, is the near-term concern. (See Tables F and G.)

³ Please see our July 2008 Market Commentary *U.S. Financials: Catch a Falling Knife?*

Given tight credit markets, falling global demand, rising unemployment, and the specter of deflation (which increases the *real* burden of debts), are we on the verge of another Great Depression?

We don't think so. The Great Depression was arguably brought about by the combination of a very flexible, classical free-market economy without macroeconomic stabilizers (unemployment insurance, social pensions, deposit insurance, etc.) and a rigid monetary system based on the gold standard. Under such conditions, the domestic price level, especially wages (and thereby employment), serves as the primary method of economic adjustment. Over the 1929–33 period the U.S. economy underwent a near 50% contraction in nominal GDP and saw unemployment reach 25%. (See Table H.)

While the coming global recession will probably be the sharpest downturn in the post–World War II period, we have argued from the onset of the credit crisis that global policymakers will do whatever it takes to avoid such a destructive deflationary collapse. The more deflationary pressures intensify, the more aggressive policymakers will become.

For instance, there remains plenty of scope for further government spending in the United States. The current ratio of government debt to GDP stands at 70% (Table I). Even taking into account future deficit projections, total government debt will represent a smaller share of GDP than achieved during World War II when the government debt ratio reached 120%, or even the 160% government debt ratio Japan incurred over its “lost decade.” China plans to spend some 14% of GDP over the next two years, while central banks across both the developed and emerging world are cutting interest rates and enacting stimulus plans. With both flexible monetary and fiscal policies, a spiraling contraction can be avoided. In a fiat currency system, it is more likely that inflation, not deflation, will ultimately prevail. (Please see the appendix on page 13 for additional thoughts on the Great Depression.)

Will the U.S. Economy Turn Japanese?

Our view by no means implies that government actions will be a panacea. Bankruptcies and rising unemployment cannot be avoided. The staggering uncertainty facing the global economy makes it likely that both consumers and businesses will remain cautious for some time, while governments cannot simply spend their way to prosperity. There are likely to be major unintended consequences from such aggressive monetary easing and government involvement in the private sector. In other words, policymakers might win the fight against deflation, only to face slower economic growth going forward, and possibly much higher inflation down the road.

Of course we do not know for sure, but it is possible that a “Japan-like” scenario is in store for the U.S. economy, with economic growth of less than 2.0% for a decade as the economy undergoes a prolonged deleveraging. Following the bursting of its colossal asset bubble, Japanese real GDP shifted downward from a 4.6% average annual pace over 1970 to 1989 to only a 1.5% average annual pace since 1990, while Japanese unemployment rose from roughly 2% in 1990 to almost 6% in 2003 (which for structural reasons is

relatively high for Japan). While far from robust, such an outcome seems more plausible than, and preferable to, another Great Depression. (See Table J.)

The focus now turns to how much deleveraging is in store. We have shown Tables K and L before, highlighting the massive debt bubble in the U.S. economy, with total credit market debt outstanding of 360% of nominal GDP. Despite near-exponential credit growth, the U.S. economy has actually grown below trend over the past decade. Increased debt has had a diminishing impact on economic growth, especially as increases in debt have been largely spent on housing stock and imports of consumer goods, which do little to boost long-run productivity growth. While there is no “correct” level of debt for an economy, it should be clear that the United States (as well as the United Kingdom and some other European economies) has reached a point where the burden has become unsustainable, and some sort of retrenchment is necessary.

On the surface, for the U.S. total-debt-to-GDP ratio to simply revert to its post-1922 “trend line,” the ratio must fall to 250%. However, a reversion below trend is generally the norm. For debt-to-GDP levels to fall back to their post-1952 average of 197% (sufficiently below trend) implies an adjustment equivalent to 162% of nominal GDP, or \$23 trillion. This would, incidentally, bring this ratio back to its 1985 level, which would seem symmetrical, as the U.S. economy is arguably suffering a hangover from a 25-year debt binge. The explosion in debt levels (due in part to falling interest rates) began in the late 1980s, at the same time that the U.S. savings rate began its downward march from its historical 8.0% average rate.

However, such a back-of-the-envelope calculation does not tell us how the different sectors of the economy delever and over what time frame the process will unfold. Table M shows the current breakdown of the U.S. debt bubble. U.S. households have a debt-to-GDP ratio of 97%, nonfinancial businesses, 76%; the financial sector, 117%; and government, 56%; for a total debt bubble of 360% of GDP. Conceivably, if financial sector debt were written down to its post-1952 average of 34% of GDP, while government debt rose to 140% of GDP, the current aggregate debt-to-GDP ratio would stay the same, all other sectors remaining equal. It could also be that instead of sharply falling debt, the U.S. economy could embark on a period where nominal GDP simply out paces credit expansion.

In reality, households, businesses, and the financial sector all show debt levels above long-term trends, and these will likely be reduced as the cost of serving such debt is too high. Broadly speaking, there are three scenarios to address these burdens:

1. Encourage massive debt write-downs across the private sector, essentially marking the economy to market. Painful, but quick (think Asia post-1998 and other emerging market crises).
2. Whittle down the debt burden over time, via gradual debt write-downs and increased savings. Slow and drawn out (Japan over the past 15 years).
3. Inflate the debt away.

It is likely that some combination of the above will take place: painful write-downs across the financial system, private sector (mainly households) reduction of debt via savings, and gradual inflating away of

government debt. With central banks desperately trying to fight deflation, it could be that in ten years' time \$23 trillion won't be that much money. Just ask anyone from Zimbabwe.

Jeremy Grantham (of money management firm GMO) recently put the current deleveraging situation into context, noting that at the end of Japan's "bubble economy" of the late 1980s, the country faced a debt overhang of some three times GDP, while the U.S. economy in 1929 faced a comparatively small overhang of three-fourths of GDP. Today GMO estimates that the U.S. economy faces asset write-downs of one-and-a-half times GDP. As Mr. Grantham remarked: "As the years passed, a few Japanese companies failed, but the great mass in the middle painfully clawed their way back to solvency. Somehow or another Japan absorbed the greatest deleveraging in human history without incurring a severe depression. I can only hope we do as well!"

Where Does This Leave Investors?

After a brief rally, global equity markets are currently re-testing their November lows amid a torrent of bad economic news and fresh worries over the solvency of the U.S., U.K., and European banking systems. Much of the previous rally was tied to hopes of progress toward passage of stimulus and financial sector bailout packages in the United States and elsewhere, which have so far disappointed investors. More importantly, global equity market weakness seen in January and February amid the fourth quarter reporting season highlights the continuing vulnerability of equities to falling earnings. In other words, markets have priced in a global recession, but may still be in denial as to the impact on earnings going forward from a slow-growth world. (See Table N.)

Risks in 2009 and Beyond

In our view, falling earnings will serve as the key headwind for global equities this year, and will blow hard against any tentative rally. As a result of credit-fueled growth, global earnings remain well above their long-term trends, while most of the previous earnings losses (especially in the United States) have been borne by the financial sector. Current earnings releases are showing widening losses across other economic sectors, and we expect this to continue throughout 2009. (See Tables O and P.)

Furthermore, despite our belief that markets are priced for long-term positive returns going forward, it is important to remember that markets can overshoot to the downside, making for a rocky ride in the interim. Tables Q and R show the secular risks U.S. equities still face. Relative to their long-term real (inflation-adjusted) trend, U.S. equities have room to fall steeply. A decline at some point over the next few years in the S&P 500 Index to below 600 should not be easily dismissed, something confirmed by our valuation work. Yet it may be steadily rising inflation down the road, not deflation, that brings U.S. equities there.

The same holds for global markets; even when undervalued, prices can always move lower and remain so for extended periods of time. Global equities were arguably "undervalued" from 1974 to 1984.

Thus while we do see value in non-U.S. (and especially Asian) equities, it may be some time before investors feel confident enough to return equities to fair value or above. (See Tables S and T.)

Therefore, investors should be prepared for the reality that previous lows in the market may be regularly re-tested or even broken through before a sustainable recovery begins. Much like the turbulent 1930s–40s, 1970s, and Japan since 1990, markets may move sideways and churn for a substantial period before the resumption of a new secular bull market. (See Table U.)

Timing, as always, remains an issue, especially with the financial system under stress. Signs that governments are tackling the financial crisis, by purchasing bad debts directly or by taking insolvent banks into receivership, could spark a rally. Conversely, markets may tumble amid a capitulation on hopes for any near-term recovery; fiscal stimulus takes time to implement and work through the system, while even with the passage of financial bailouts, credit may not flow for some time. Any signs that economic growth continues to stall in China would also be a huge negative development for the markets, with an implosion of the Chinese economy clearly not baked in to global equity prices.

Meanwhile, the current low level of global government bond yields clearly reflects near-term deflation concerns. U.S. Treasury bonds yields have reached their lowest levels since the 1950s, although global government bond yields have recently backed up sharply amid supply concerns related to the scale of future government spending. We view government bond yields at current levels as overvalued and unattractive as a long-term investment, given they offer little protection from unanticipated inflation. Still, Japan offers the counterargument. Japanese government bond yields have been below 2% since 1998 despite substantial government spending; in a deflationary environment, bond yields can remain low for prolonged periods. (See Table V.)

On balance, with the massive amount of liquidity pumped into the global system we think the long-term risks are biased toward a return of inflation, and therefore rising interest rates, at some point. However, the timing of this switch from deflation to inflation is uncertain and not likely to take place in the near term. In other words, the return of inflation is likely a concern for 2010 or beyond, but it is still a risk worth hedging.

Positive Signs

With equities at risk and government bonds overvalued, is there any good news in this macro outlook? Turmoil in the financial markets has driven valuations for a host of asset classes from over- to undervalued. Clear opportunities exist in the credit markets, especially among high-quality investment-grade corporate bonds.⁴ And as the global recession drags on, even more opportunities will appear on the distressed investment side. Among equity markets, emerging markets and especially Asian equities are attractively

⁴ Please see our October and November 2008 Market Commentaries *High-Yield Bonds: Toxic or Tasty?* and *The Case for Investment-Grade Corporate Bonds*, respectively.

priced from a long-term perspective; however, these market remain highly geared to the global cycle. (See Table W.)

Encouragingly, despite the tumble in equity markets in January and February, credit spreads have not blown back out. This is important because the credit markets have been at the heart of this economic crisis and we judge that a strong recovery in credit is needed before a sustainable recovery in equities can occur (Table X).

Meanwhile, market volatility, though far above normal, seems to have peaked. Historically, peaks in volatility have coincided with market turning points (Table Y). The indiscriminate selling of assets by overleveraged investors in October and November has perhaps run its course, especially given the record redemptions from the hedge fund industry. Technical selling pressure may be over, and the market's focus should shift back to fundamentals. High-quality equities and assets should continue to outperform in such an environment, as would long/short equity hedge funds.

Furthermore, despite our concerns over the profit outlook, a bottom in earnings is not necessary for a rally in stock prices, especially should the pace of economic and profit contraction slow. The fact that the analyst community has finally given up expecting profit growth in 2009 is positive, as the consensus is often wrong at both extremes.

We currently view most global equity markets as undervalued (with U.S. equities relatively more expensive at fair value), suggesting that now—amid all the uncertainty and negative sentiment—is precisely the time for long-term investors to buy risk assets. While we think economic events will unfold along the path we have outlined, we simply do not know what surprises will occur along the way. Big rallies are possible even amid a bad macro environment. The best four quarters for U.S. equities were from June 1932 to June 1933, in the teeth of the Depression, when the S&P 500 returned 160%. The Nikkei in Japan staged three rallies of over 50% during Japan's "lost decade."

Summary of Our Outlook for the Current Environment

- We are not on the verge of the Great Depression; however, we are facing what will likely be the worst recession in the post-World War II period.
- Global growth will likely be slower for an extended period as the long-overdue global rebalancing takes place. Markets may not be fully priced for this slow down.
- Government action is needed in the short term to offset the collapse in private demand, yet increased intervention in the economy comes with longer-term costs and unintended consequences, including the possibility of slower structural growth and increased inflation when growth resumes.

- Equity markets have the potential to stage a large rally this year, but markets could also easily break to new lows. Investors need to be prepared for both outcomes.

What Should Investors Do?

Without doubt, 2009 presents some hard choices.

We have high conviction that markets will ultimately recover, but the current environment carries far more uncertainty as to the direction of markets over the short to intermediate term. Instead of plowing into risk assets on the hope that we have seen the bottom, or aggressively selling equities to raise cash in the fear of further losses, we think long-term investors should remain focused on fundamental investment discipline and goals. For investors with long-term growth objectives or with a goal to sustain purchasing power after spending, we recommend holding equity allocations at policy targets as long as the institution has the financial strength to make it through what could be a continued period of volatility with a meaningful possibility that prior lows will again be tested and perhaps exceeded. Maintaining high equity allocations increases the likelihood that portfolios will recover in a shorter time horizon.

However, given the significant declines experienced by most investors, it would be sensible to re-evaluate policy asset allocation targets to:

- Confirm that they were appropriate in the first place. Investors that had misconceptions about the risk of their portfolios or the risks they could absorb should consider changing their asset allocations to reflect a renewed understanding of such risks.
- Determine if anything fundamental has changed regarding institutional resources or objectives that would suggest a change in policy allocations is appropriate.
- Determine whether there are temporary constraints that suggest that—at least until market conditions stabilize—liquidity considerations, debt covenants, or a range of other challenges dictate a more conservative allocation, at least for the short term. It is perfectly reasonable, and advisable, to maintain more liquidity than normal in the current environment.

In short, investors must make hard decisions. Reduce spending or spend down bonds and cash? Or, if unable to survive another 20% to 40% decline in the market, sell down equities (locking in losses and giving up any rebound potential) to raise cash and increase fixed income?

In addressing these questions it is helpful to keep in mind the following principles:

- First and foremost, *do not make decisions based on regret*. Investors need to accept the painful truth that what's lost is lost and can only be recovered over time. What can be done today to meet objectives going forward?
- Recognize that high equity allocations improve the likelihood that recovery of portfolio value will occur sooner rather than later. Similarly, spending less today, while excruciatingly difficult, will help preserve wealth for future generations.
- Take risks where compensated to do so: Buy what is cheap.
- Rebalance between relative valuation opportunities.
- Maintain portfolio liquidity; make sure the portfolio is properly provisioned.
- Hedge against the risk of both prolonged economic contraction and unexpected inflation.

Again, hard choices for hard times.

Given that highly diversified portfolios are still subject to the risk of sharp declines, that deflationary risks are present today, and that inflation may be the specter that hangs over equities in the future, protection against deflation and unexpected inflation is necessary.

Historically, government bonds have outperformed credits during periods of equity market distress. As such, we have long advocated that a portion of the bond portfolio be invested in sovereign bonds to provide such protection. Between July 2007 and year-end 2008, long-term U.S. Treasuries have returned 37% and global sovereign bonds, 25%. The more popular Barclays Capital Aggregate Bond Index (formerly the Lehman Brothers Aggregate) returned 11.5% over the same period. Going forward, we are not so sure about long-term protection capabilities of sovereign bonds today given how low yields have gone, but would not advise taking credit or liquidity risk in this defensive part of the portfolio. Rather, we would diversify into short-term sovereign paper, cash, and inflation-linked bonds that include a guarantee of principal at maturity (e.g., TIPS or Eurozone linkers).

With regard to inflation hedging, while many hard assets appear to be in free fall, the best time to buy hard assets is in the teeth of a recession or a deflationary scare. We recommend investors slowly build hard asset portfolios, particularly natural resource equities and commodities, on continued weakness. We believe that the secular case for investing in commodities remains, while the need to protect portfolios against unexpected inflation makes this hedge worth the short-term costs.

From a tactical perspective, we continue to believe that investors should generally remain defensive, investing in high-quality assets across the equity spectrum, with the exception of moving gradually into risk assets that are cheap. Within equities, we regard emerging markets and Asian equities as both inexpensive

and attractive from a long-term strategic perspective. Today, the most attractive investments from a valuation perspective include investment-grade bonds (although their upside relative to that of equities should be expected to be limited once credit markets recover) and distressed credits, including high-yield bonds and leveraged loans. We would move slowly, particularly into distressed, and use careful manager selection, given the likelihood that opportunities will continue to develop over an extended period of time.

Finally, while alternative assets of all sorts have faced many challenges over the last year, some clear opportunities are emerging. Many highly skilled hedge fund managers that have been closed for years are accepting new capital. Further, the recent shakeout has improved the investment landscape for those managers that survive. Redemptions, a reduction in use of leverage, portfolio losses, and closure of weak firms and investment bank proprietary desks have significantly reduced the massive amount of capital that dampened returns in recent years. Opportunity sets targeted by many hedge fund strategies, particularly credit, are attractively priced. Within non-marketable alternatives, the credit crisis has also created potential opportunities, particularly in distressed and mezzanine investing. Secondaries may also provide attractive opportunities, but for now, uncertainty about year-end valuations is contributing to wide bid-ask spreads and the secondaries market is largely stuck. Even more so than before, manager selection is critically important.

Appendix

THE GREAT DEPRESSION

The Great Depression,¹ although often invoked, is still not very well understood by economists or historians. Some would argue it is generally misunderstood. First, what period are we defining as the Great Depression? Broadly it is defined as late 1929 to 1940, at which point the war economy began in earnest and unemployment began to decline sharply.

However, this decade is composed of distinct periods. (See Table H.)

- 1929–33: A period of massive contraction in nominal GDP, spiraling deflation and debt liquidation, and a massive surge in the unemployment rate to 25%.
- 1934–37: A period of economic recovery that failed to remove persistently high unemployment.
- 1937–38: A sharp but short recession, leading to a tepid recovery from 1939–40.

The “cause” of the Great Depression is still widely debated. At a minimum, by 1929 there were clear excesses in the economy that needed to be purged. A sharp recession was likely. The more pressing question today is what turned this contraction into a spiral? Arguably it was a combination of bad policy decisions and adherence to tight monetary policy. Government policies at the time added to the malaise, with the passage of the Smoot-Hawley tariff act a massive mistake, as was the raising of taxes by President Herbert Hoover to initially maintain a balanced budget, and a reluctance to backstop the banking system.

However, those who focus on whether the economic policies of the Hoover administration were the primary cause of the “Depression” are missing the forest for the trees; over 1929–33 the economy faced a self-reinforcing deflationary spiral. This was a direct result of the rigid monetary policy of maintaining a gold standard. Great Britain was quick to abandon the gold standard in 1931 and was spared most of the economic pain. In an overleveraged economy, deflation feeds upon itself, results in rising debt burdens, and puts further pressure on consumers and businesses to pull back.

This is the key dynamic to understand over the 1929–33 period. Once President Franklin D. Roosevelt came to office in 1933 and declared the bank holidays, took the U.S. economy off the gold standard, and greatly expanded the remit of the Resolution Finance Company (which began buying bad

¹ What is the difference between a recession and a depression? As the old joke goes “a slowdown is when unemployment rises, a recession is when your neighbor loses her job; a depression is when an economist loses his.” While trite, the truth is that there is no technical definition of what constitutes an economic depression.

In the past all U.S. economic contractions were referred to as “depressions” relating to the fact that under a gold standard, the domestic price level serves as the primary mechanism of economic adjustment. Thus prices and nominal output decline, as do profits, and thereby business conditions become “depressed.” The slump of the 1930s became known as the “Great Depression” to distinguish it from the depressions that preceded it. It was only after World War II that policymakers and economists began referring to economic contractions as “recessions” so as to not unsettle a populace with vivid memories of the 1930s. Perhaps the current slump will be referred to in the future as the “Great Recession” or the “Great Global Slowdown.”

assets and supplying credit to banks) the economic turnaround was quite sharp; indeed, the stock market sensed this and began rallying in late 1932. Real GDP grew 11%, 9%, and 13% over 1934, 1935, and 1936, respectively. Inflation also returned over this period, with the CPI posting an average annual rate of 2.2% over 1934–37.

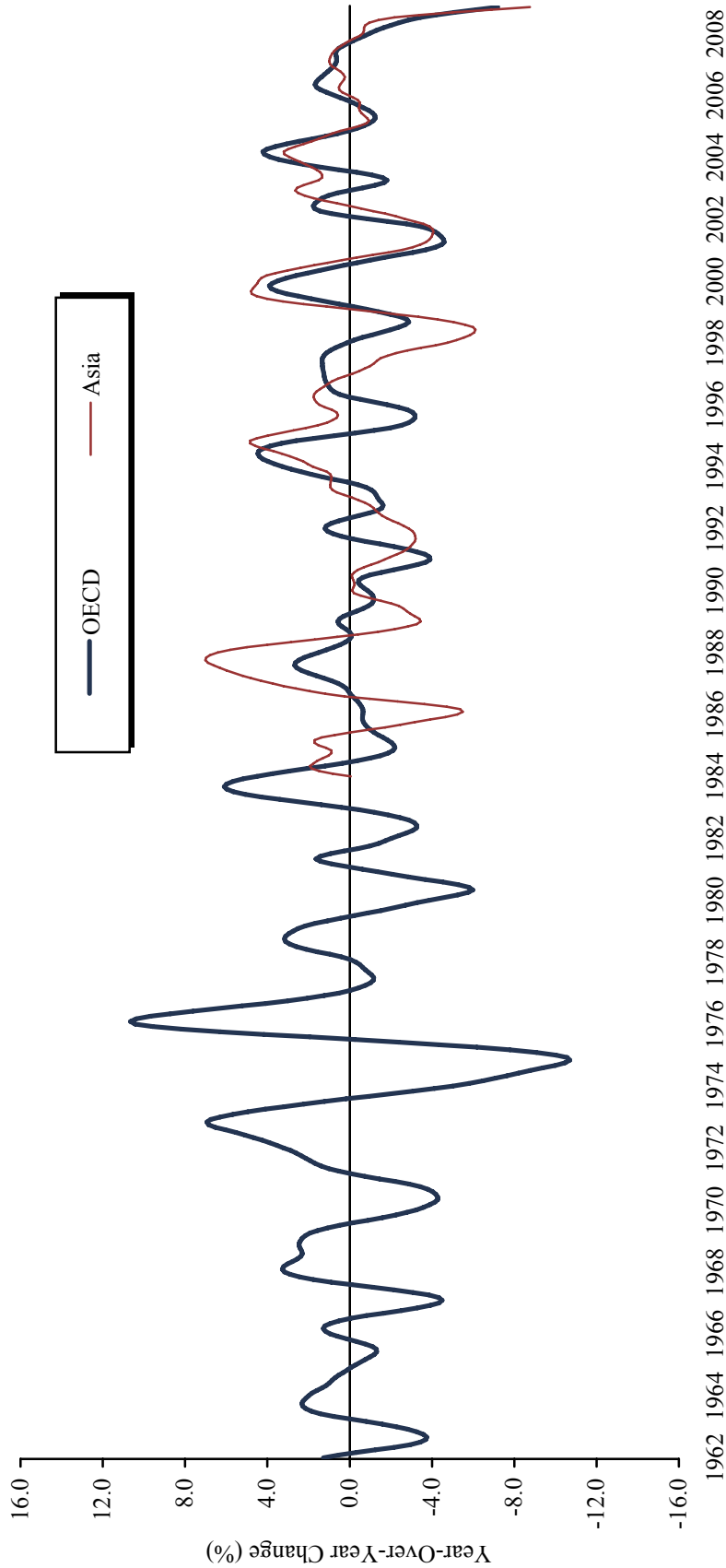
However, unemployment remained stubbornly high. Over the 1934–37 period, most indicators of economic activity had risen to levels similar to the late 1920s, while unemployment was still well over 15%. Why did economic activity (GDP, industrial production) rebound sharply over the period, but not have such a widespread impact on employment?

Arguably, the New Deal policies and intervention added to the problems. The New Deal was very anti-business/pro labor and imposed a host of price controls and tax increases, as well as seizure of private capital. Public spending did help boost the economy, but the restraints and costs it imposed on the private sector were large; artificially high wage increases choked the private sector's ability to expand employment. So while the economy was rebounding, it could be argued that it would have done even better without the interventions of the New Deal and the distortions and disincentives it brought. The same case can be made for Japan's "lost decade." Keeping "zombie" companies afloat starves profitable businesses of capital, and retards economic growth and employment.

Yet the economy kept on moving. The recession of 1937–38 was sharp, but not drastic from a GDP standpoint, though unemployment rose again to 20% and deflation reasserted itself. The populous feared a relapse back to the dark days of 1930–33. More government policies were enacted, and growth resumed; however, it was not until the United States shifted toward large-scale war production that employment really began to improve; unemployment stood as high as 15% in early 1940, but fell below 2% by 1943, as the war economy was in full swing (and arguably a large percentage of the labor force was off fighting World War II).

So did government intervention in the economy cure or intensify the Great Depression? Would the economy have recovered faster on its own? Like most matters, the truth lies somewhere in between. The Great Depression is very complex. The spiral period of 1929–33 was "caused" not by government policies but by monetary inaction and a failure to support the banking system. The slog of 1934–38 was arguably made worse by New Deal economic policies, which over time evolved to be quite hostile to owners of private capital. It is hard to know whether a total absence of government action would have inspired any business confidence either; it could be argued that it took the initial promise of a "New Deal" to break the cycle of fear and uncertainty and set the economy toward recovery. Still, the level of government involvement in the private sector post-1933 arguably caused more harm than good. The extent to which current government involvement in the economy retards recovery is yet to be seen. However, the level of direct state control imposed by the New Deal and its various commissions was much more drastic than any proposals announced so far today.

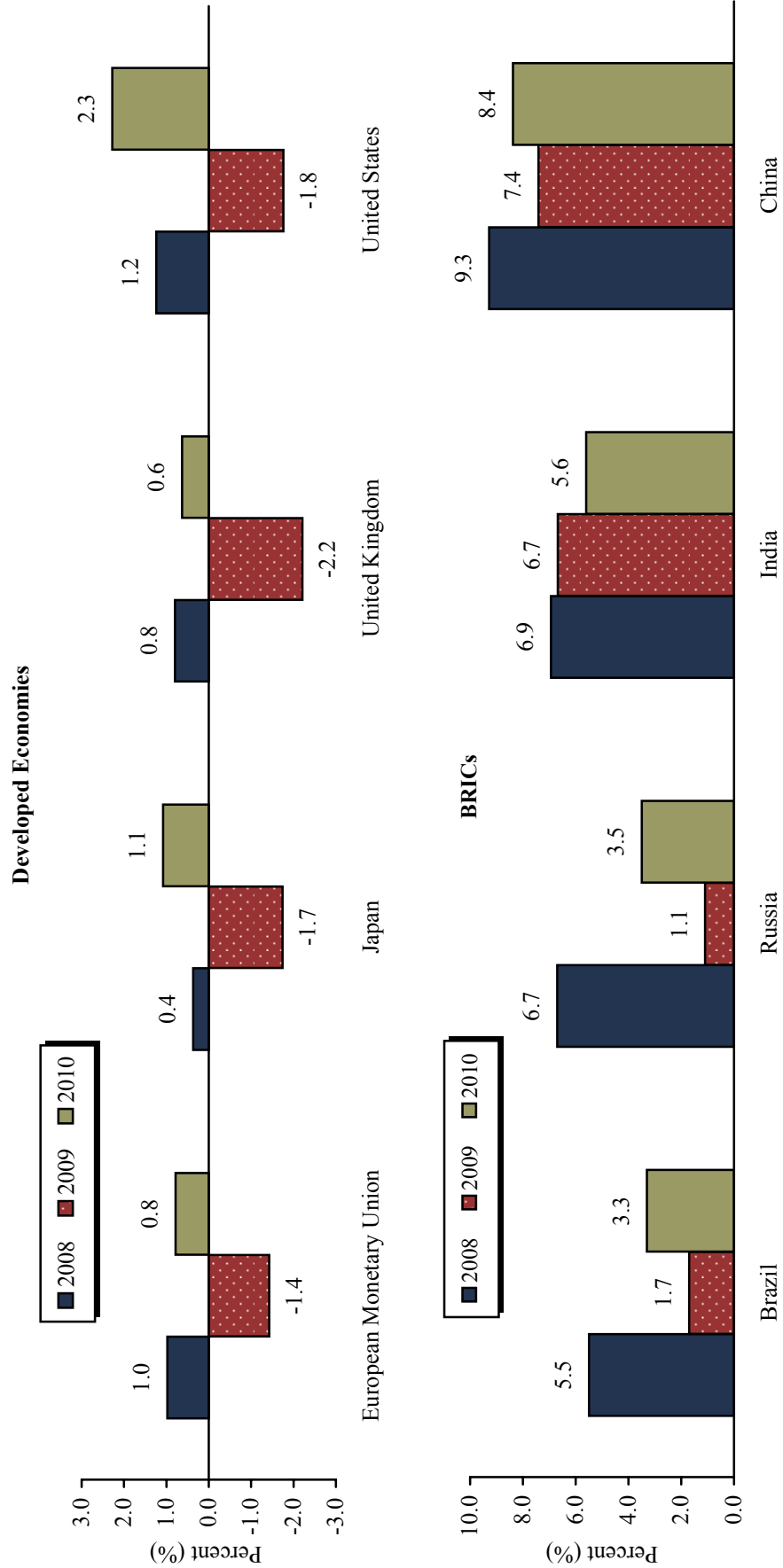
Table A
OECD COMPOSITE INDEX OF LEADING ECONOMIC INDICATORS
1962–2008



Sources: OECD and Thomson Datastream.

Notes: The Organisation for Economic Co-operation and Development (OECD) composite of leading indicators covers a wide range of economic indicators designed to signal turning points in the economic cycle. OECD composite covers 29 economies, including the United States, United Kingdom, Eurozone, Japan, and other members of the OECD. The Asia leading indicators data cover China, India, Indonesia, Japan, and Korea and start in 1984. Data for 2008 are as of December 31.

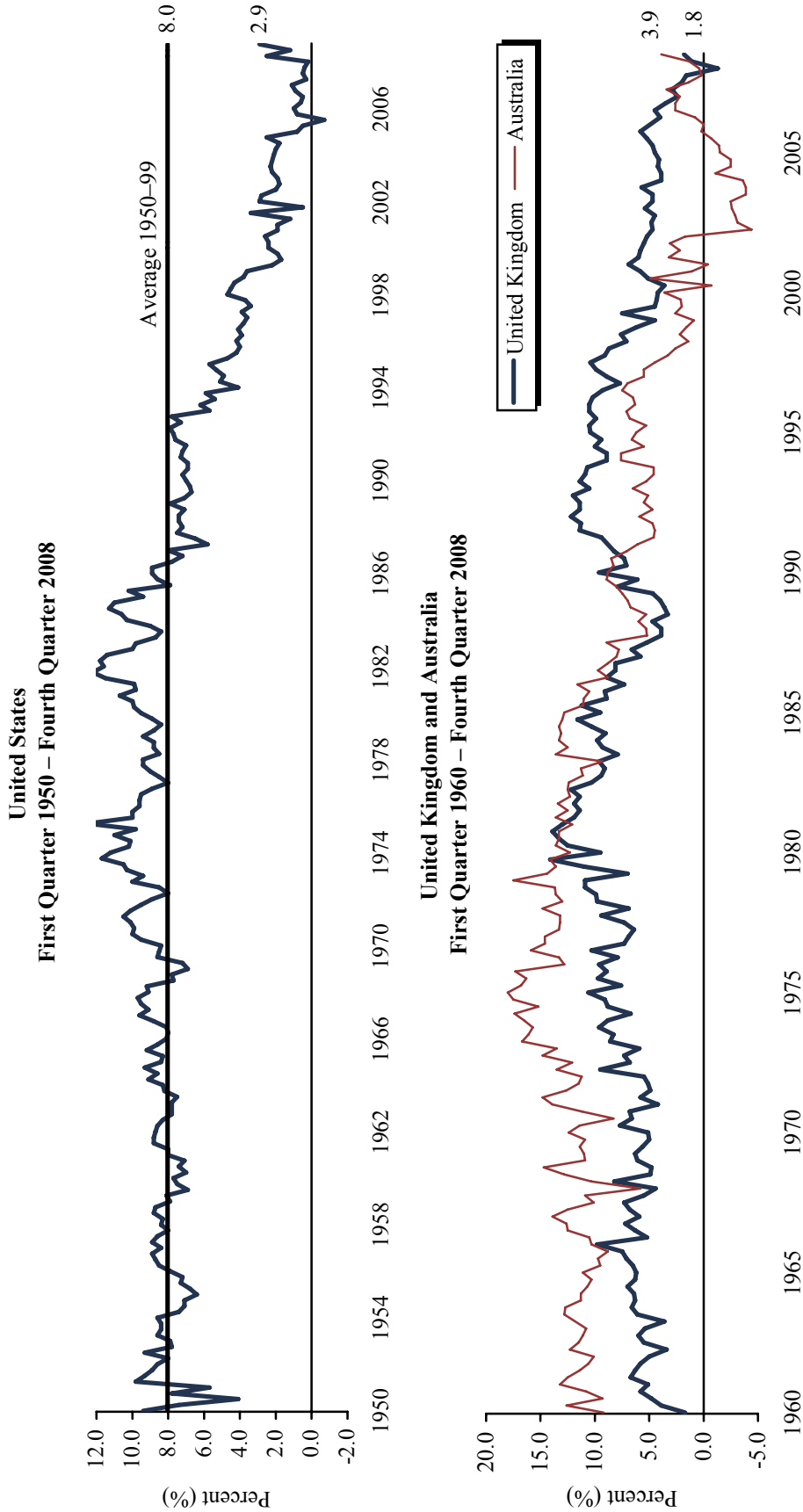
Table B
CONSENSUS REAL GDP FORECASTS
2008–10
Annual Percentage Change



Sources: Thomson Datastream and Consensus Economics.

Note: Country forecast data are as of February 2009.

Table C
SAVINGS AS A SHARE OF DISPOSABLE INCOME



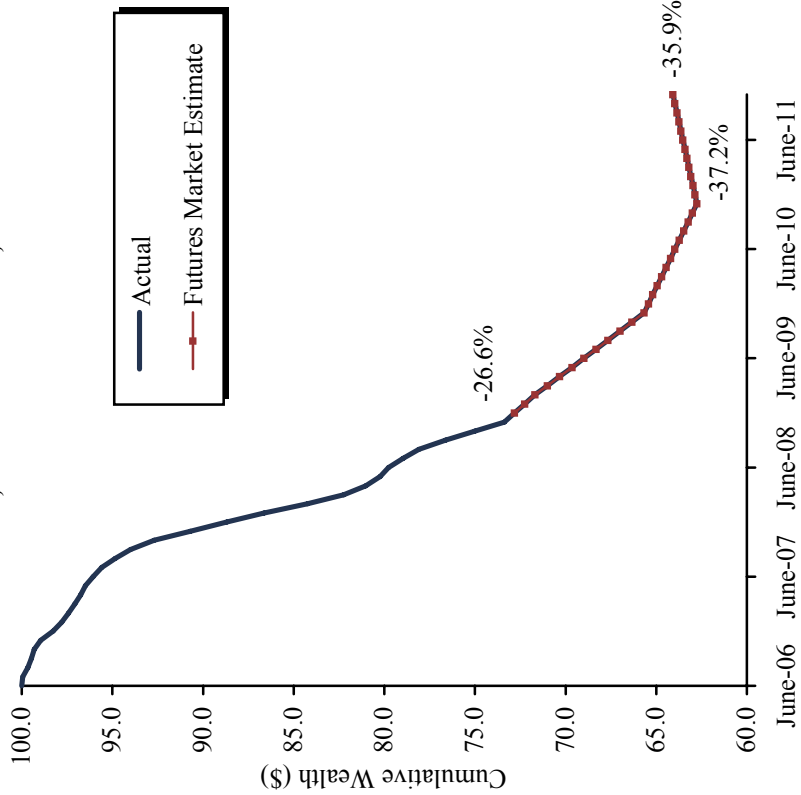
Source: Thomson Datastream.

Note: Based on quarterly data.

Table D

U.S. MORTGAGE MARKET

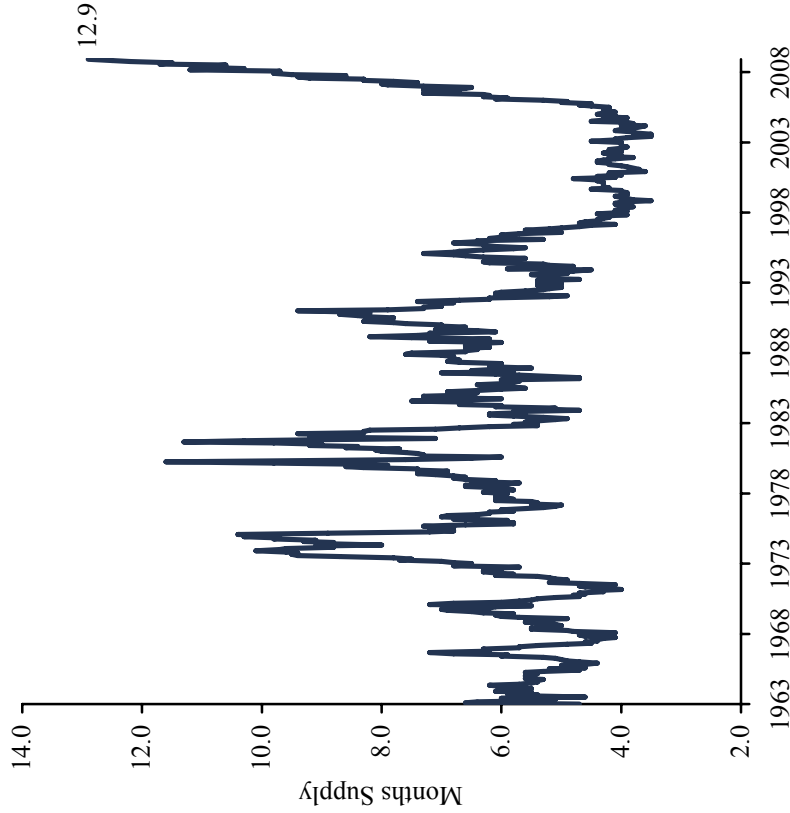
S&P/Case-Shiller Composite 10 Index
June 30, 2006 – November 30, 2011



Source: Standard & Poor's.

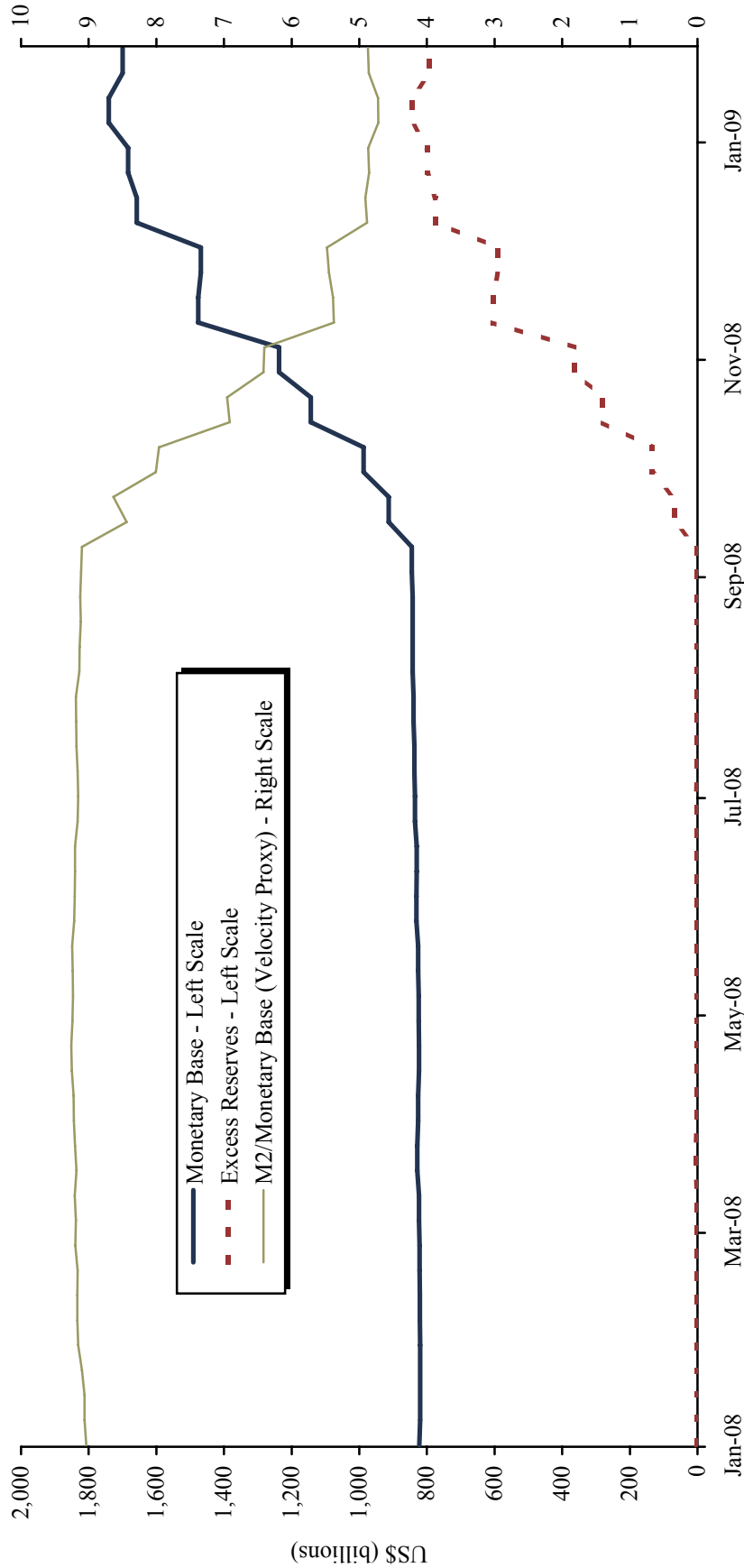
Notes: Futures data are derived using property derivatives listed on the Chicago Mercantile Exchange, from February 11, 2009, bulletin. Futures data begin in December 2008.

U.S. Unsold Homes (Months Supply)
January 31, 1963 – December 31, 2008



Sources: Thomson Datastream and U.S. Census Bureau.

Table E
U.S. MONETARY SUPPLY AND EXCESS RESERVES OF BANKS
December 31, 2007 – January 31, 2009



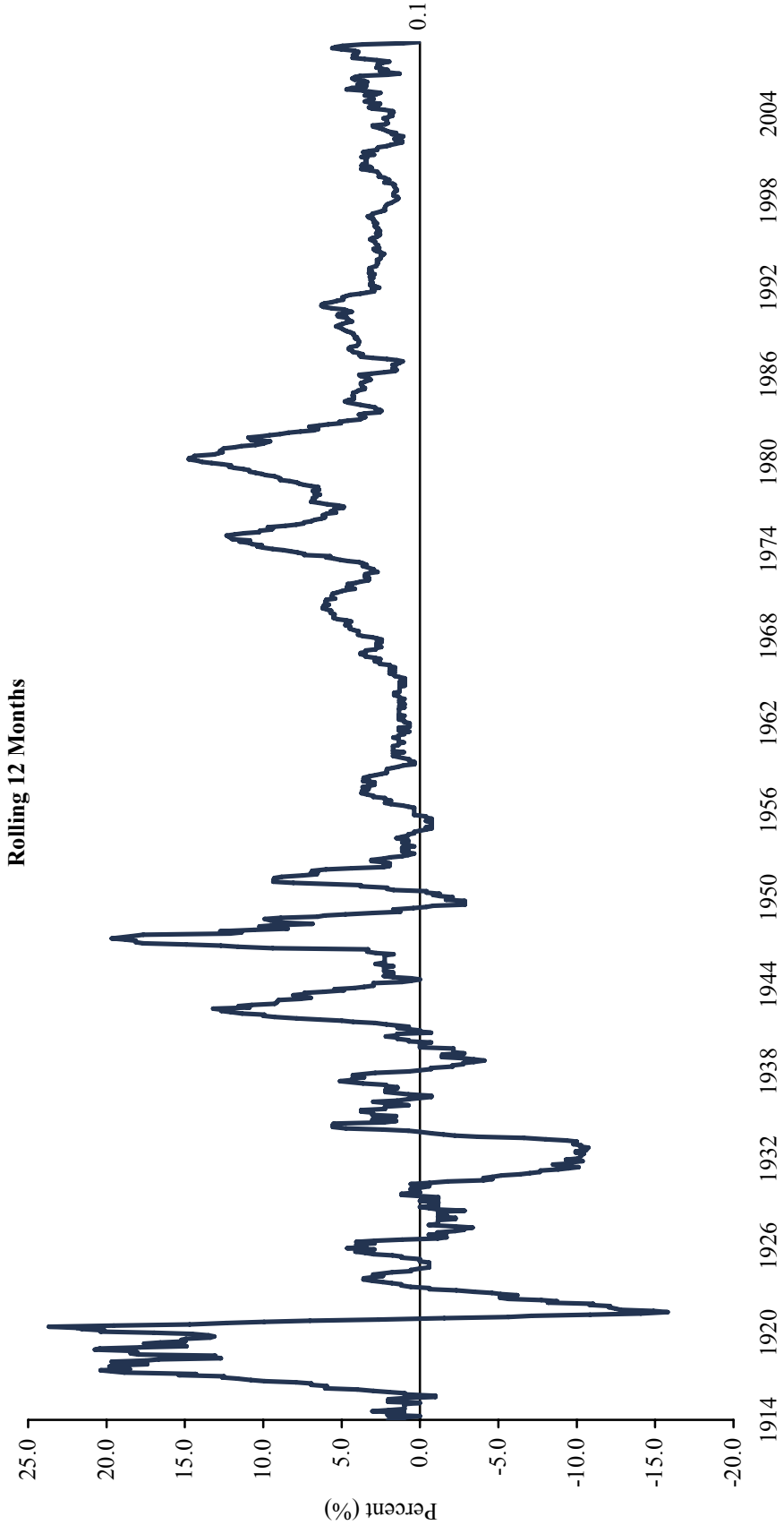
Source: U.S. Federal Reserve Board.

Note: Weekly data are used from January 2, 2008, through January 28, 2009.

Table F

HISTORICAL U.S. INFLATION

February 1, 1913 – December 31, 2008

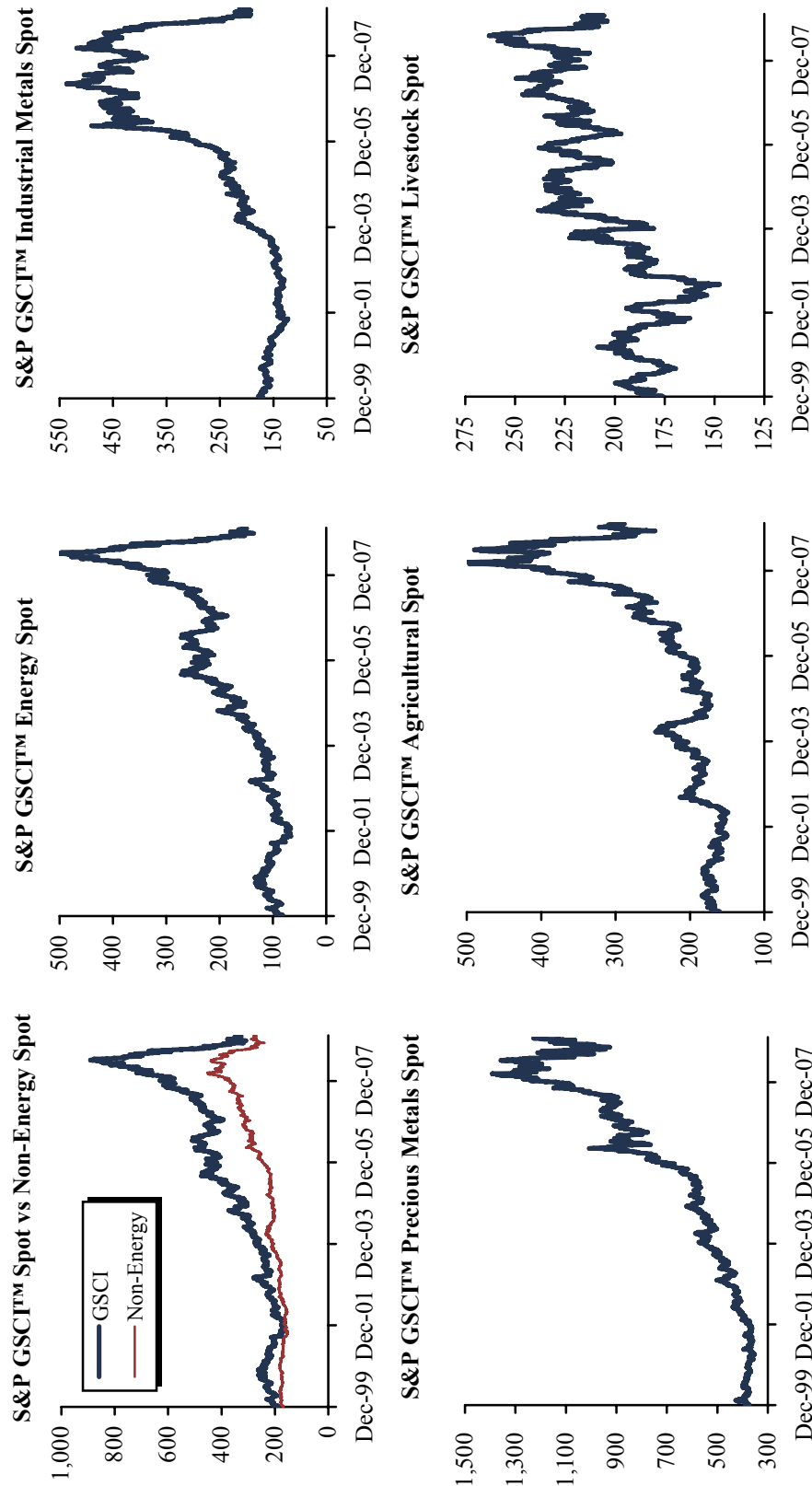


Sources: Thomson Datastream and U.S. Department of Labor - Bureau of Labor Statistics.

Note: Graphs are based on monthly data for the U.S. CPI-U Index.

Table G
NOMINAL PRICES OF S&P GSCI™ INDICES
U.S. Dollars

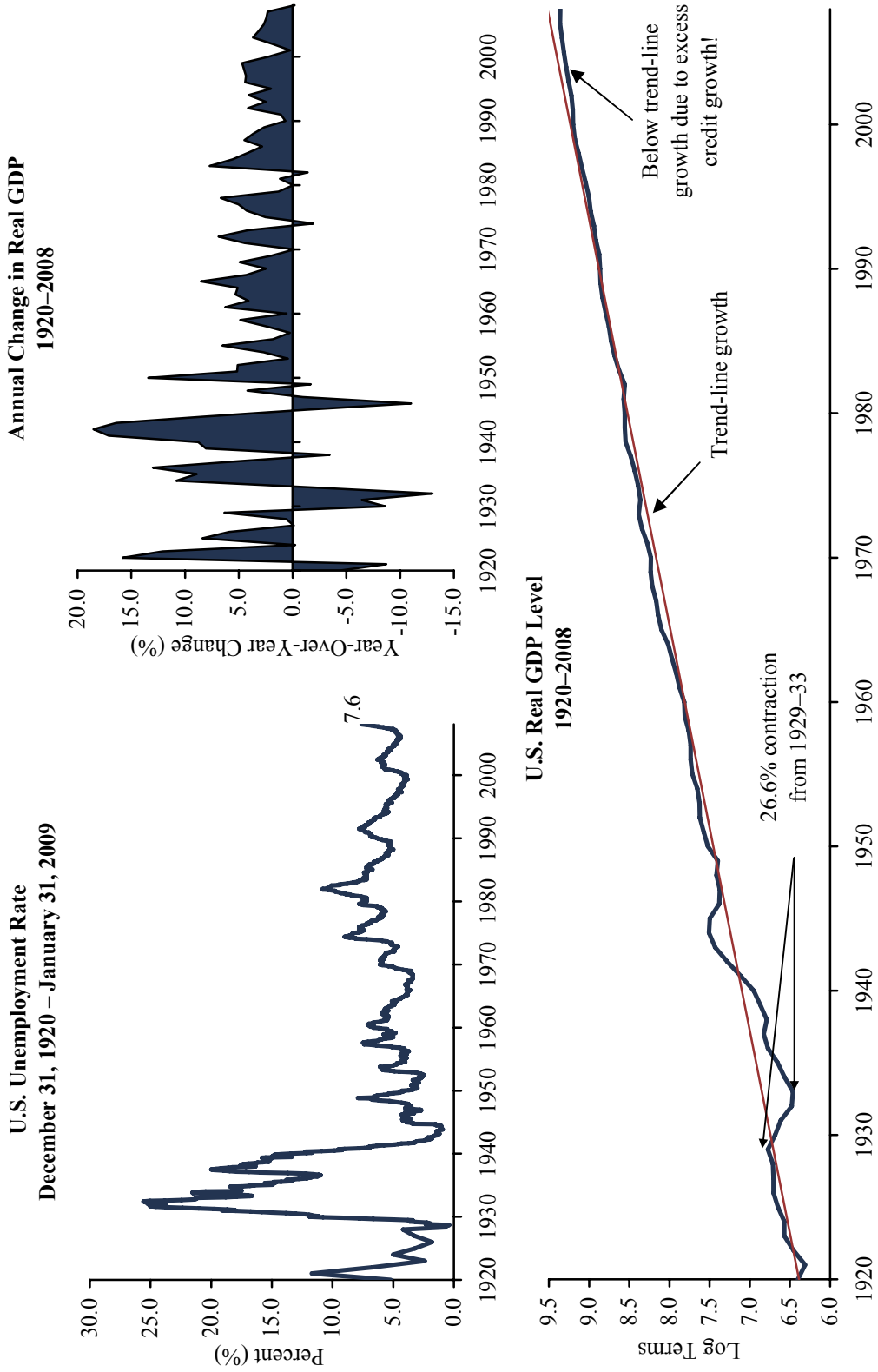
December 31, 1999 – February 10, 2009



Sources: Standard & Poor's and Thomson Datastream.

Table H

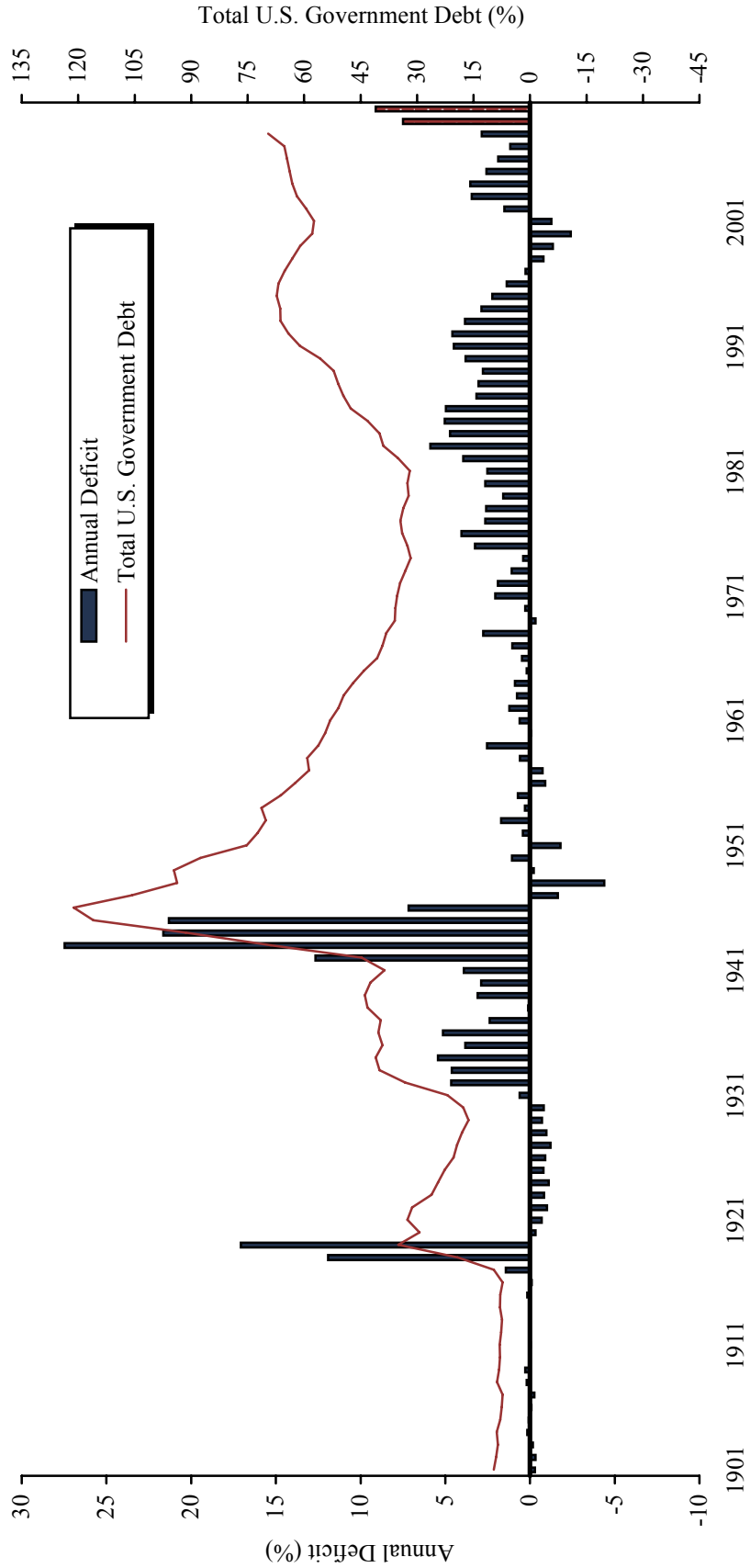
THE GREAT DEPRESSION IN PICTURES



Sources: Global Financial Data, Inc. and Thomson Datastream.

Note: Trend line is based on simple linear regression trend model.

Table I
U.S. BUDGET DEFICIT AND TOTAL U.S. FEDERAL GOVERNMENT DEBT AS A SHARE OF GDP
1901–2010

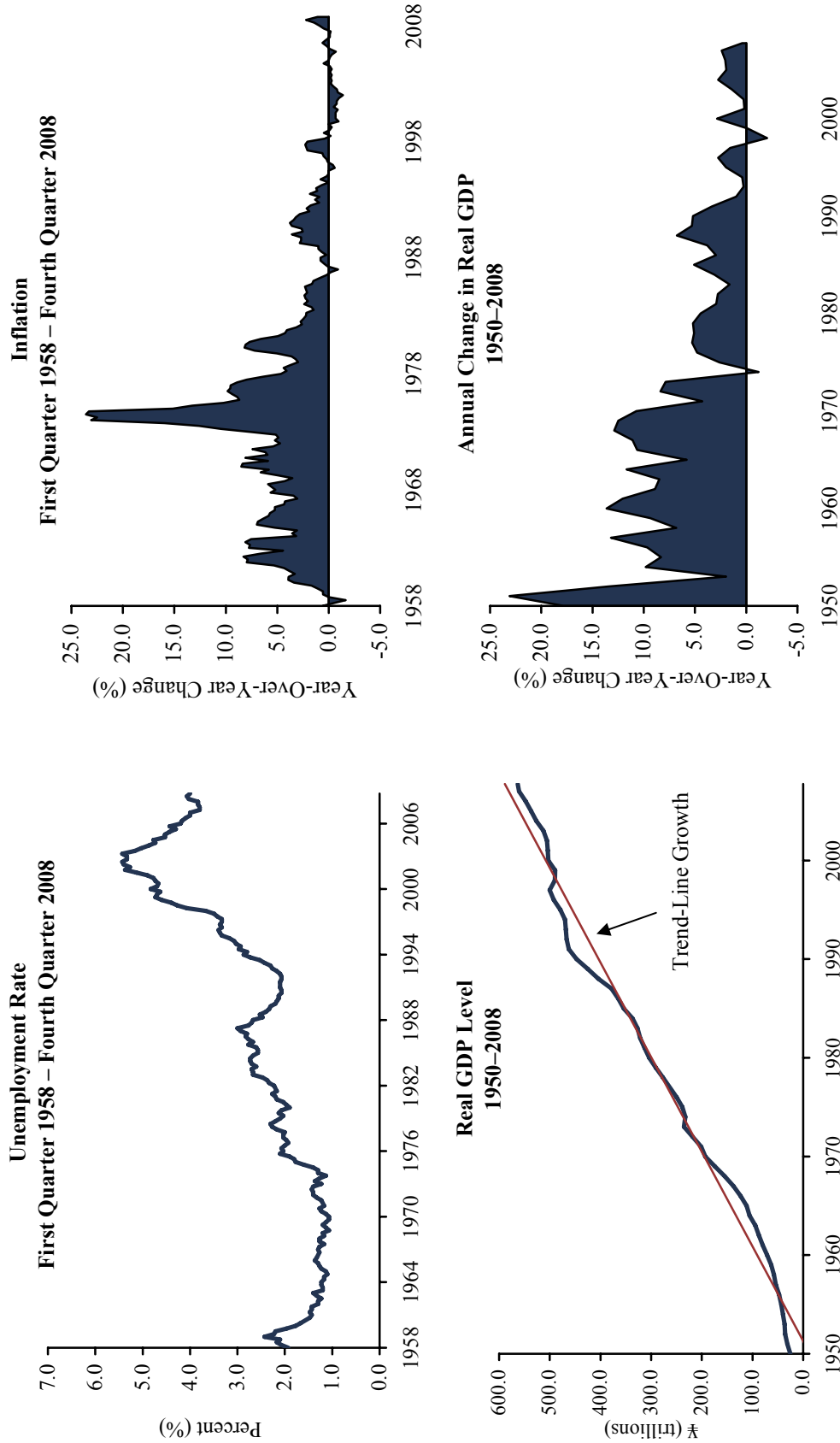


Sources: Economist Intelligence Unit, Institute for the Measurement of Worth, U.S. Department of the Treasury - Bureau of the Public Debt, and the White House Office of Budget and Management.

Notes: Data for 2008 are through September 30. Forecasts for 2009 and 2010 are provided by the Economist Intelligence Unit. Last two bars are forecasts. Federal debt includes both public and intragovernmental debt.

Table J

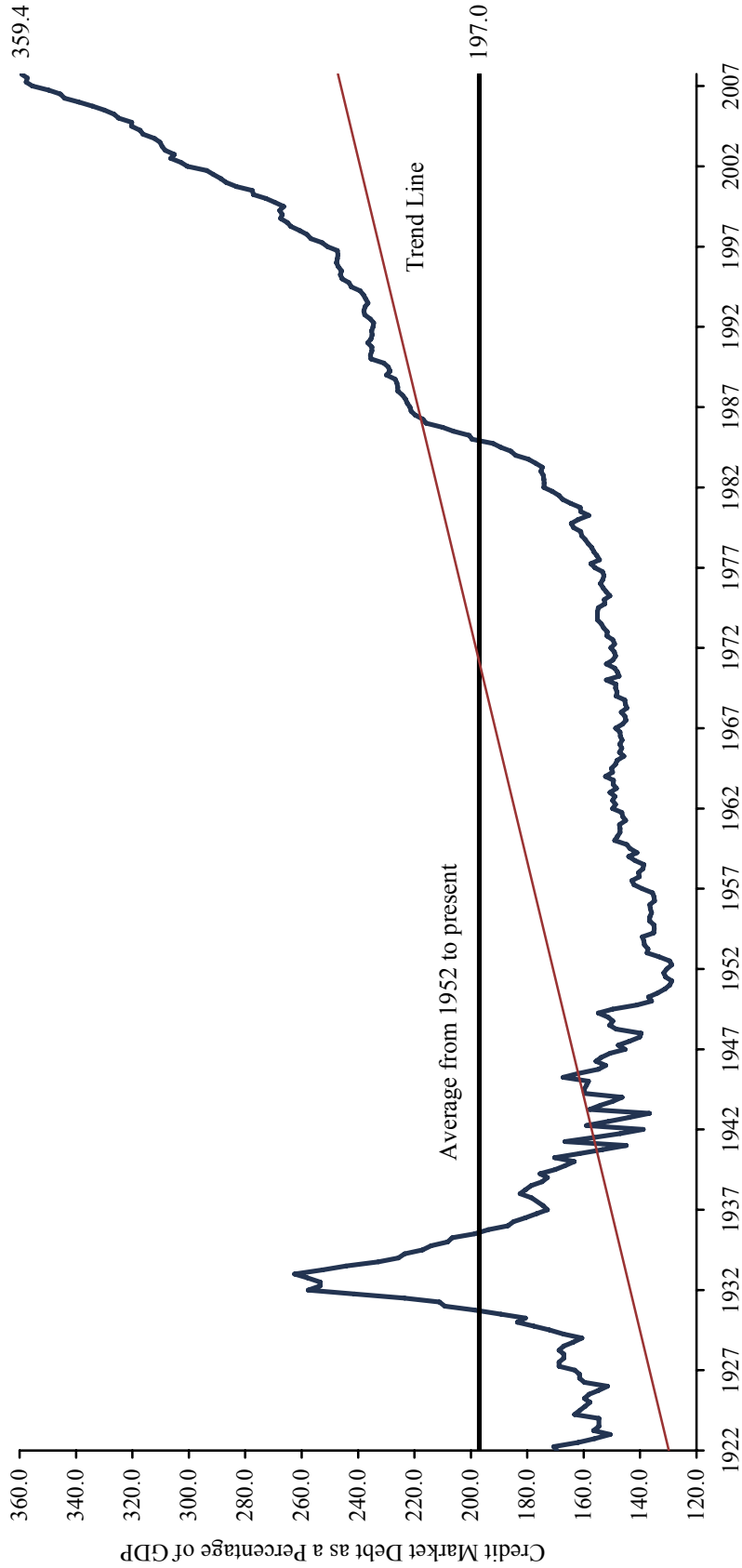
JAPAN'S POST-BUBBLE ECONOMY



Sources: Global Financial Data, Inc. and Thomson Datastream.

Notes: Inflation and unemployment data are quarterly. GDP data are annual. GDP figures for 2008 are through September 30, 2008. Trend line is based on simple linear regression trend model.

Table K
CREDIT MARKET DEBT AS A PERCENTAGE OF NOMINAL GDP
Fourth Quarter 1922 – Third Quarter 2008



Sources: Ned Davis Research, Inc. and Thomson Datastream.

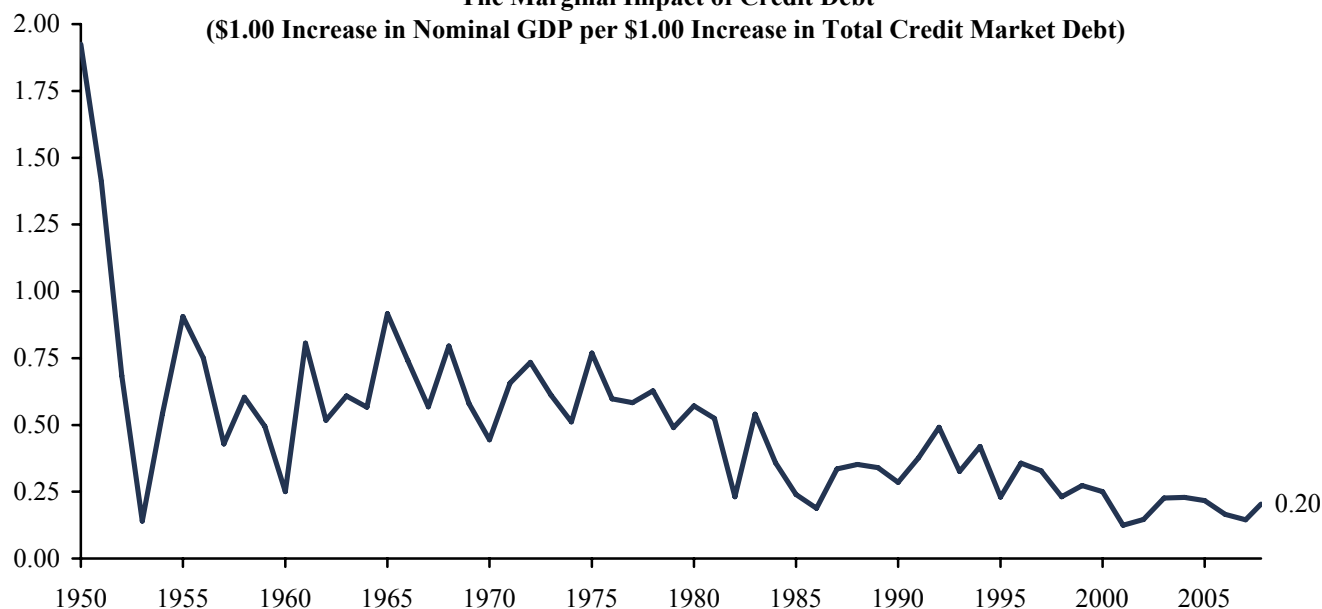
Notes: Graph represents quarterly data. Trend line is based on simple linear regression trend model.

Table L

THE DIMINISHING IMPACT OF CREDIT ON THE U.S. ECONOMY

1950–2008

The Marginal Impact of Credit Debt
(\$1.00 Increase in Nominal GDP per \$1.00 Increase in Total Credit Market Debt)



<u>Date</u>	<u>Change in Credit Debt (US\$ bn)</u>	<u>Change in Nominal GDP (US\$ bn)</u>	<u>Marginal Impact of Credit Debt on Nominal GDP</u>	<u>Percent Change of Credit Debt to Nominal GDP Ratio (%)</u>	<u>AACR of Real GDP (%)</u>
1950–59	338	248	0.73	-4.8	4.2
1960–69	752	491	0.65	3.1	4.3
1970–79	2,785	1,656	0.59	8.3	3.3
1980–89	8,564	2,924	0.34	43.0	3.1
1990–99	12,566	3,935	0.31	16.1	3.2
2000–07	24,476	4,512	0.18	33.2	2.3
2008	1,914	390	0.20	1.0	-0.2
Stable Credit Growth					
1950–80	4,324	2,652	0.61	7.1	3.8
Exponential Credit Growth					
1981–2007	45,157	11,114	0.25	119.5	3.0

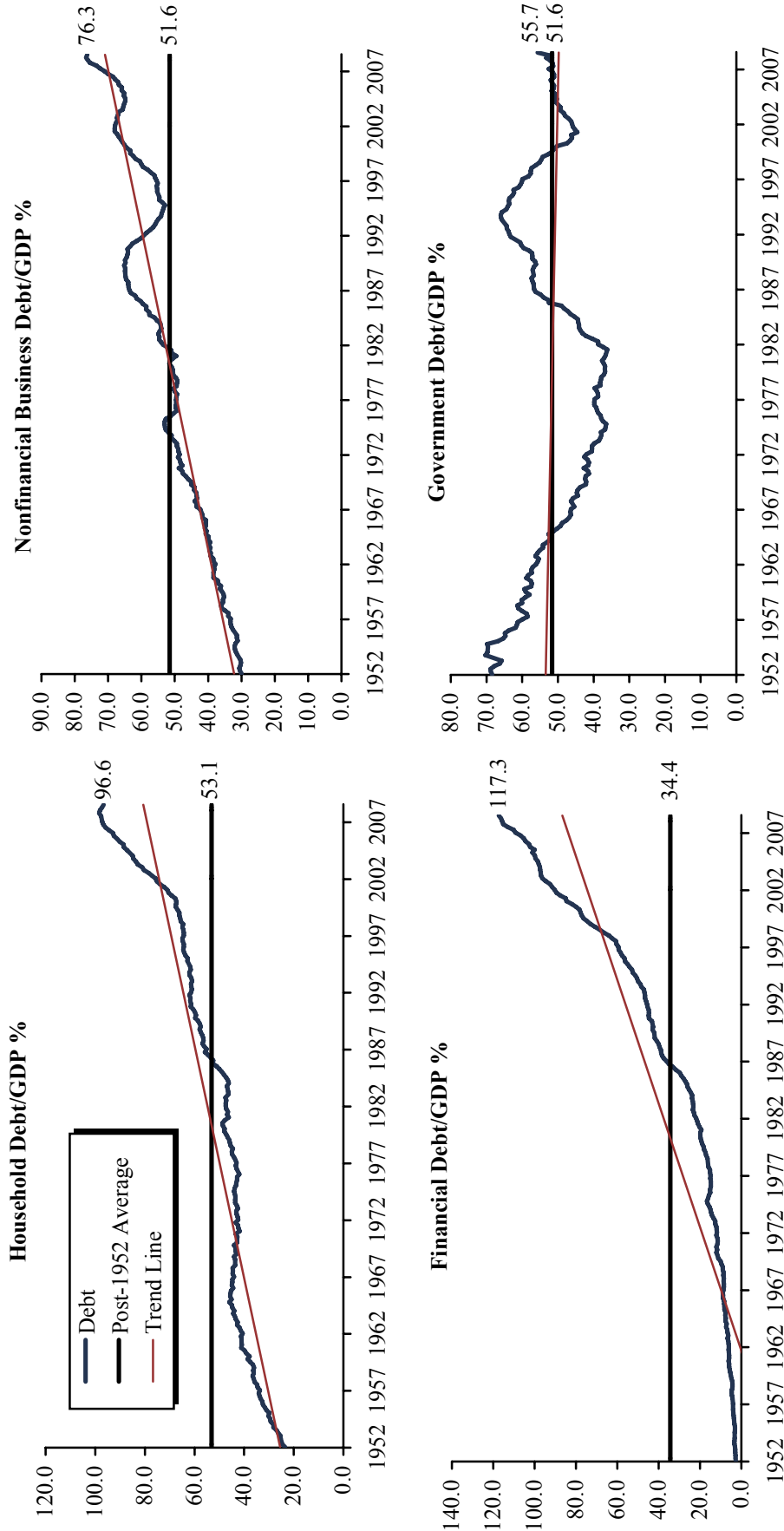
Sources: Global Financial Data, Inc. and Ned Davis Research, Inc.

Notes: Data for 2008 are as of September 30. The marginal impact of debt is measured as the year-over-year dollar change in U.S. nominal GDP divided by dollar change in total credit market debt. In 2007, for example, \$4,557 billion in new debt was accompanied by only a \$661 billion increase in nominal GDP, implying that every \$1 of additional debt resulted in \$0.15 of growth.

Table M

U.S. ECONOMY'S DEBT BY SECTOR AS A PERCENTAGE OF GDP

1952-2008

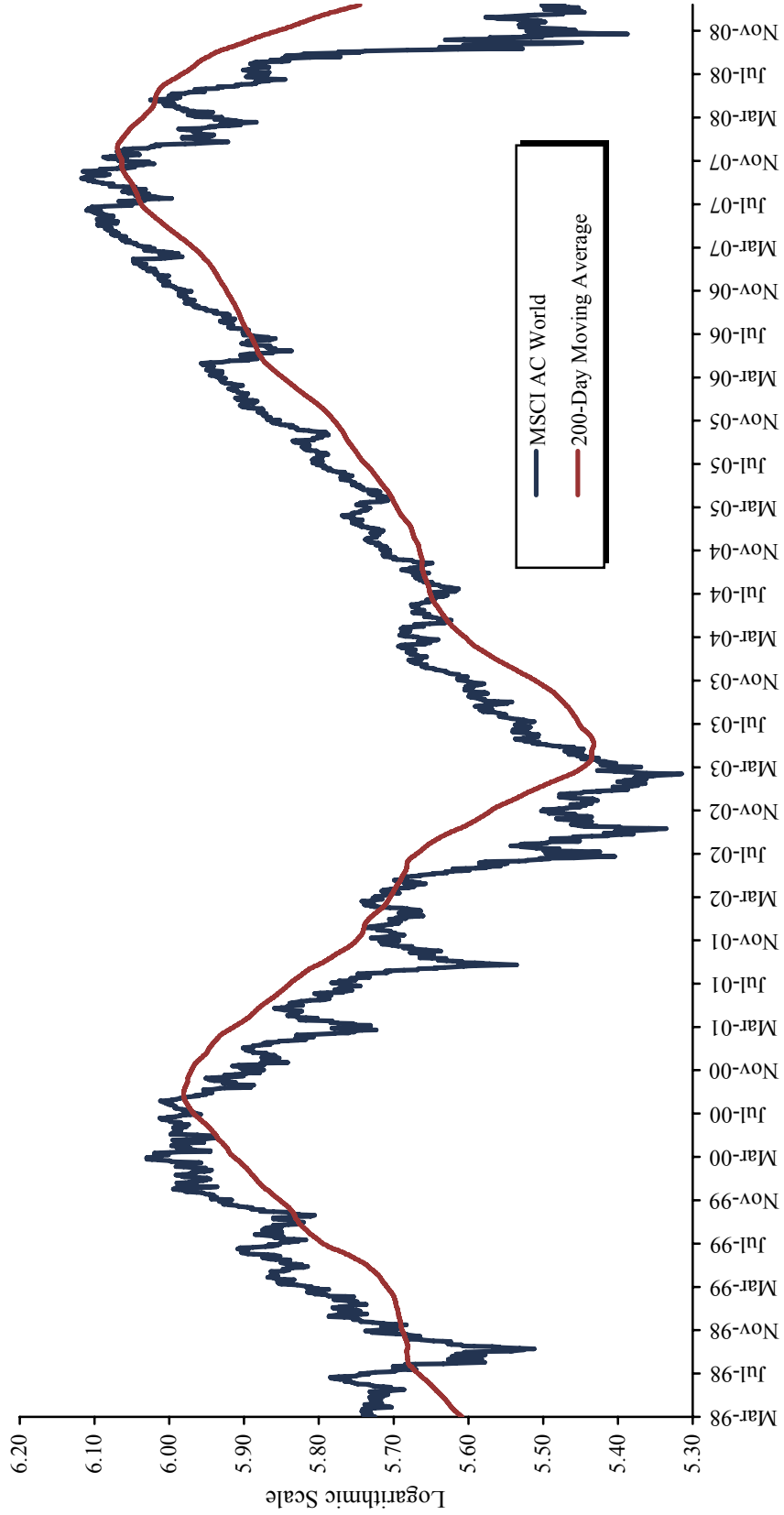


Sources: Thomson Datastream and U.S. Federal Reserve Board.

Notes: All data are expressed as a percentage of nominal GDP. Data for 2008 are through September 30. Government debt includes public federal debt as well as local debt. Trend line is based on simple linear regression trend model.

Table N
MSCI ALL COUNTRY WORLD INDEX
March 31, 1998 – February 10, 2009

Price Levels in Local Currency

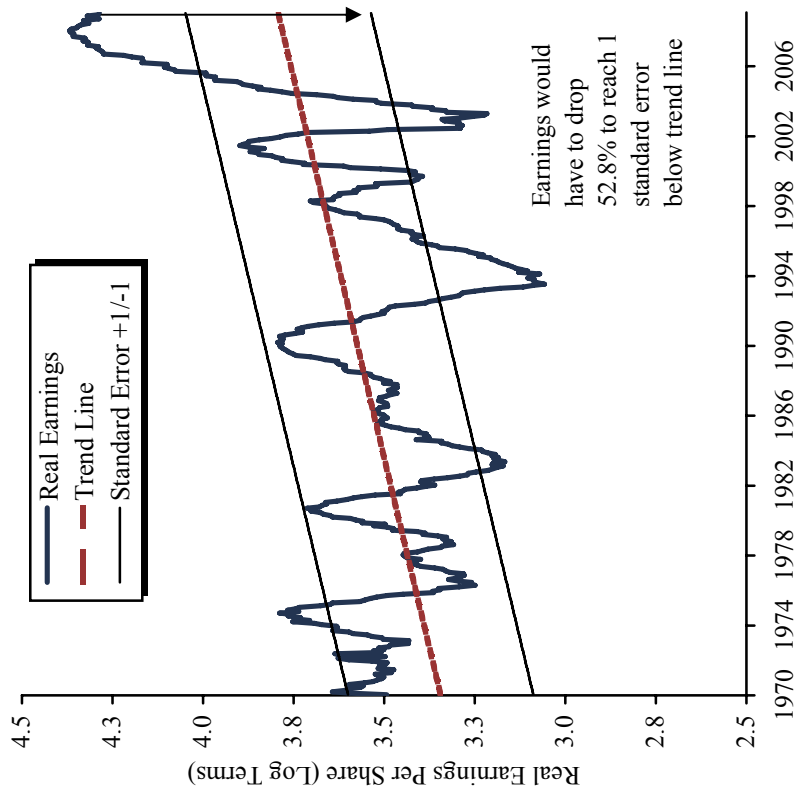


Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Table O

GLOBAL AND U.S. REAL EARNINGS

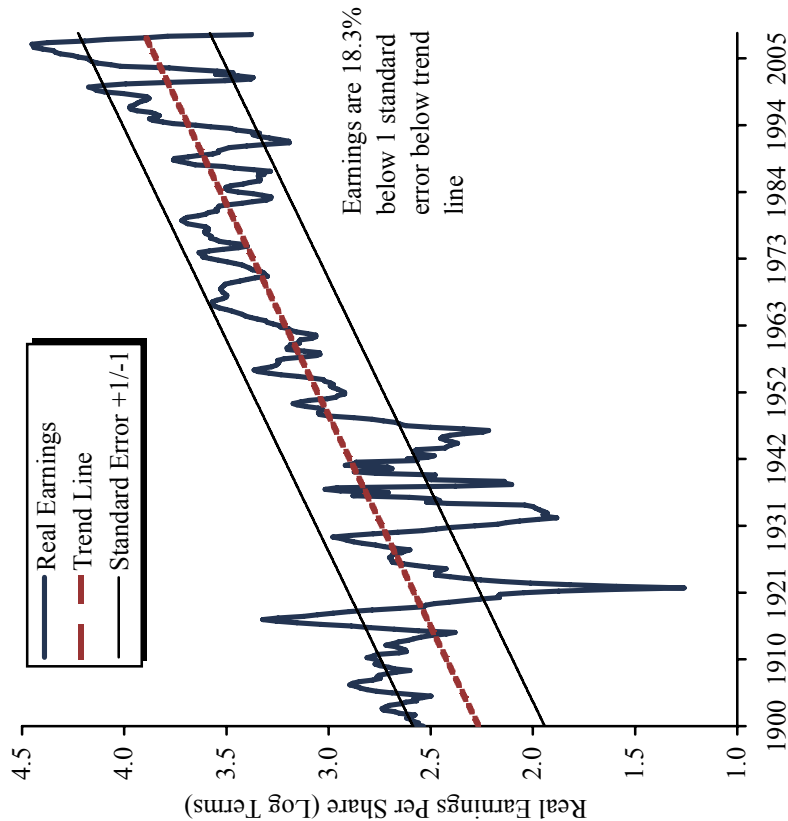
MSCI World ex U.S. Real Earnings
January 31, 1970 – January 31, 2009



Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: MSCI World ex U.S. earnings per share deflated by G7-CPI, based on December 31, 2008, level. Trend line is based on simple linear regression trend model.

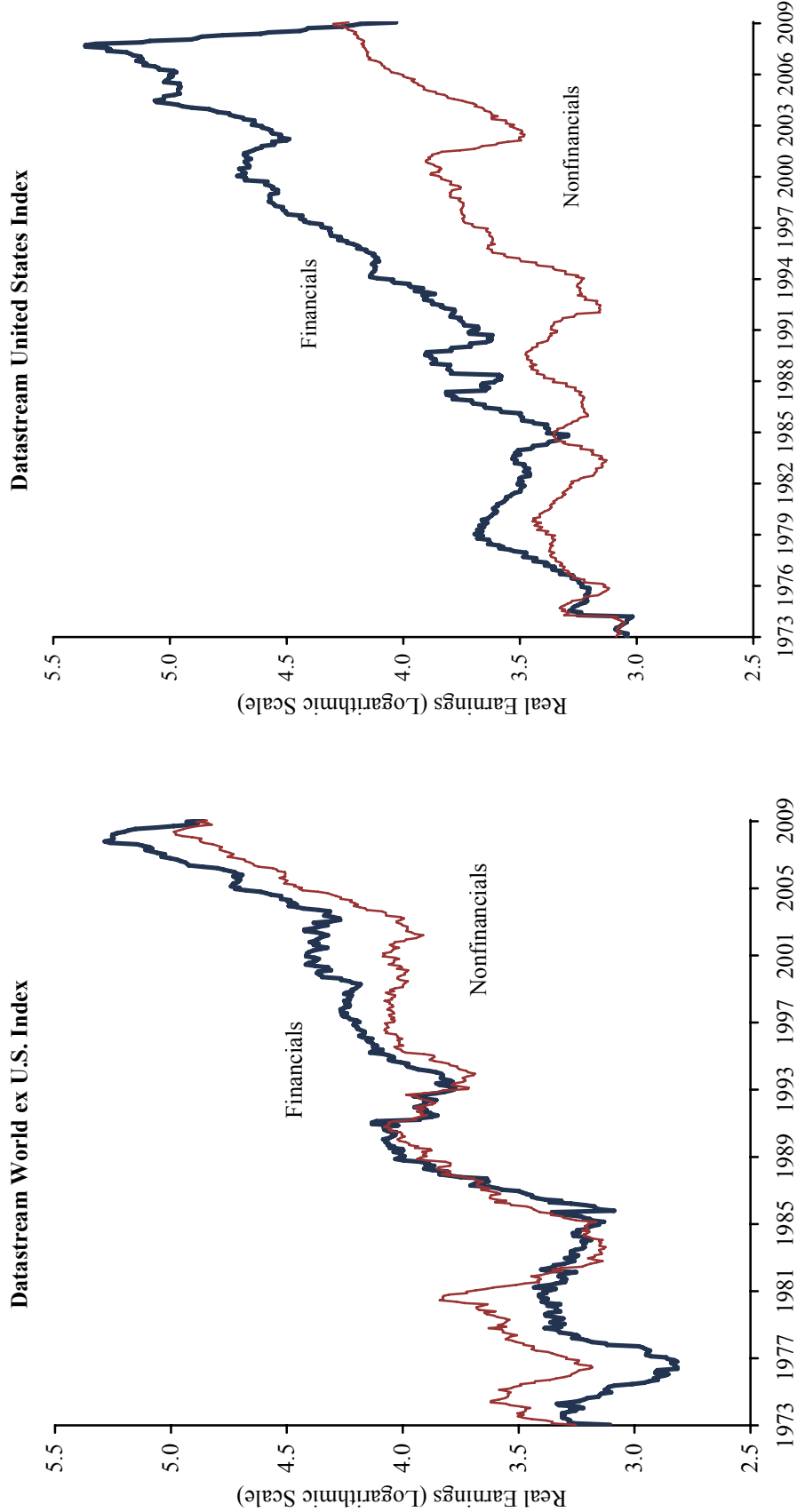
S&P 500 Real Earnings
March 31, 1900 – January 31, 2009



Sources: Calculated from data provided by Standard & Poor's.

Notes: Real earnings are adjusted to December 2008 dollars. Trend line is based on simple linear regression trend model. Fourth quarter and January EPS figures are estimates from Standard & Poor's.

Table P
GLOBAL EARNINGS PER SHARE
January 31, 1973 – January 31, 2009



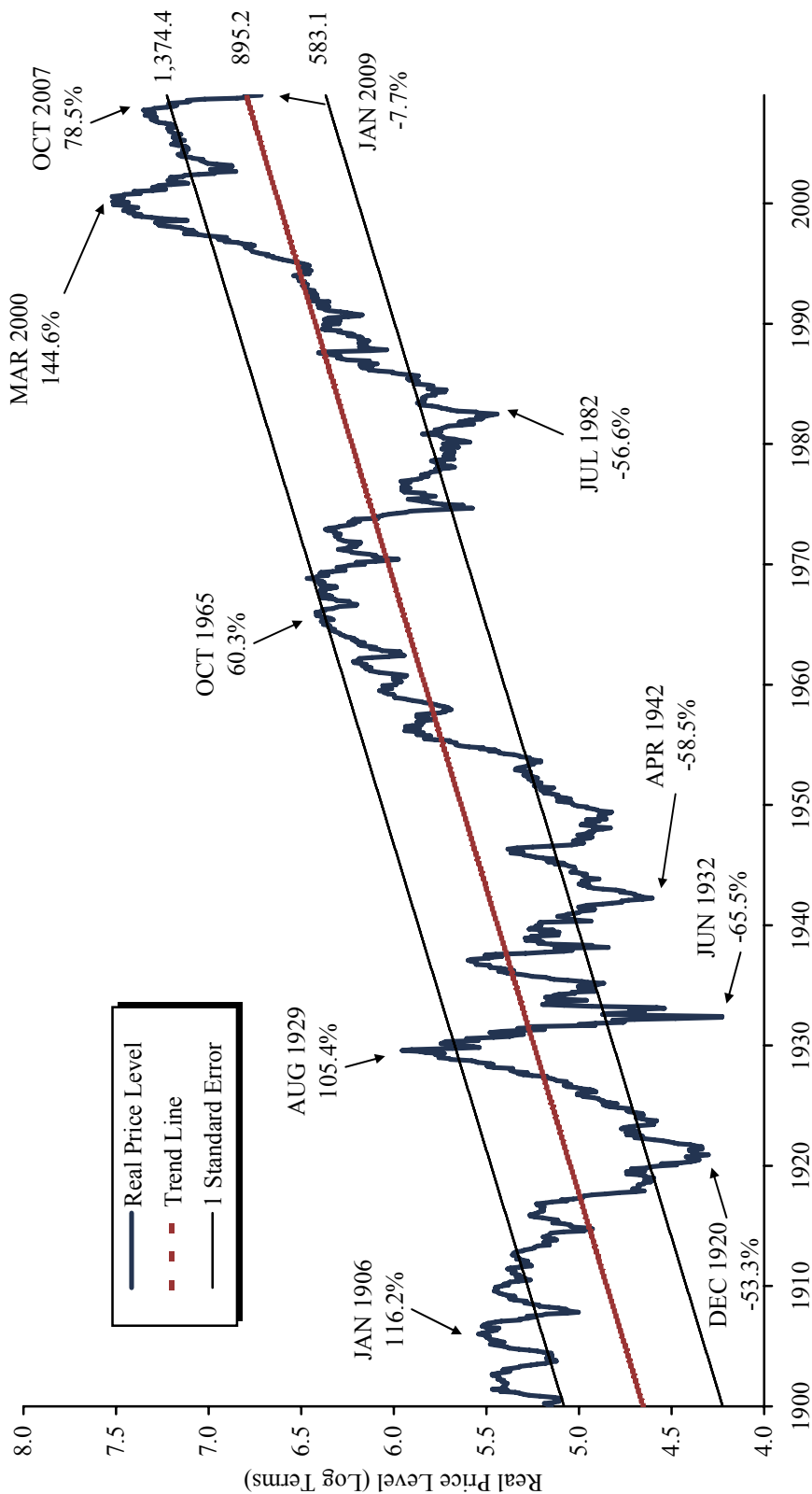
Source: Thomson Datastream.

Notes: Earnings data are calculated using Datastream price-earnings ratio data. Real earnings are adjusted to December 2008 dollars.

Table Q

S&P 500 INDEX REAL PRICE LEVEL AND DEVIATION FROM TREND

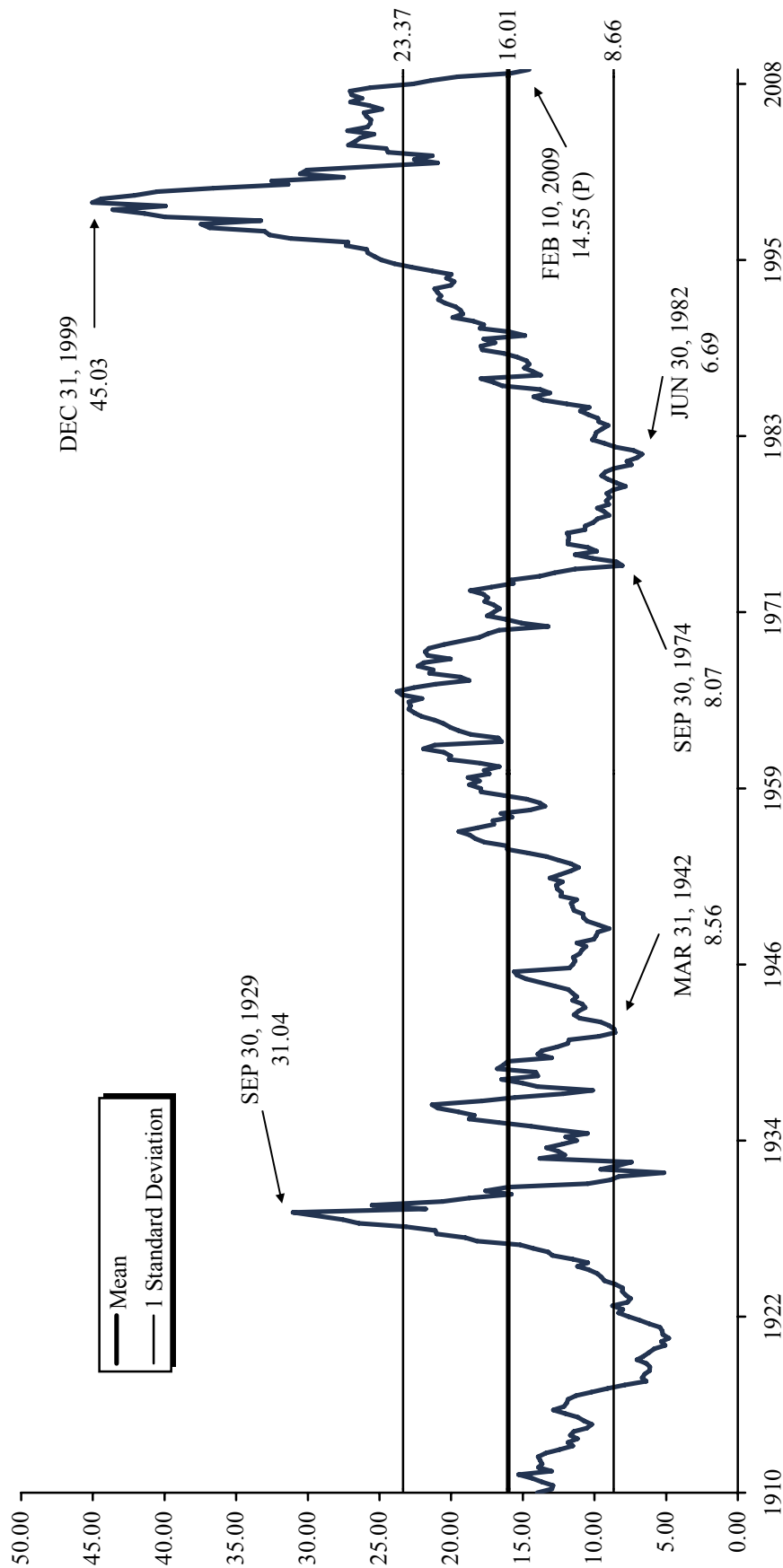
January 31, 1900 – January 31, 2009



Sources: Global Financial Data, Inc. and Thomson Datastream.

Notes: Data are shown in logarithmic terms. Trend line is based on simple linear regression trend model. Price level data are deflated by CPI-U based on December 31, 2008, level. Indicated percentages represent difference between trend line and real price level.

Table R
S&P 500 NORMALIZED REAL PRICE-EARNINGS RATIOS SINCE 1910



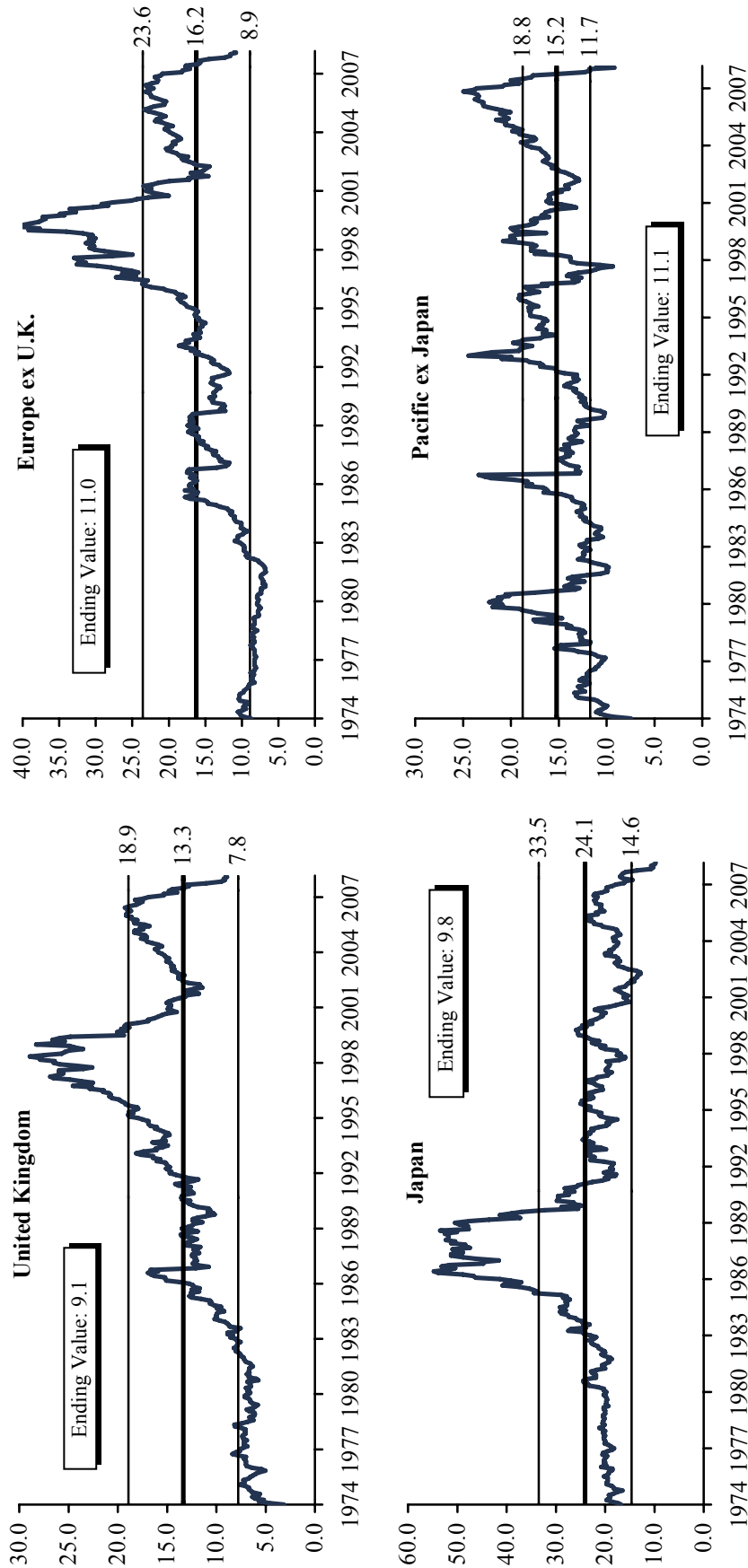
Sources: Calculated from data provided by Standard & Poor's, Standard & Poor's Compustat, U.S. Department of Labor - Bureau of Labor Statistics, and *The Wall Street Journal*.

Notes: (P) Preliminary. Normalized real price-earnings ratios for the S&P 500 are calculated by dividing the current index value by the annualized average real earnings for the trailing ten years. CPI-U data are through December 31, 2008. Graph represents quarterly data.

Table S

MSCI DEVELOPED MARKETS RETURN ON EQUITY-ADJUSTED PRICE-EARNINGS RATIOS

December 31, 1974 – February 10, 2009



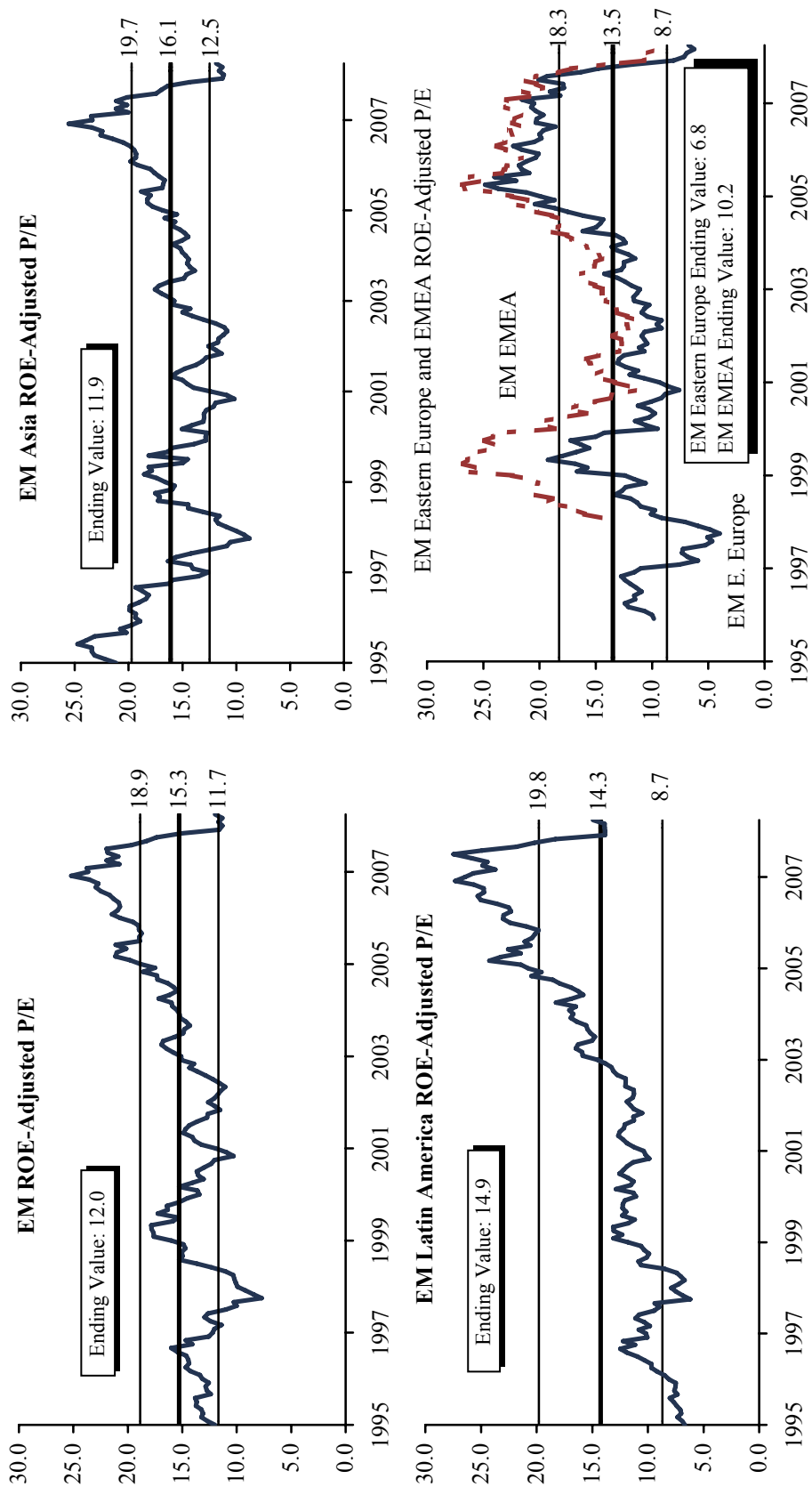
Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: The return on equity (ROE)-adjusted price-earnings (P/E) ratio multiplies the current trailing P/E multiple by the ratio of current ROE to historical ROE for each market. The ROE-adjusted P/E ratios for Japan assume a long-term average ROE of 9.5%, which is the average level of ROE over the 1974-91 period. Valuation history for the Pacific ex Japan Index is re-created for the pre-December 1984 period by taking the market-cap-weighted average of country level valuation data for Australia, Hong Kong, and Singapore. Starting in December 1984 the official MSCI value is used. Data for February use price data from February 10, 2009, and earnings and book values from January 31, 2009.

Table T

MSCI EMERGING MARKETS REGIONAL PRICE-EARNINGS VALUATIONS

November 30, 1995 – February 10, 2009



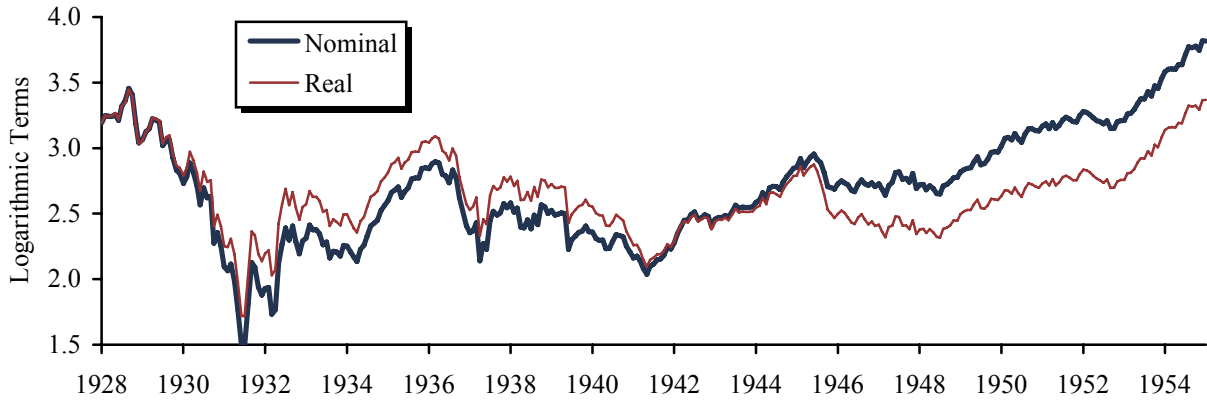
Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Return on equity (ROE) is calculated by dividing the index's price-to-book ratio by its price-earnings (P/E) ratio. The ROE-adjusted P/E ratio is the current trailing P/E ratio multiplied by the ratio of the current level of ROE to an assumed long-term historical average ROE of 12 for equity markets. Mean and standard deviation values on EM Eastern Europe/EM EMEA refer to EM Eastern Europe. Data for February use price data from February 10, 2009, and earnings and book values from January 31, 2009.

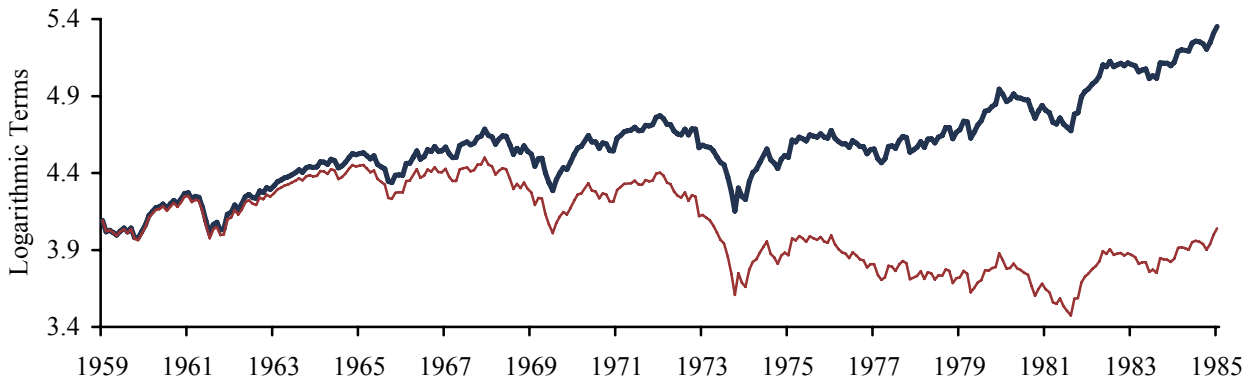
Table U

BEAR MARKETS

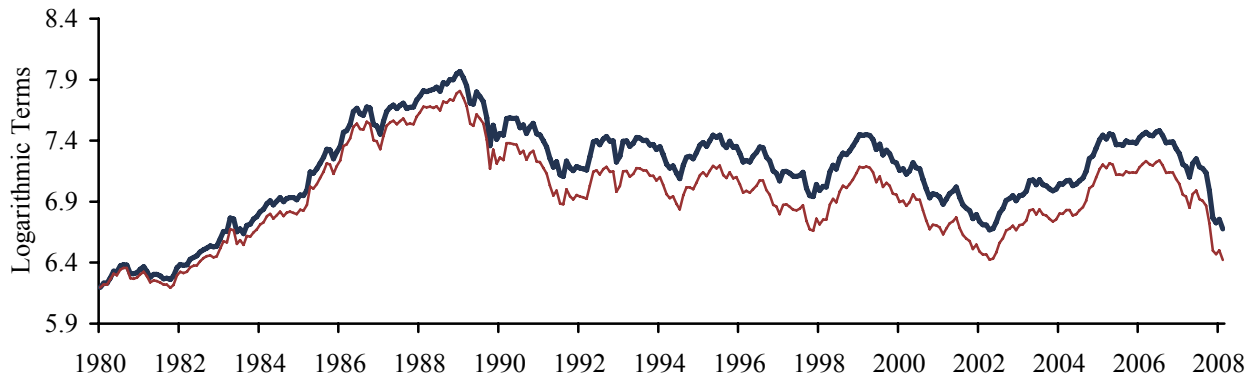
**S&P 500 Price Level
December 31, 1928 – December 31, 1954**



**S&P 500 Price Level
December 31, 1959 – December 31, 1985**



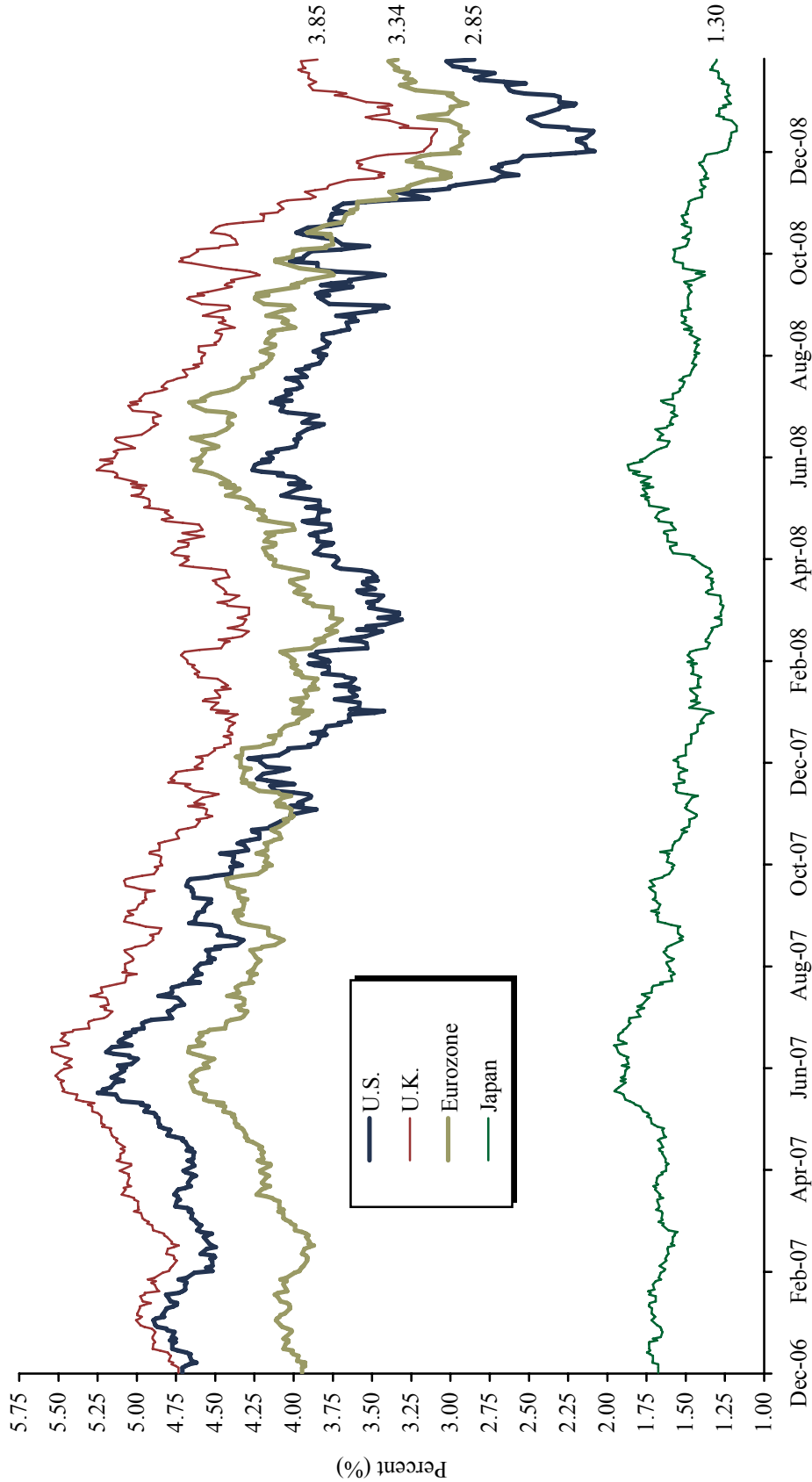
**Topix Price Level
December 31, 1980 – January 31, 2009**



Sources: Global Financial Data, Inc. and Thomson Datastream.

Notes: Standard & Poor's price level data for 1929–55 are adjusted to 1929 dollars. Price level data for 1959–85 are adjusted to 1959 dollars. Topix price level data for 1980–2009 are adjusted to 1980 dollars.

Table V
TEN-YEAR GOVERNMENT BOND YIELDS
December 31, 2006 – February 10, 2009



Source: Thomson Datastream.

Table W

CAMBRIDGE ASSOCIATES CURRENT VALUATIONS SUMMARY*

February 9, 2009

<u>Very Overvalued</u>	<u>Overvalued</u>	<u>Fairly Valued</u>	<u>Undervalued</u>	<u>Very Undervalued</u>
U.S. Treasuries	EMU Sovereign Bonds U.S. Venture Capital** U.S. Buyout Funds European Buyout Funds	U.S. Equities S&P 500 U.S. Growth Equities U.S. Value Equities U.S. Small-Cap Equities U.S. Mega-Cap Equities U.S. High-Quality Equities U.S. Inflation-Linked Bonds U.K. Sovereign Bonds Emerging Markets Debt† Commodities Real Estate (Public REITs) U.S. Real Estate (>) Real Estate (Industrial) (>) Real Estate (Office) (>) Real Estate (Retail) (>) Real Estate (Apartments) (>) U.S. Timberland Oil & Gas Oil & Gas - Drilling Oil & Gas - Properties Merger Arbitrage European Venture Capital Asian Buyout Funds Asian Venture Capital US\$	Emerging Markets Equities EM Equities Asia EM Equities Latin America EM Equities Europe, Middle East, & Africa Global ex U.S. Developed Equities Global ex U.S. Small-Cap Equities U.K. Equities Europe ex U.K. Equities Pacific ex Japan Equities Japanese Equities European Credit U.S. Bonds *** U.S. Tax-Exempt Bonds U.S. Corporate Bonds Mortgage Securities Capital Structure Arbitrage (>) Convertible Arbitrage	U.S. High-Yield Bonds Bank Debt

Notes: Data on fundamental valuations do *not* provide forecasts of expected returns; they suggest the *risk* incurred by investors by indicating the vulnerability of a given asset class to disappointing economic developments. **Therefore, valuations do not necessarily correspond to short-term or even intermediate-term returns.** As asset classes tend to move from over- to undervalued, an asset class could be fairly valued yet still retain a negative outlook due to deteriorating fundamentals. Asset class and investment strategy valuations do not reflect currency valuations. Bold type represents the **aggregate** of asset classes for which we show valuation ratings for underlying strategies. (>) Indicates a recent move in the direction of more overvalued. (<) Indicates a recent move in the direction of more undervalued.

* For more detailed valuations information, read our monthly "Notes on Current Valuations" available on the Market Update page of www.cambridgeassociates.com and our report *Monthly Resources: Capital Market Commentaries, Notes on Current Valuations and Investment Publications Highlights*.

** All sectors of U.S. venture capital (i.e., early, expansion, and later stage) are overvalued.

*** Reflects a broad-based U.S. bonds allocation similar to the Barclays Capital U.S. Aggregate Bond Index.

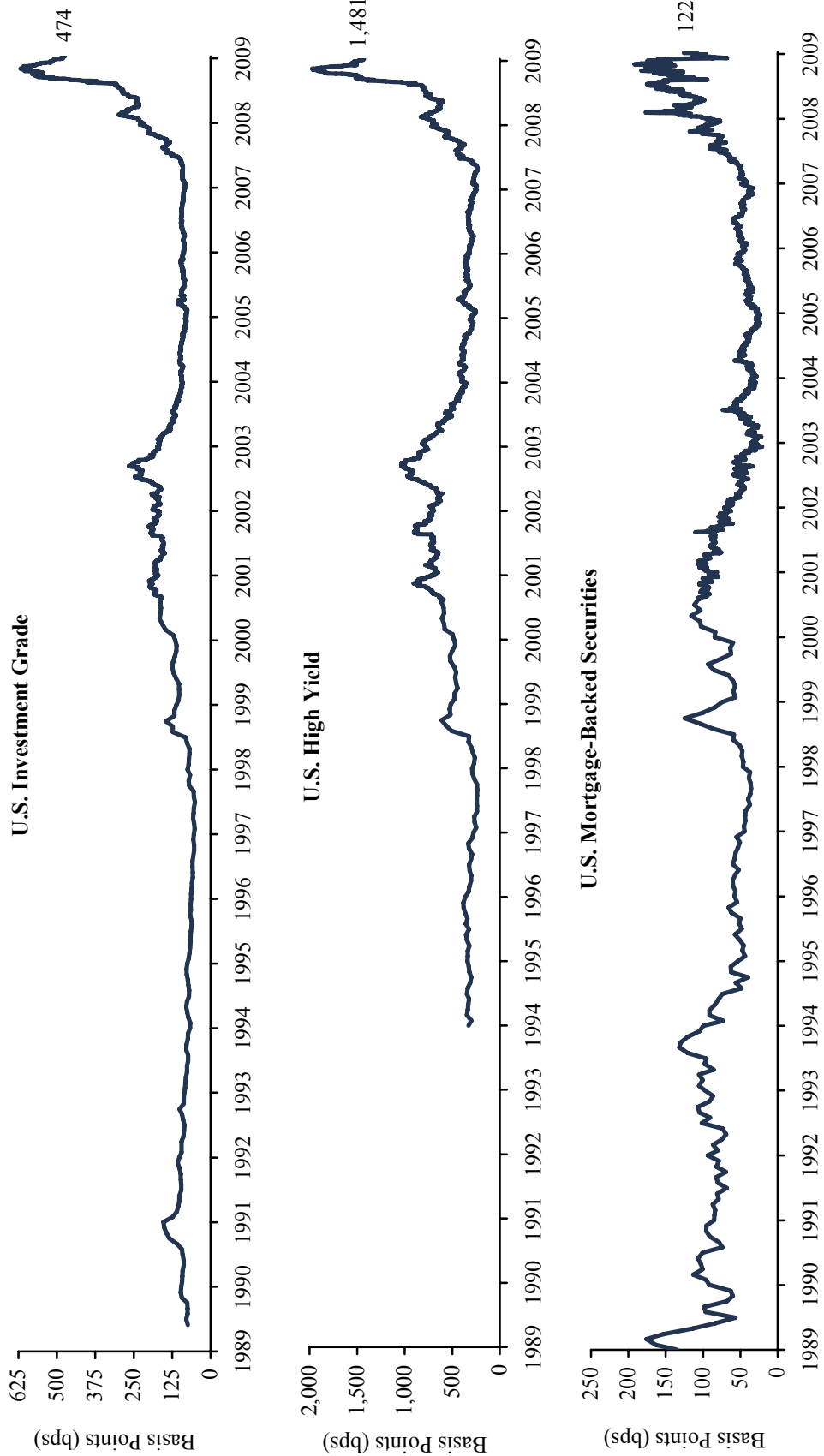
† Our valuation refers specifically to US\$-denominated emerging markets debt.

044x

Table X

OAS ON AGENCIES, MORTGAGES, CORPORATES AND HIGH YIELD

January 31, 1989 – February 10, 2009



Sources: Barclays Capital and Ned Davis Research, Inc.

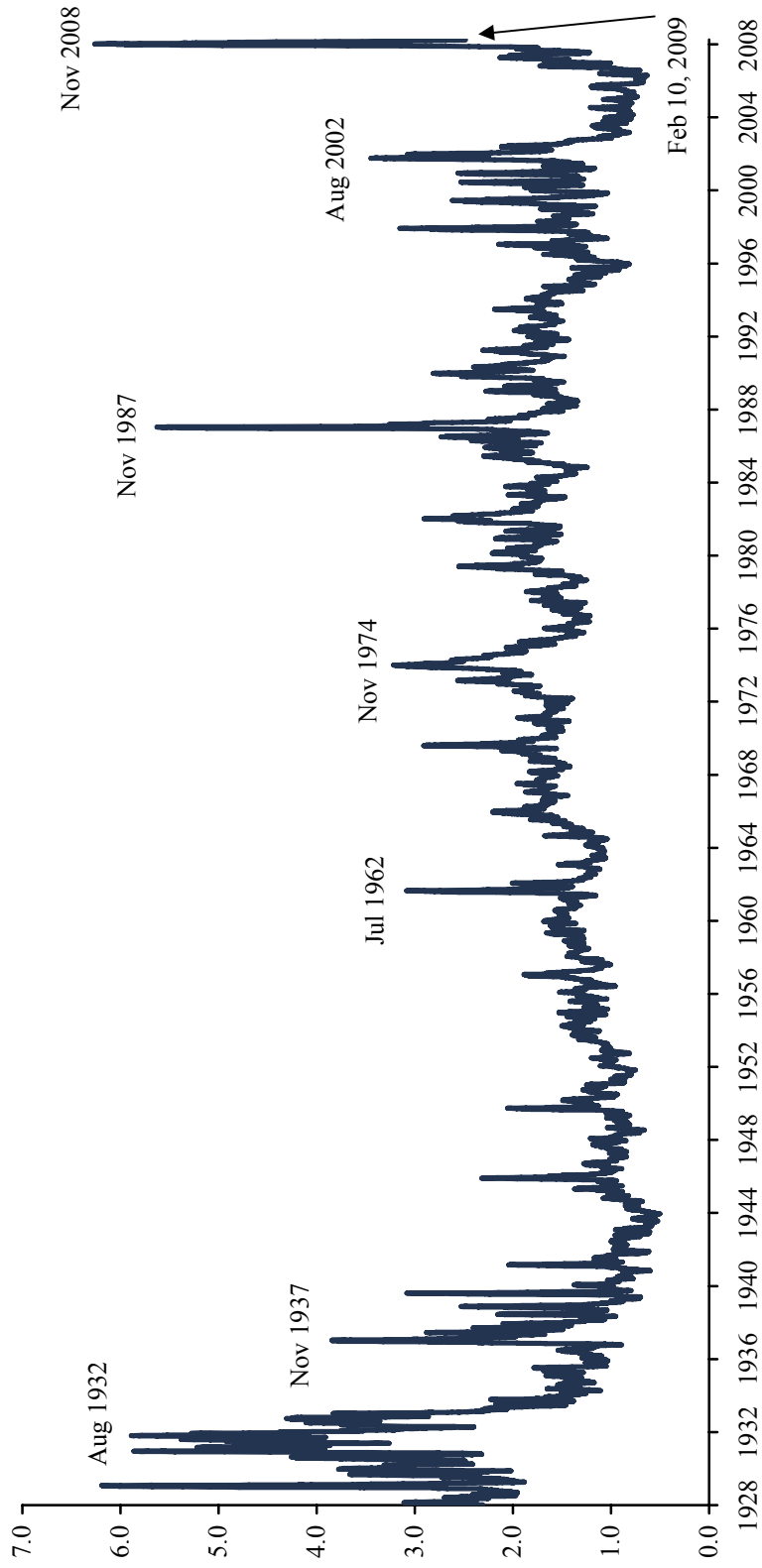
Notes: Daily data begin on September 1, 2000, for each index. Prior data are monthly.

Table Y

INTRA-DAY VOLATILITY

30-Day Average Intra-Day Percent Swing in the Dow Jones Industrial Average

September 30, 1928 – February 10, 2009



Source: Global Financial Data, Inc.

Note: Graph shows the 30-day average intra-day point change in the DJIA as a percentage of the previous day's closing level.