On a Swing and a Prayer: Are Financial Markets Trying to Tell Us Something?

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Stock markets are plunging throughout the world

Stock prices have plunged in every major and minor market throughout the world. The losses began in China in the spring of last year, and relative to the apex of prices, Chinese stocks have fallen the most, 45%. Stock price losses in other emerging markets were also quite heavy, as they fell 30%. One key difference between the stock market performance of emerging markets and China is that emerging market equity prices are at a loss compared to their levels from three years ago (-33%) while Chinese stock prices are 8% higher.

No equity market escaped the carnage over the past nine months. Even in the US, stock prices fell 12% in spite of the favorable outlook for its economy.

Savants, equity pundits and novice market commentators have repeated the litany of possible reasons behind the tumble in global equity markets.

And consequently they do not need to be repeated here. What is more important is to determine what the crash in global equity prices means for the state of the global economy.

The first sign of slump was the precipitous drop in commodity prices

The sustained decrease in commodity prices was an early warning indication that the
growth in global production was decelerating.

The main factor behind swings in commodity prices is changes in global industrial production.

Commodity price falling below their level in 2009 Recession

As demand from China’s rapidly decelerating industrial sector began to decrease, commodity prices started to fall, beginning in 2014 and accelerating in 2015.

Commodity prices proved to be a potent indicator for US industrial production.

A simple glance at the heavy dose of high frequency manufacturing data in the US highlights that industrial production has been weakening for the past six months. The substantial appreciation of the effective exchange rate of the dollar over the past year has also contributed to the decline in US manufacturing exports, and this caused a material drop in industrial production. Fortunately the US economy is driven by consumption and services (unlike the Chinese economy) and these massive components of the US economy are growing moderately.

The relationship between US stock prices and the US economy is complicated.

In theory broad movements in equity prices should lead the economy because equity prices reflect the expected discounted flow of corporate revenues, cash flows and/or profits. Simply put: a decline in projected future corporate earnings and/or an anticipated significant increase in the discount rate should cause stock prices to stop rising and therefore reflect a decline in future business investment.

Our last two Federal Reserve Chairpersons have acknowledged the important role that stock price movements should have on the underlying economy. Both past Chairman Bernanke and current Chairman Yellen have justified their monetary policy actions over recent years by citing that an improving wealth effect from rising stock prices was an important ingredient in their support for the US economy.

Of course emotion has always clouded this simple relationship and many times it has become the dominant force behind movements in stock prices. ‘Animal spirits’ are always present in human endeavors as has been acknowledged by many of the great economic and financial thinkers from John Maynard Keynes to today’s Fed Chairwoman.
The history of the relationship

Perhaps Paul Samuelson, the Nobel Prize winning economist, said it best that the US stock market predicted 10 of the past 6 recessions. Obviously stock prices have been more volatile than the broad behavior of GDP. But a glance at Chart 3 suggests there is a positive relationship. This chart shows the household holdings of all US stocks relative to GDP. Big declines in stock holdings have preceded all US business cycle recessions. The timing of their lead has varied greatly, with some lead times extending well over one or two years. One fact does stand out: all recessions were preceded by a decline in stock prices.

Stock prices are overvalued!

A second Nobel laureate, economist James Tobin, suggested another measure of the relationship between the economy and stock prices several decades ago. Paraphrasing his thesis a little, he stated that when stocks become more expensive than their underlying economic value, they will fall (Tobin’s Q). A glance at Chart 4 implies that stock prices have risen well above their underlying value. Perhaps this was due to the uncommonly low discount rate that has been prevailing for the past several years and the accompanying increase in money and credit that the Federal Reserve has supplied through QE to revive the smoldering economy after the great credit crisis.

As seen in the chart, when stock prices rise above one or two standard deviations from their average relationship to the economy, they fall. This doesn’t indicate that the economy must head into recession, just that stocks appear overvalued relative to economic fundamentals.

The fixed income markets are also an important signal of economic condition

Other financial markets also provide important signals for future economic activity. For example, the slope of the yield curve has been the most useful and accurate predictor of recession in the United States. When the slope of the curve turns negative a recession is either going to happen soon, or it has already begun.
The early warning sign from the yield curve is when the slope peaks and begins to flatten. If we look at the present slope of the US yield curve, it has begun to flatten. I define the yield curve to be the yield difference between the 10-year constant maturity Treasury note and the effective Fed funds rate. In the past, the 3-month Treasury bill was used instead of the effective Fed funds rate. Today these yields are indistinguishable.

The yield curve is not signaling imminent recession

Typically, the spread narrows in a consistent downward trajectory when the Federal Reserve begins to tighten monetary policy to arrest rising inflation by slowing down the growth in aggregate demand. That consistent downward spiral has not yet occurred because the Fed has not begun to tighten monetary policy in earnest. Rather, their recent move has been to bring their policy rate up to some new normal.

Over the past six months the yield spread has narrowed in an irregular fashion, reflecting the Fed’s first interest rate adjustment and the recent surge in the global search for investment safety. In addition, global demand for relatively higher yielding US Treasury securities has intensified in the past several months because of the recent proliferation of alternative, negative yielding sovereign bonds. Nevertheless, in historical terms the present spread of approximately 150bp is quite high and mainly reflects the Fed’s zero rate policy for the past five years.

Credit Spreads Widen Before Recessions Begin

Quality Spreads usually support the yield curves implication

Corporate bond quality spreads usually begin to widen soon after the yield curve spirals downward, reinforcing the signal that the business expansion is coming to an end. Credit spreads then widen to much greater heights during and after the recession when bankruptcies are more common.

As the following chart shows, yields on non-investment grade corporate bonds have soared this year. Although they are not as high as in past periods of economic
contraction, they do reflect a sector of the economy that is in critical distress. This has greatly raised the quality spreads between high-grade and speculative-grade corporate bonds. Moreover, and more generally, the yield spread between high-grade corporates over comparable maturity US Treasuries has widened appreciably. Thus credit deterioration is contributing to the sense of economic deterioration.

High yields bond rates are Rising

![Chart 7](image)

**Conclusion: Policy needs to shift to support**

One lesson learned from the past year was: the higher the increase in stock prices, the larger the fall. Another ironclad conclusion from the past 65 years of economic and stock price data is that every recession is preceded by a fall in equity prices, but not every fall in stock prices is followed by a business recession.

Other market indicators are more conclusive such as the slope of the yield curve. When it spirals downward toward zero, or below, the economy tumbles into recession. Usually corporate bond credit spreads widen significantly before and during the early phase of recessions. Presently the slope of the yield curve has flattened and corporate bond quality spreads have widened, but not in a dramatic sustained fashion. **This leads me to conclude that a recession in the US is not very near.**

Nevertheless, business expansions do not last forever. The nature of all economies is cyclical and the present expansion has lasted 78 months, a relatively long interval compared with the long-term (from 1945 onward) average of 58 months.

Finally, capital market signals are like bells sounding loudly before a Sunday church mass; someone needs to pay attention to them, while others need to pray. The macro policymaking authorities must realize that economic conditions have deteriorated, that most profitable opportunities in this expansion are past, that corporate indebtedness has become very risky, and that the economy needs more support and prayer if the expansion is going to continue.

*For more information, please contact camri@nus.edu.sg*
KEY INDICATORS TABLE (AS OF 29 JANUARY 2016)

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Source: Bloomberg

APPENDIX

GLOSSARY OF KEY TERMS (Source: Bloomberg, with tickers in parenthesis. In US$ where applicable)

S&P500: capitalization-weighted index of the prices of 500 US large-cap stocks (SPX)
FTSE: capitalization-weighted index of the prices of the 100 largest LSE-listed stocks (UKX)
NIKKEI: capitalization-weighted index of the largest 225 stocks of the Tokyo Stock Exchange (NXY)
HANG SENG: capitalization-weighted index of companies from the Hong Kong Stock Exchange (HSI)
STI: cap-weighted index of the top 30 companies listed on the Singapore Exchange (FSSTI)
EUR: USD/EUR exchange rate: 1 EUR = xx USD (EUR)
YEN: YEN/USD exchange rate: 1 USD = xx YEN (JPY)
CMCI: Constant Maturity Commodity Index (CMECI)
Oil: West Texas Intermediate prices, $ per barrel (CLK1)
3MO LIBOR: interbank lending rate for 3-month US dollar loans (US0003M)
10YR UST: 10-year US Treasury yield (IYC8 – Sovereigns)
10YR BUND: 10-year German government bond yield (IYC8 – Sovereigns)
10YR SPG: 10-year Spanish government bond yield, proxy for EU funding problems (IYC8 – Sovereigns)
10YR SGS: 10-year Singapore government bond yield (IYC8 – Sovereigns)
US ISM: US business survey of more than 300 manufacturing firms by the Institute of Supply Management that monitors employment, production inventories, new orders, etc. (NAPMPMI)
EU PMI: Purchasing Managers’ index for the 17 country EU region (PMITMEZ)
JP TANKAN: Bank of Japan business survey on the outlook of Japanese capital expenditures, employment and the overall economy, quarterly index (JNTGALLI)
CHINA IP: China’s Industrial Production index, with 1-month lag (CHVAIOY)
LC: Local Currency

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