CIBC World Markets

STRATEGECON

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Economics & Strategy

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"What else happened that could possibly cause a world recession?"

Just How Big is Cleveland?

by Jeff Rubin

How do imploding property values in inner-city Cleveland slums bring down the world economy?

Cleveland may loom large on the balance sheets of financial institutions and equities worldwide (see pages 7-9), through the wonders of leverage and securitization. But global GDP is a whole other ball game. Is Cleveland, and all the other depressed property markets in the US, really big enough to deep-six a $60 trillion world economy?

And how do falling property values in Cleveland create a recession in Japan, and the Euroland economies, before they even create a recession in the US economy. And if Cleveland and its ilk are really the epicentre of all the world economies' ills, why is the rest of the world buying greenbacks?

Perhaps there is something else going on, and Cleveland, and its slumping property values and soaring foreclosure rates, is just a big head fake. What else has happened that could possibly cause a world recession? Here's a clue. Four of the last five global recessions were caused by huge spikes in oil prices.

And the world economy is coming off the mother of all spikes. Over the past expansion, real oil prices rose over 500%, twice the climb in real oil prices that produced the two biggest recessions in the post-war era: the 1974 recession and the double-dip recession in 1980 and 1982. If oil shocks half the size of the recent one caused the worst recessions in the last fifty years, they're a pretty obvious explanation for the recessions in oil-dependent Japan and Euroland earlier in the year. And even back in Cleveland, few could doubt the link between $4/gallon gasoline last Memorial Day weekend and what's happening in Detroit today. And from where the US economy currently stands, vehicle sales have a much bigger downside than housing starts.

Oil shocks create global recessions by transferring billions of dollars of income from economies where consumers spend every cent they have, and then some, to economies that sport the highest savings rates in the world (see pages 4-6).

While those petro-dollars may get recycled back to Wall Street by sovereign wealth fund investments, they don't all get recycled back into world demand. The leakage, as income is transferred to countries with savings rates as high as 50%, is what makes this income transfer far from demand neutral.

The good news is that if triple-digit oil prices were the real culprit, then surely $65/barrel oil paves the path to recovery. Two dollar and fifty cent per gallon gasoline gives consumers back a lot more purchasing power than Washington's last stimulus package. Of course the bad news is, where do you think oil prices will be once the economy recovers?

MARKET CALL

- Deleveraging has led to buying of both the US dollar and yen by funds and institutions with massive losses on US$ investments funded in these currencies. But the US dollar has now significantly overshot its trade and current account fundamentals. The C$ has been hit both by these flows and by the cyclical weakness in commodities, but could rebound just as sharply in 2009 as resource markets eye an improving economy, and the deleveraging flows peter out.

- The Fed left the door open for another rate cut, and we added another quarter-point trimming. But that will do nothing for longer Treasuries which will sell off in 2009 and beyond, initially due to a wall of supply to cover deficits and capital market interventions, and later in response to the Fed taking back some of the emergency rate cuts as it sees both growth and inflation pick up.

- The Bank of Canada will likewise ease another quarter point before year-end, but the sell-off in store in government bonds for 2009 should be a bit milder, as relative government deficits and funding needs will pale relative to those stateside. Both markets should see a very gradual improvement in spreads on highly rated corporates and for provinces.

INTEREST & FOREIGN EXCHANGE RATES

		2008		2009			
END OF PERIOD:		**31-Oct**	**Dec**	**Mar**	**Jun**	**Sep**	**Dec**
CDA	Overnight target rate	2.25	2.00	2.00	2.00	2.25	3.00
	98-Day Treasury Bills	1.85	1.70	1.75	1.75	2.10	2.75
	Chartered Bank Prime	4.00	3.75	3.75	3.75	4.00	4.75
	2-Year Gov't Bond (2.75% 12/10)	2.02	2.10	2.35	2.70	3.00	3.40
	10-Year Gov't Bond (4.25% 06/18)	3.77	3.70	3.70	3.85	3.95	4.00
	30-Year Gov't Bond (5% 06/37)	4.29	4.25	4.30	4.35	4.35	4.40
U.S.	Federal Funds Target	1.00	0.75	0.75	1.00	1.75	2.25
	91-Day Treasury Bills	0.45	0.45	0.60	0.95	1.50	2.15
	2-Year Gov't Note (1.5% 10/10)	1.56	1.60	1.85	2.25	2.85	3.15
	10-Year Gov't Note (4% 08/18)	3.96	3.95	4.00	4.05	4.00	4.30
	30-Year Gov't Bond (4.5% 05/38)	4.37	4.30	4.40	4.55	4.60	4.70
Canada - US T-Bill Spread		1.40	1.25	1.15	0.80	0.60	0.60
Canada - US 10-Year Bond Spread		-0.19	-0.25	-0.30	-0.20	-0.05	-0.30
Canada Yield Curve (30-Year — 2-Year)		2.27	2.15	1.95	1.65	1.35	1.00
US Yield Curve (30-Year — 2-Year)		2.81	2.70	2.55	2.30	1.75	1.55
EXCHANGE RATES	— (US¢/C$)	82.7	80.6	84.7	87.0	91.7	100.0
	— (C$/US$)	1.210	1.240	1.180	1.150	1.090	1.000
	— (Yen/US$)	99	98	99	97	96	94
	— (US$/euro)	1.27	1.25	1.24	1.29	1.30	1.35
	— (US$/pound)	1.61	1.58	1.55	1.59	1.63	1.70
	— (US¢/A$)	66.3	65.0	68.0	70.0	73.0	75.0

STRATEGY AND EARNINGS OUTLOOK

- The latest GDP growth and other numbers make it clear that the US has now joined Europe, and probably Japan, in recession. But that recession looks neither deep enough nor global enough to validate the massive haircut in energy and other resource stocks, as investors indiscriminately dump assets levered to global growth.

- The deleveraging story is likely to hold sway for the balance of the year, limiting any TSX upside. Consensus expectations for 20% earnings growth stateside in 2009 also still look unwarrantedly high, given the US economy's cloudy near-term prospects. Although our 12,000 end- of-2009 target for the TSX points to longer term upside, we have opted to add more weight to defensive sectors like consumer staples and utilities this month. That is in recognition of some still very pronounced near-term risks.

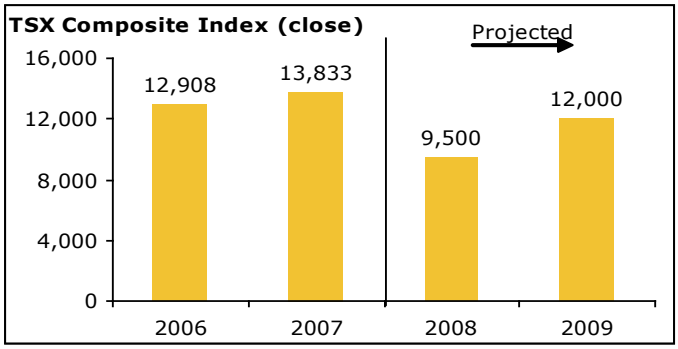
- Driving speculators out of the oil market does not change the fact that the marginal cost of a new barrel of crude is fast approaching the $100/bbl mark. Oil's recent price drop is a massive tax cut for beleaguered OECD consumers (see pp 4-6), one that should help get the economic ball rolling again. While abetting near-term growth prospects, the supply toll from oil's decline means consumers may end up paying more in the future.

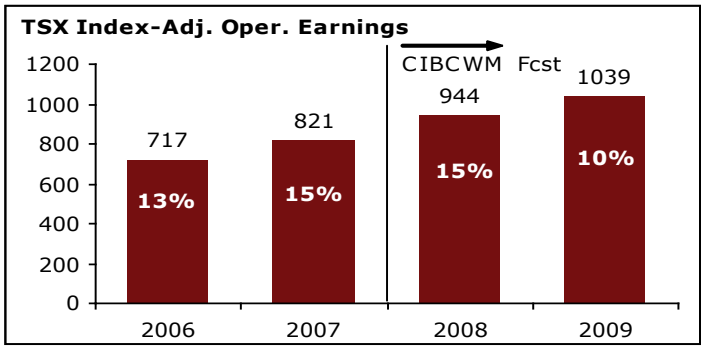
ASSET MIX (%)	Benchmark	Strategy Rec-ommendation
Stocks	53	53
Bonds	38	35
Cash	**9**	**12**
GICS SECTOR EQUITIES (%)		
Consumer Discretionary	4.1	1.1
Consumer Staples	2.5	4.5
Energy	**29.2**	**34.2**
Financials	31.3	31.3
-Banks	18.2	18.2
-Insur., REITs, other	13.2	13.2
Healthcare	0.3	0.3
Industrials	5.3	2.8
Info Tech	3.6	1.6
Materials	**16.7**	**18.7**
-Gold	**7.6**	**9.6**
-Other Metals	4.1	4.1
-Chemicals	**4.5**	**4.5**
Telecom	5.4	2.9
Utilities	**1.6**	**2.6**

Note: Bold indicates recommended overweight.

TSX - Earnings Outlook & Forward PE

	Operating Earnings (% ch)				4-qtr Fwd PE	
	2006	2007	2008	2009	Latest	Last 10 yrs.
Energy	10.3	13.5	30.3	9.2	10.0	12.0
Health Care	14.0	38.6	4.4	4.0	9.7	14.9
Industrials	78.2	2.9	45.0	5.4	12.3	28.9
Materials	17.4	13.9	-1.1	12.3	10.2	12.0
Utilities	-6.4	58.3	14.7	10.3	10.3	17.4
Consumer Staples	0.4	-3.8	0.5	15.3	13.1	17.8
Financials	10.0	-2.0	27.3	-1.7	11.3	15.7
Info Tech	88.5	115.9	40.3	30.4	14.8	44.5
Consumer Discretionary	30.5	-39.1	-28.9	10.3	16.0	22.0
Telecom Services	24.1	29.5	-2.3	18.4	11.2	29.8
TSX Composite	**13.2**	**14.5**	**15.0**	**10.0**	**10.7**	**16.1**





Source: Thomson Reuters, CIBC WM

What's the Real Cause of the Global Recession?

Jeff Rubin and Peter Buchanan

There is little doubt the world economy is falling into a pronounced slowdown, if not an outright recession. Certainly there can be little doubt that the OECD economies are in recession, including now its largest one—the US. Even growth in China's economic juggernaut is now in question, although the verdict there is far from clear. While most of the world's newfound economic ills are being attributed to the ongoing crisis in world financial markets, and its associated source, the US housing market crash, both the timing and size suggest something else may be afoot.

By any benchmark the economic cost of the recent rise in oil prices is nothing short of staggering. A lot more staggering than the impact of plunging housing prices on housing starts and construction jobs, which has been the most obvious brake on economic growth from the housing market crash. And those energy costs, unlike the massive asset writedowns associated with the housing market crash, were borne largely by Main Street, not Wall Street, in both America and throughout the world.

Certainly oil shocks are no stranger to recessions. Four of the last five global recessions were preceded by one (Chart 1). Yet the recent spike in oil prices doesn't seem to get any credit for what's happening to the world economy now.

That's odd because it should. Curiously, an over-500% increase in the real price of oil gets virtually ignored as a culprit behind today's economy, eclipsed by the ongoing crisis in financial markets. Yet the run-up in real oil prices this cycle is over twice the spike in oil prices that occurred during the first or second OPEC oil shock (Chart 2). And those oil shocks produced two of the deepest recessions in the entire post-war period, including the 1980-82 double dip.

Income Transfers to High Saving OPEC Countries Are Not Demand Neutral

In the past, oil shocks have triggered global recessions by transferring billions (or now trillions) of dollars of income from OECD economies with typically very low savings rates to OPEC economies with typically very high savings rates (Chart 3). For example, the transfer of income from US consumers to Saudi producers involves moving money from basically a zero-savings-rate economy to one in which the savings rate is around 50%. While many of those petro-dollars get recycled back into the financial assets of OECD countries, many of them never get spent. In effect, the income transfer from American motorists to Saudi Aramco means that more and more of the world's income gets saved and less and less spent. That demand leakage shows up in a weaker world economy. Hence,

Chart 1

Past Recessions and Oil Spikes

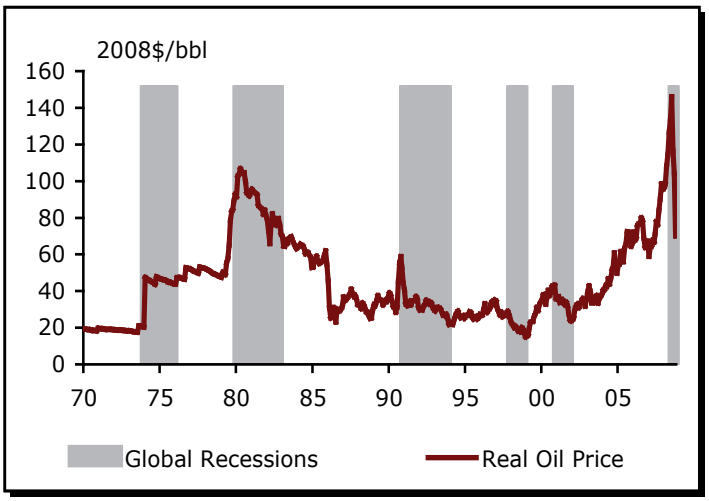


Chart 2

Recent Oil Spike vs Past Spikes

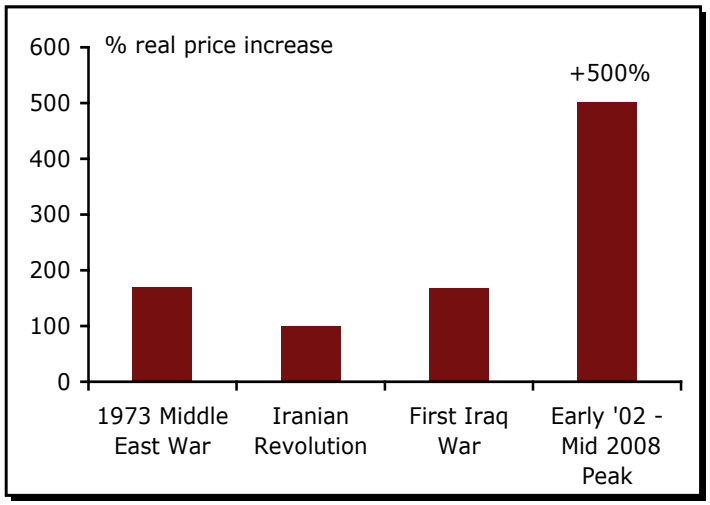
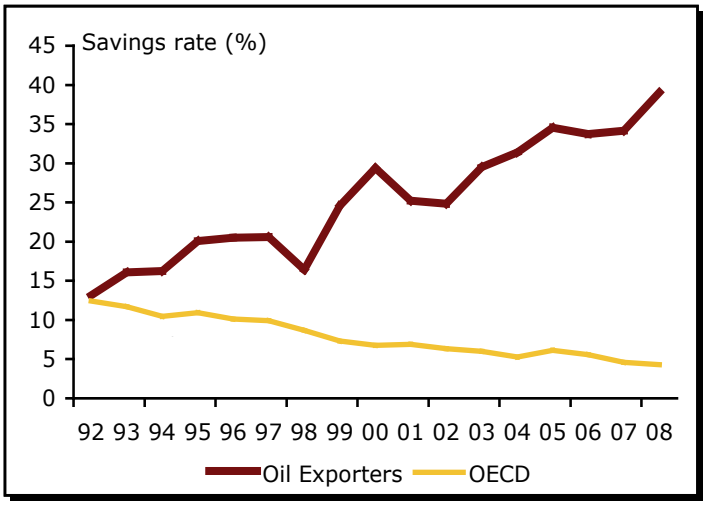


Chart 3

Savings Rates: OECD and OPEC



the redistribution of global income from oil-consuming countries to oil-producing countries is far from demand-neutral insofar as the global economy is concerned.

Those same transfers are occurring now, and at recent triple-digit oil prices, they have been occurring on an even more colossal scale than ever before. The annual US oil import bill has risen by a staggering $200 billion since 2005. That's bigger than Congress' recent fiscal stimulus package (Chart 4).

And, of course, it hasn't just been American consumers who have been socked with mounting fuel bills. It's been true for households from all OECD countries. Over the last five years their annual fuel bill has grown a staggering $700 billion. Of this, $400 billion annually has gone to OPEC producers.

Transfers a fraction of today's size caused world recessions in the past. Why shouldn't they today?

Properly diagnosing the disease is always a good first step to finding a cure. If the global meltdown is all about defaulted subprime mortgage debt, a global recovery will have to wait until we see a bottom in US housing prices. But if the global recession is primarily about the recent oil price shock, then the subsequent halving of prices from $147/bbl to little over $60/bbl now, and not a pick-up in Cleveland property values, is the real road to recovery.

Not only is scale a problem with the subprime mortgage explanation for a global recession, but the rise in oil prices also provides a better fit with the timing of the downturn. If the credit crunch was to blame, one would have expected the European and Japanese economies to have slipped into recession after the financial crisis sent LIBOR rates soaring. Instead, both economies tanked well ahead of the worst news for credit spreads. (Chart 5).

And both the Japanese and Euroland economies are far more vulnerable to oil price spikes than the American economy. While the US economy may consume 19 million barrels per day it also produces 5 million. That part of the American economy gets a boost from soaring oil prices. Japan on the other hand must import nearly all of its oil.

Chart 4

Stimulus Package Less Than Recent Rise in US Oil Payments

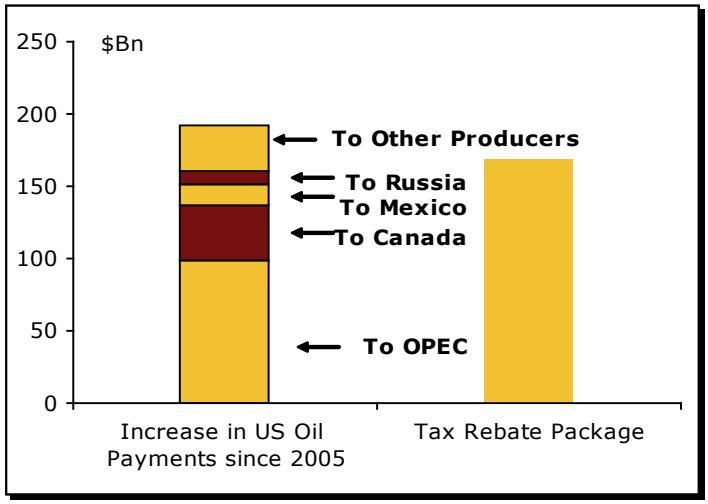


Chart 5

Overseas Economies Were in Recession (L) Well Before the Financial Shock Intensified (R)

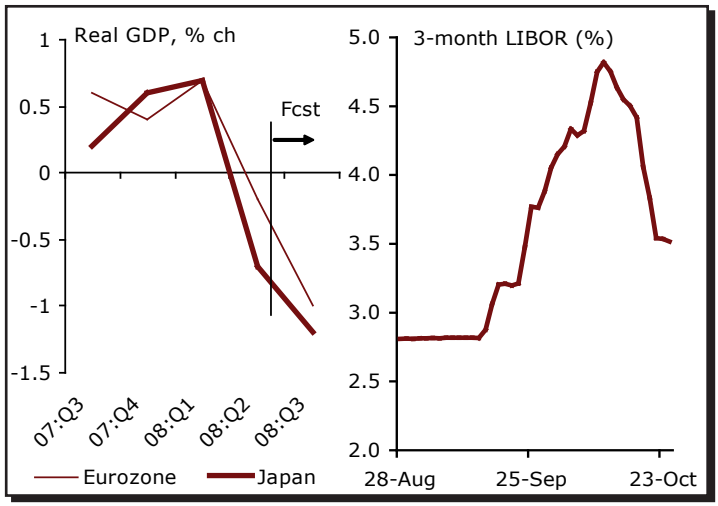
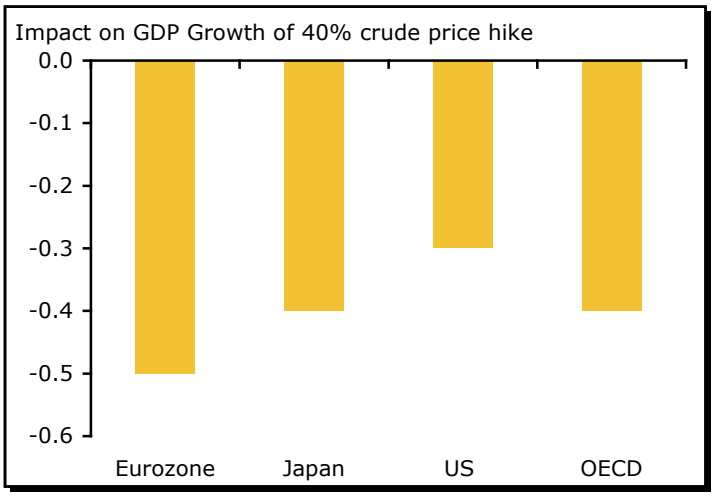


Chart 6

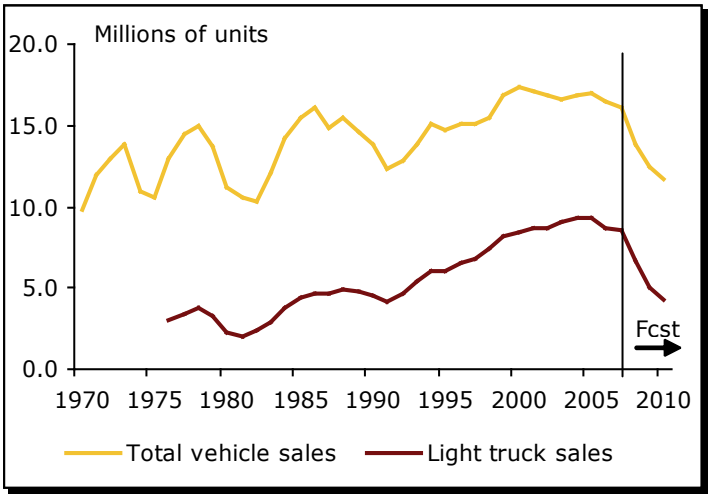
Oil Price Sensitivity of Different Economies



Source: IEA, "Analysis of the Impact of High Oil Prices on the Global Economy"

Chart 7

US Auto Sales Projected to Continue Falling



And with the exception of Russia and a few North Sea states, Europe is essentially in the same boat. That's why these economies have almost twice the sensitivity of the American economy to an oil shock (Chart 6).

But even the American economy is hardly immune. The one-two punch from record fuel bills and end of the tax rebates saw consumer spending plunge at a 3.1% rate in the third quarter, the largest decline in over a quarter century. Significantly, the last drop in household spending occurred in a previous energy shock, caused by the 1990 Iraq war. Plunging motor vehicle sales accounted for the largest single component of the drop in Q3 spending.

And the risk is that the damage there is far from done (Chart 7). The past year's high pump prices have not only decimated sales but sparked a discernable, potentially lasting reduction in miles driven. Nor is the damage from high oil prices limited to automobiles. Four-fifths of GDP shows a strong negative relationship to high energy costs. That includes the negative effect on a wide range of industries, including travel and agriculture, which increasingly just turns petroleum into food.

Some of the best research indicates that it takes about a year for an oil price shock to have its maximum impact on US GDP. Leading macro and energy economist James Hamilton notes these lags fit the experience of past shocks, including the OPEC-induced recessions of the 1970s. Among other factors, the unwinding of an involuntary buildup of autos and other durables is a key determinant of the lag structure involved. It has also been found that a similar lag structure holds for the impact of large declines in oil prices. The virtual collapse in oil prices to $12/bbl in1986 was a key driver behind a rebound in US economic growth to a 4%-plus pace, even in the face of mounting financial costs from the Savings and Loan crisis.

Given that oil prices really took off in the third quarter of last year, after several years of more gradual increases, we should expect to see its maximum hit on the economy right about now. By the same token, however, the impact from the even larger decline in oil prices over the last two quarters should give its maximum boost to the economy moving into 2009.

If triple-digit oil prices are what started the recession, then $60 oil prices are what will end it.

Stocks and Financial System Crises

Avery Shenfeld and Meny Grauman

A general market freeze, a credit crunch, a global deleveraging process, whatever you call it, it has been a very destructive few months for the TSX. But as the Toronto market posts its worst year-to-date performance on record, the real question is whether 2008's historic equity slide is done? Further stock market declines cannot be ruled out, but a look at past banking system crises, and more generally at earlier market downturns, gives reason to believe that we may have seen the bottom.

Equity Markets in Financial System Stress

Analogies to the Great Depression make headlines, but their relevance to the current stock market rout is highly questionable. The post-1929 period was unique in the scale of its economic destruction. Nearly 10,000 US banks were allowed to fold, and depositors lost every penny they had in the absence of deposit insurance.

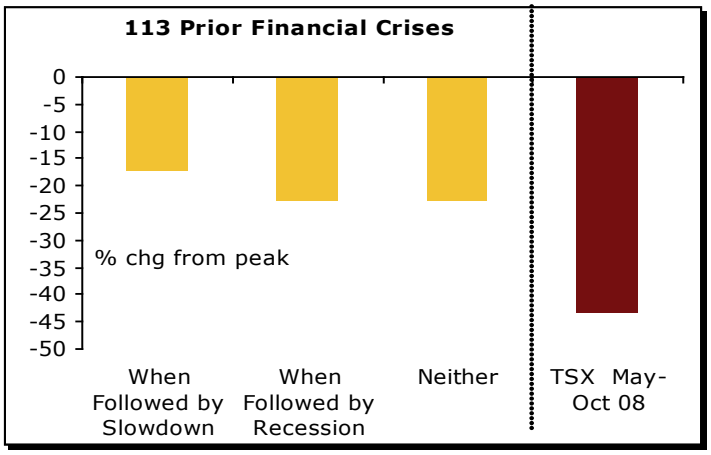
At the same time, central banks around the world stood by as the global economy sunk deeper into depression, leading to a more than 30% collapse in the US money supply and outright deflation. Furthermore, instead of providing much needed fiscal support to their citizens, governments pursued belt tightening while launching a mutually destructive tariff war.

That's clearly not the situation today, with strong social safety nets firmly in place and unprecedented fiscal and monetary stimulus flowing worldwide. The history of the equity market after 1929 is, therefore, nothing more than a cautionary tale of what might have been, had Paulson, Bernanke, Brown, and Trichet behaved like Hoover and his contemporaries.

More comparable to current market developments are the conclusions drawn from 113 financial crises analyzed by the IMF. A number of these episodes happened in the developing economies of Africa, Asia and Latin America, but many hit in conjunction with larger global shocks and can still be very instructive. What IMF data show is the current TSX equity sell-off already exceeds the median hit to equity prices that typically occurs in the aftermath of a financial shock, even when we restrict our analysis only to cases where an outright recession ensued (Chart 1).

Chart 1

TSX Already Hit More than Other Markets in Crises



Source: IMF, CIBC WM, Data are inflation adjusted vs trend

Of these 113 banking crises, the one that is most relevant from a Canadian perspective hit in the early 1980s. Around that time a major recession took the TSX down over 40%; but even though the index was setting new highs barely two years later, an ensuing real estate crash hit financial institutions hard. Beginning in 1983, 15 CDIC-insured institutions ended up failing, including three trusts involved in a mortgage fraud, and two small banks. The Northland Bank and the Canadian Commercial Bank had concentrated their activities in western Canadian energy and real estate markets, and when oil prices plunged in the mid-1980s they closed their doors. Equity markets dropped roughly 10% during that period, but amazingly the TSX regained all of that lost ground in the subsequent two months (Chart 2).

The TSX was also particularly exposed to the economic shockwaves that followed the collapse of some 1,400 American S&Ls and 1,300 banks triggered by the 1980s US real estate crash. As a result of that shock the TSX registered a roughly 26% sell-off, but once again the index recouped all of those losses by January 1985.

Worst Case Crises

It could be reasonably argued that the S&L crisis and the Canadian financial failures of 1983-85 were not as broadly damaging to the functioning of the country's financial

Chart 2

TSX Rebounded Quickly in 1980s Banking Crises

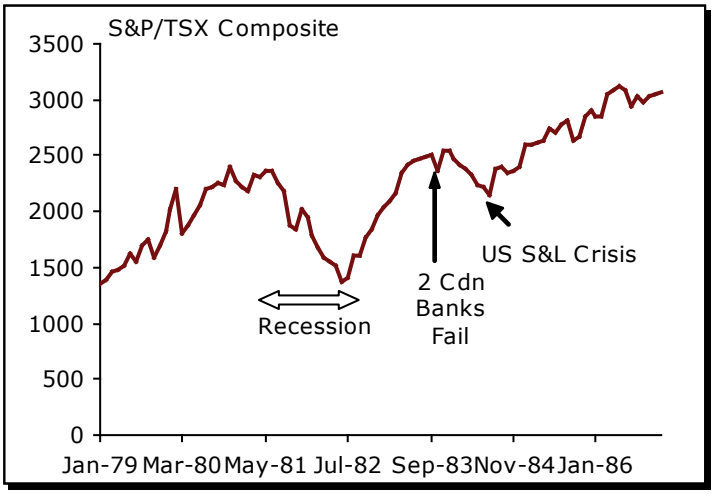
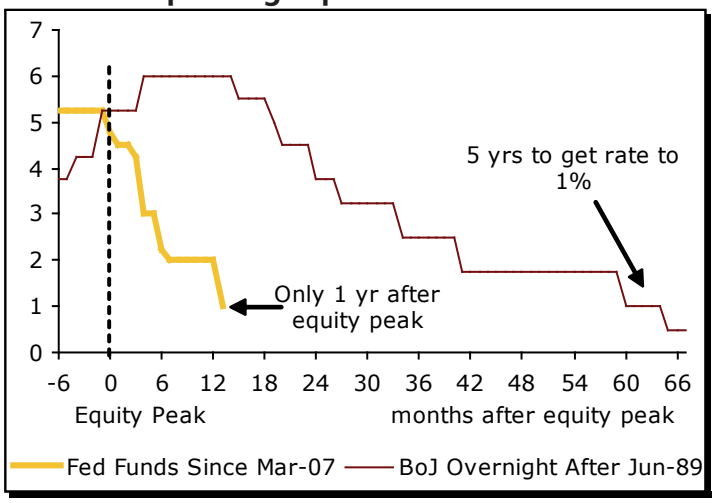


Chart 3

Fed Not Repeating Japan's 1990s Errors



system as the current credit crisis might be. Therefore it might be worth looking at more extreme comparables. Excluding collapses in developing economies, the worst cases of financial chaos in developed, democratic economies in recent decades were those experienced by Japan and Scandinavia.

Like the Great Depression, what Japan did after the bursting of its real estate bubble is more an example of what today's policymakers are working diligently to avoid, rather than a useful forecast of what lies ahead. After all, the Nikkei has still not fully recovered from its 1990s plunge. But that is more a function of a bungled policy response than anything else.

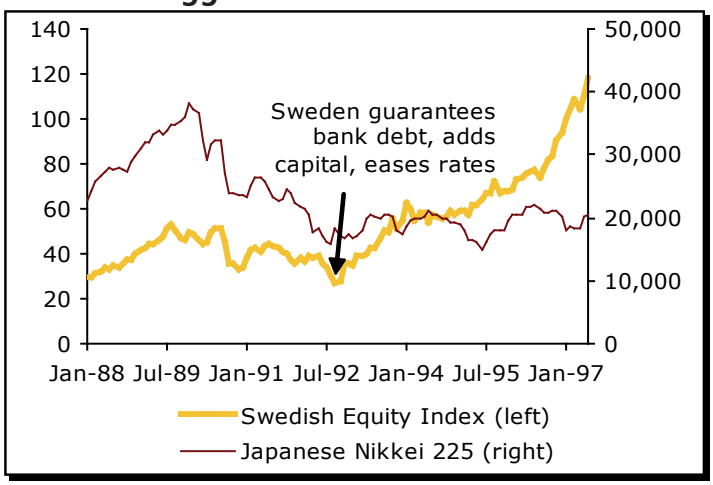
After the Japanese equity market crashed at the end of 1989, the Bank of Japan continued to raise rates, despite the fact that bank lending capacity was sagging under the weight of bad debts. In fact, it took five years for policy makers to finally cut rates down to 1% (Chart 3). By that point, deflation was so entrenched that even a subsequent move to near-zero rates meant that real short term interest rates were still positive. In the US, the Fed moved to cut rates immediately when it received signals that markets were in trouble, achieving a 1% target Fed funds rate within little more than one year.

Japan did launch a buy-up of distressed assets using a TARP-like vehicle, but again, only after a long painful delay. Its first steps in that direction didn't come until 1995-96, when state-financed entities were set up to take over assets from only failed trusts and home loan companies. That narrow mandate wasn't expanded to include purchases from solvent institutions until 1999, nine years after the crisis began. As a result, Japanese banks were allowed to languish as walking wounded for most of the 1990s, with cumulative lending losses of 19% of GDP through this period.

Sweden faced similar circumstances in a crisis that began in September 1991, but its policy choices led to a more favourable outcome for equities. The challenges facing the government of the time were severe, including a run on the nation's banks, the insolvency of roughly a quarter of the financial system and a currency crisis. Stocks were not immune to the unfolding crisis, and having soared earlier in a huge credit-fuelled asset bubble, equities shed nearly 50% from August 1990 to September 1992. However, the government moved aggressively in September 1992, injecting capital and guaranteeing all bank deposits and debts, while dropping a fixed exchange rate to enable interest rate easing. Remarkably, by October 1993 the Stockholm market was setting new highs, a far cry from the still languishing Japanese Nikkei index (Chart 4).

Chart 4

Sweden's Aggressive Action Rescued Stocks



TSX Bottoms, More Generally

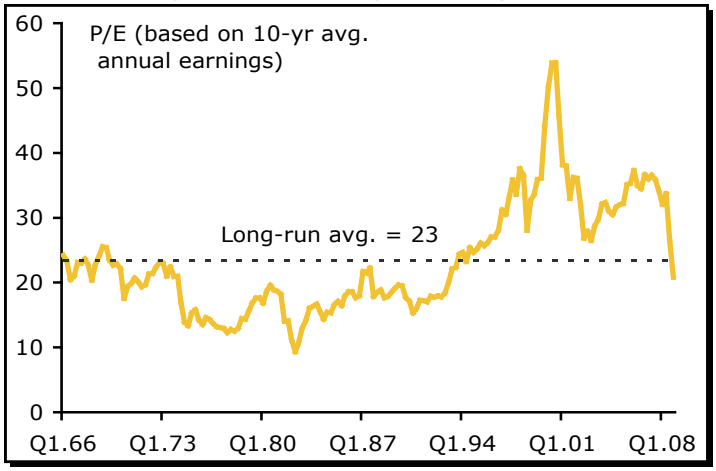
Equity bear markets have, of course, not always coincided with full blown banking crises. Huge damage was done to the TSX in the wake of the bursting of the tech bubble at the start of this decade. That precipitous drop in equities had nothing to do with financial market stress, but it, and other significant declines, can help serve as guideposts to this latest market downturn.

Using historical pricing data for the Toronto exchange going back to the late 1950s, we note that this year's peak-to-trough decline in Canadian equities was only a bad week away from becoming the single largest percentage drop ever recorded. That suggests that the markets 42% drop after May's peak fully priced in a very bearish economic scenario (Chart 5).

Further bolstering that view are a number of relative valuation measures, all of which are suggesting that the TSX hasn't presented a better buying opportunity in many years. Markets certainly have a tendency to overshoot during good times and undershoot when sentiment turns bad, but the TSX's current price-to earnings multiple is now the farthest it has been below its historical average since the 1980s. Using a method developed by Yale economist Robert Shiller, we test the robustness of this analysis by calculating market P/E ratios using trailing 10-year average earnings, instead of the more common 12 months forward. That allows the analysis to capture the ebb and flow of corporate profits over a full business cycle. Although it's only a bit below its long term average, the TSX is now trading at a 15-year low relative to its long-term trailing earnings multiple (Chart 6).

Chart 6

TSX vs Long Term Trailing Earnings



If we have indeed seen a market bottom, how long will it take stocks to fully recover from their sharp decline? Unfortunately, only once in the nine peak-to-trough declines of more than 20% since 1956, did it take less than two years for the market to retest its previous peak. On average its takes the TSX about three years to fully recover from a bear market (Chart 7).

It is interesting to note that both the 1973 and 2000 bear markets took at least three times as long to generate roughly the same magnitude of losses that we are seeing right now, which hints that the coming recovery period could be shorter than average. With markets reacting faster than they ever have to a constant stream of new information, good news should also travel fast.

Chart 5

Recent TSX Drop Was One of the Worst

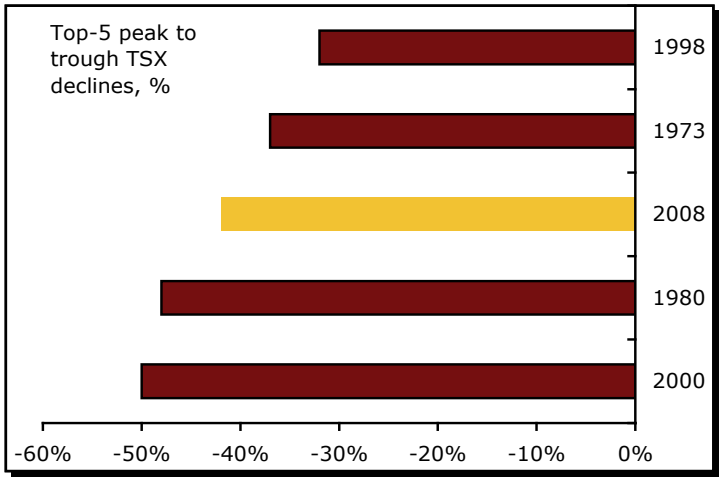
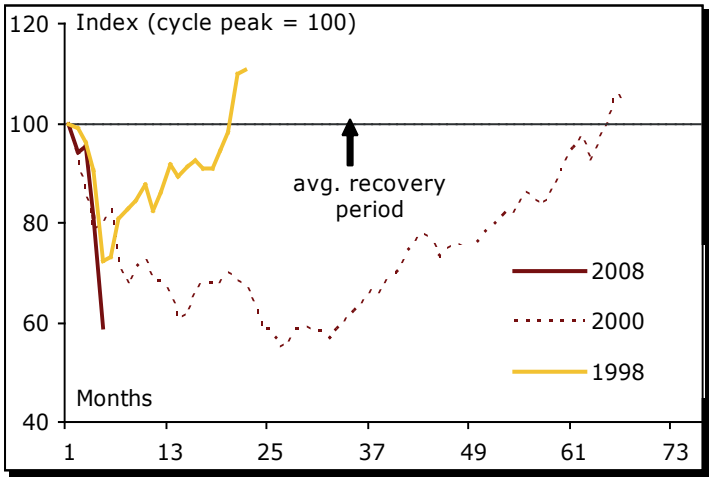


Chart 7

Current Sell-Off vs. Prior Bear Market Timing



Natural Gas, America's New Growth Industry

Peter Buchanan

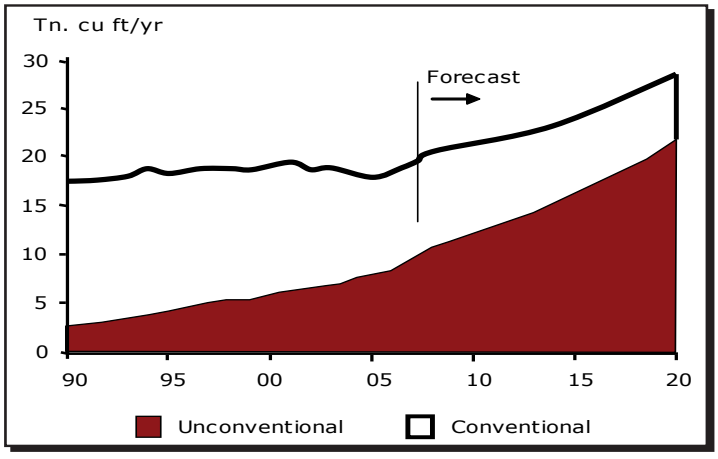
As With Oil, Non-Conventional Production Driving Supply

While the oil market has a demand fixation, the biggest natural gas story in North America has been playing out on the supply side. US non-conventional gas production will eclipse conventional output for the first time ever this year. All of that is a radical change from the situation five years ago. Back then, non-conventional gas—produced from shale or sandstone formations, or coal seams—represented just a third of total US supply. Reversing years of secular decline, rising non-conventional output from the likes of Texas' prolific Barnett Shales will lift total US gas production by 7% in 2008 (Chart 1). Nor does that increase look like a mere flash in the pan. Research by Navigant Consulting suggests rising non-conventional output could lift total US gas supply by up to 50% in the next decade.

The U-turn in US gas production comes as global LNG markets appear to be entering a phase of greater tightness. These developments together raise questions about the scale of future North American LNG imports--even the potential for net gas outflows from the continent, in the longer term. A third of the natural gas traded internationally moves as liquefied LNG, the rest by pipeline. Asia is the world's dominant LNG market today. But falling North Sea production is expected to lift European demand sharply in the next decade (Chart 2) contributing to strength in global demand.

Chart1

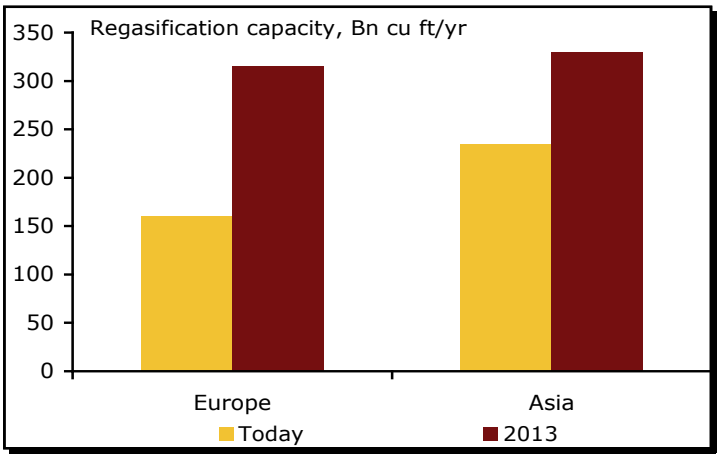
Unconventional Gas Boosts US Production



Source: Navigant Consulting, The Oil Drum

Chart 2

Europe's LNG Needs Expected to Grow Rapidly



Source: LNG Daily

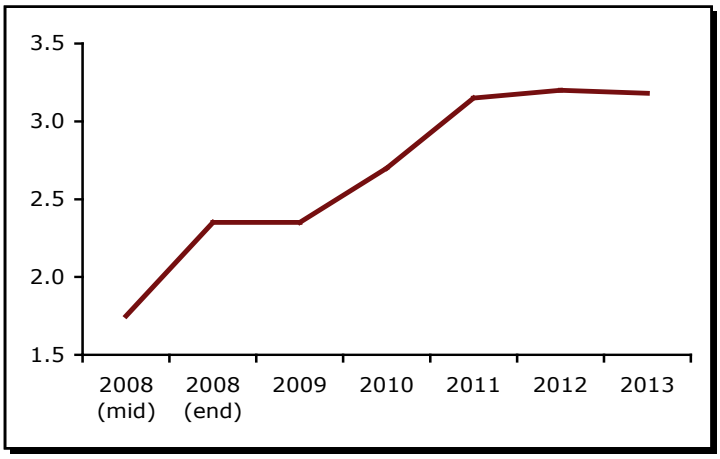
In the LNG cycle, natural gas is first liquefied at ultra low temperatures for transport in special bulk carriers. The LNG is regasified at the delivery port. Some 91 regas projects, aimed at serving import markets, are on the drawing board worldwide, against 54 liquefaction facilities. That imbalance threatens to materially shift power from gas consumers to producers. Projections point to a ratio of over 3:1 of regas to liquefaction capacity in a half decade's time if all planned capacity is commissioned. That ratio moreover could prove low in the event of delays to the likes of Russia's ambitious Shtokman project (Chart 3).

Will Rising Demand Abroad and Greater Domestic Supply Turn North America into a Net Gas Exporter?

Burgeoning North American production and tighter market conditions overseas have seen differentials between gas prices in North America and those in Asia and Europe reach all-time highs of $10/Mn Btu or more in recent months. Deteriorating economics have contributed to a near 10% year-on-year drop in US LNG imports. Present LNG production and shipping costs of the order of $3-4/Mn Btu are a fraction of recent price differentials between key markets. The prospect that North America might one day become a LNG exporter no longer seems

Chart 3

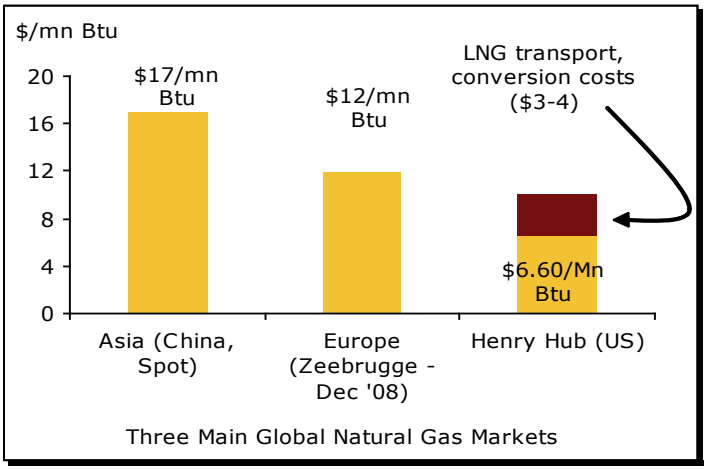
Ratio of World Regasification to Liquefaction Capacity



Source: LNG Daily

Chart 4

Price Differentials and LNG Transport Costs



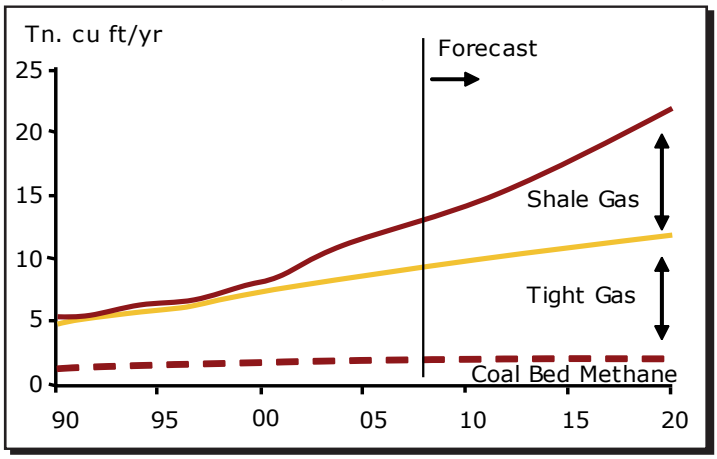
as far fetched as it might once have seemed in light of this. (Chart 4).

Shale Gas Driving Non-Conventional Gas Boom

The three hydrocarbon forms spearheading North America's non-conventional gas boom are shale gas, "tight gas" derived from sandstone formations, and coal bed methane (Chart 5). Breakeven costs vary from an average $6-7/MnBtu for new shale gas projects to as little as $3-4 for some coal bed methane production. Tight gas remains the largest single component of US non-conventional gas supply, accounting for about 60% of the total presently. Aided by technological advances in fields like hydraulic fracturing and horizontal drilling, shale gas production is growing faster however. It could consequently approach tight gas in importance within a decade.

Chart 5

Unconventional Gas by Type



Source: Navigant Consulting, The Oil Drum

Although the bearing rock strata vary, shale and tight gas both are found in much less porous formations than conventional gas, necessitating novel development techniques. In the case of shale gas, a horizontal hole is first drilled. Horizontal drilling means the gas has to move a shorter distance to reach the well than it would with a conventional, vertically drilled hole. A proprietary chemical-water mixture is injected at high pressure a year or so later to restore output when production starts to wane.

While four-fifths of US shale gas production today comes from the Barnett formation in Texas, other regions are thought to offer comparable, even greater, longer run potential. The list includes Louisiana's Haynesville region, the Fayetteville and Marcellus fields in Arkansas and Pennsylvania, as well, potentially, as the Utica shales, underlying parts of southern Québec.

Tight gas, the single largest component of non-conventional production, accounts for about a fifth of the natural gas resource base. Extensive deposits are found in the western mountain states, as well as the Appalachian area, and western Canada. Techniques for production include fracturing as in the case of shale gas, and acidizing to increase flow rates chemically. Coal bed methane, a third non-conventional gas form, exploits a hazardous coal mining byproduct. Production, achieved by sinking a shaft into a seam, has remained fairly stable in contrast to the other two sources.

Sweeping changes are altering the face of the North American gas industry. New supply and overseas demand growth could even, given time, turn the continent into a net exporter.

ECONOMIC UPDATE

CANADA	08Q2A	08Q3F	08Q4F	09Q1F	09Q2F	2007A	2008F	2009F
Real GDP Growth (AR)	0.3	1.1	-2.0	0.2	2.6	2.7	0.6	0.9
Real Final Domestic Demand (AR)	2.0	2.6	1.7	1.7	2.5	4.2	3.5	2.2
All Items CPI Inflation (Y/Y)	2.4	3.4	2.1	1.9	1.8	2.1	2.4	2.4
Core CPI Ex Indirect Taxes (Y/Y)	1.5	1.7	2.1	2.2	2.1	2.1	1.7	2.2
Unemployment Rate (%)	6.1	6.1	6.4	6.9	6.8	6.0	6.1	6.7
U.S.								
Real GDP Growth (AR)	2.8	-0.3	-2.8	0.9	2.0	2.0	1.4	1.0
Real Final Sales (AR)	4.4	-0.8	-3.7	0.4	1.9	2.4	1.6	0.5
All Items CPI Inflation (Y/Y)	4.4	5.3	3.7	3.6	2.7	2.9	4.4	3.8
Core CPI Inflation (Y/Y)	2.3	2.5	2.5	2.5	2.6	2.3	2.4	2.6
Unemployment Rate (%)	5.3	6.0	6.6	7.1	7.2	4.6	5.8	7.0

CANADA

We pared back our real growth call for the first quarter of 2009, in part due to delays being announced in oil patch projects and a slowing housing sector. Headline inflation will temporarily drop on cheaper near term gasoline prices, but core prices will hold ground as a weaker C$, and higher non-resource import prices counter the impact of an output gap.

UNITED STATES

September marked a more extreme and economically damaging phase of the global credit crunch that has forced us to significantly lower our 2009 growth forecast while boosting our unemployment call to a cycle peak of over 7% in 2Q09. A steady stream of grim economic data has made it abundantly clear that the United States is already in recession, and falling consumer demand and intensifying job losses only point to tougher times ahead. Significantly lower energy prices will provide an initial boost to consumer spending power, and an unprecedented amount of fiscal and monetary stimulus will lead the way to a modest economic recovery by the second half of 2009.