

Portfolio Strategy September 2016

The Story Behind Stability: Rates? Screen Time, A Bad Thing, China: Muddling Through

Stable Stocks: Rate Plays?

- Stocks of companies with stable fundamentals have done well in the past four years, outperforming the market by +4 percentage points per annum. What's even more impressive is that they've produced a premium of two points a year over the last three decades. That record has convinced many that stability is a perpetually-mispriced virtue that investors have only recently come to appreciate.
- An alternative explanation for that stellar record is that stable stocks are rate plays, and they've been swept along with a long bull market in bonds. If that's true their legendary defensive characteristics won't materialize in a setting of rising rates. We're adherents of that view and we've noticed that the correlation between those stocks' relative returns and the Treasury Bond market has increased as rates went lower. We read an academic study that reached the same conclusion: the direction of interest rates explains a good deal of what's gone on within the equity market. We believe the process is non-linear and that ever-lower rates ignite the demand for current coupons.
- There are also some fundamental explanations for this stable-stock phenomenon. The earnings of the volatile parts of the market have become more unreliable as we've gone through a commodities boom and bust, rendering stability more valuable. Also, like most of the market, the stable companies have 10% free cash flow margins, making continuous compounding a powerful force in a setting of low nominal growth.
- The stable issues became the momentum leadership in the first-quarter of this year, a status that began to fade in July as the tone of the economic data improved. If in fact the Fed returns to a normalization path this year we think the rate explanation will take precedence and stable stocks won't prove to be safe havens. The financials will fill that role. The financial stocks are priced as they are because the equity market is assigning low odds to the scenario where the Fed creates a bear steepening of the curve.

Screen Time: The Enemy of Risk Taking

- We read an interesting paper that described an experiment that involved risk taking by foreign exchange traders. The traders were divided into two groups: one received continuous pricing information while the other saw prices only every four hours. By the end of the ten-day test period those that were exposed to the ups and downs of the market took far less risk than their more oblivious counterparts. Since the test was skewed to benefit the participants the first group made far less money as their fear of drawdowns proved dysfunctional. We believe as screen time has increased the equity yield curve has steepened, making buy-and-hold strategies more valuable.

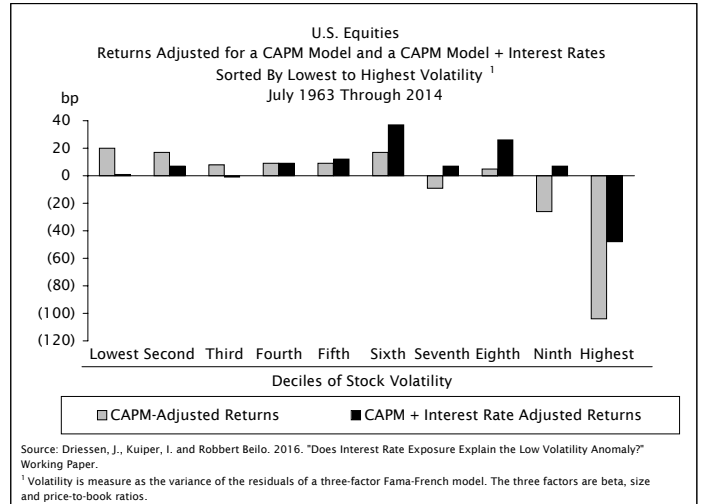
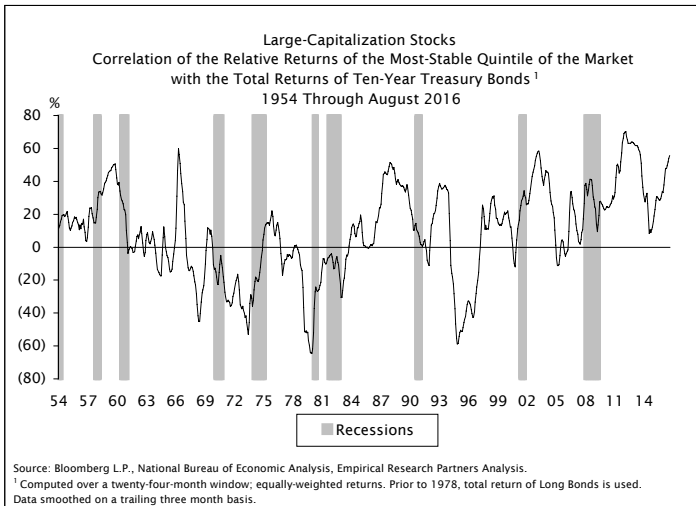
China: Muddling Through

- We've been of the opinion that China would muddle through and was unlikely to succumb to a breakdown of confidence and a run on its foreign currency reserves. That's more or less what's happened. The authorities there were able to devalue the Yuan by another (3)% this year and the growth rate of exports, when expressed in local currency, has turned positive. Even as manufacturing lost momentum the growth rate of the consumer economy, that's understated in size in the official statistics, has remained basically intact. For the most part China is not dependent on the kindness of others so for it to come crashing down the misallocation of resources has to get to the point of being unmanageable. We don't see evidence that we're close to that point.

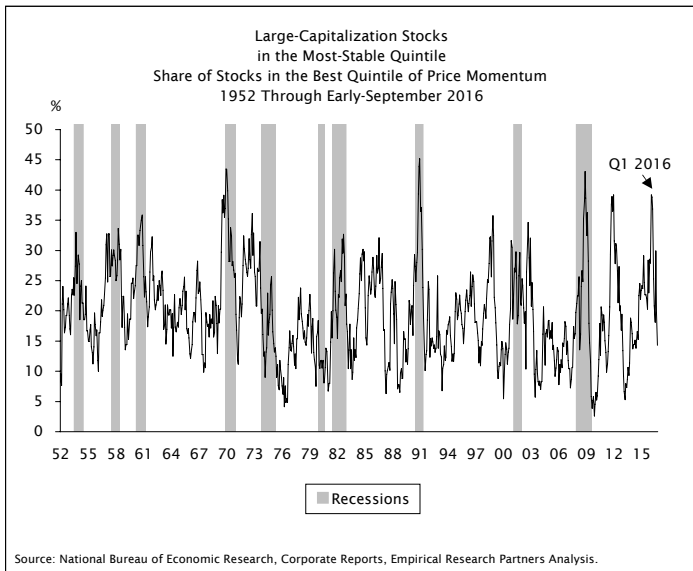
Nicole Price (212) 803-7935 Sungsoo Yang (212) 803-7925 Yi Liu (212) 803-7942 Yu Bai (212) 803-7919 Janai Haynes (212) 803-8005

Conclusions in Brief

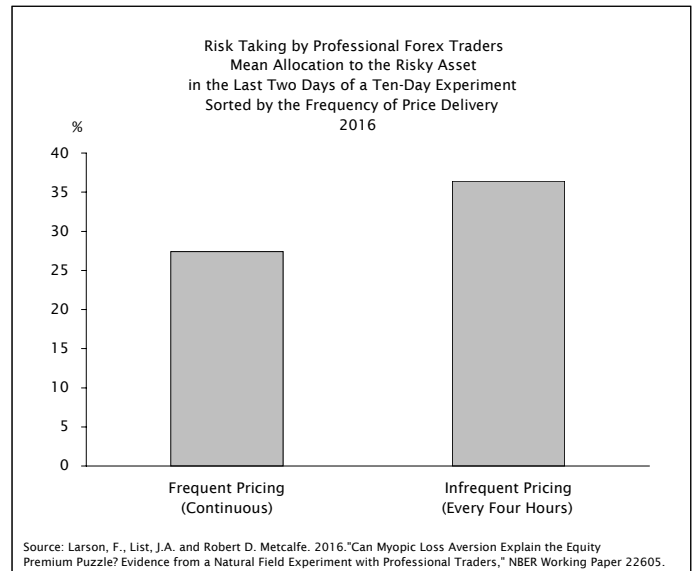
- The relative returns of stable stocks have been increasingly correlated with the bond market...
- ...And the direction of interest rates explains much of their success:



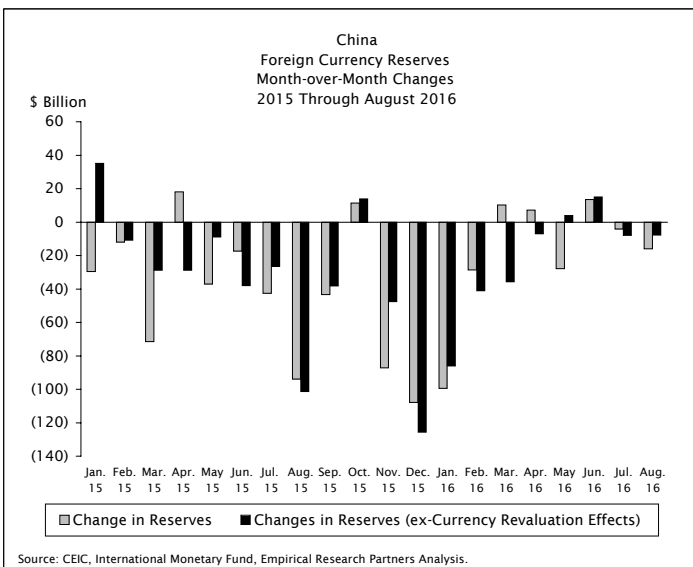
- We're still in the process of unwinding the stable-stock momentum leadership:



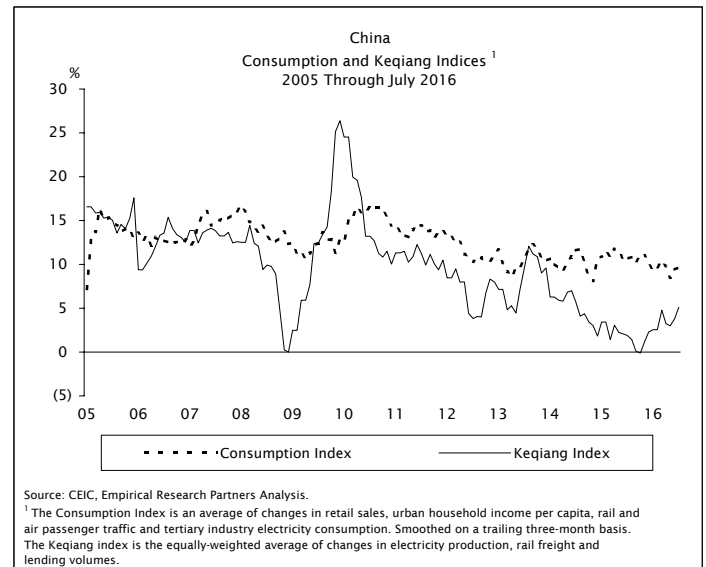
- Screen time is the enemy of risk taking:



- China has muddled through...



- ...And has had some success in rebalancing its economy:



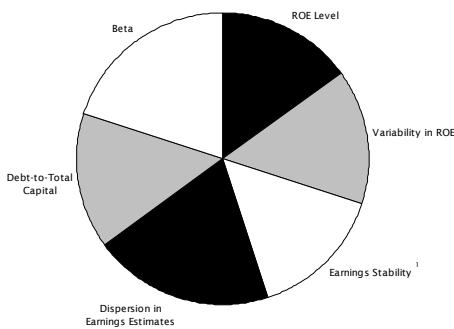
The Story Behind Stability: Rates?

Risk and Return, Askew?

Stability has been treated as a virtue in the equity market for some time now, and stocks of that ilk have led the market by +4 percentage points per annum in the last three years. All kinds of tales have been told as to why that is, and some are behavioral. They assert that investors have finally woken up and gravitated towards what was a long-underappreciated virtue. Others point to the bond market and a collapsing discount rate as an explanation for what's gone on. We've generally been more in the second camp and we recently read a good paper that reinforced our conviction in that view.

We gauge stability is based on fundamentals and Exhibit 1 describes the make-up of our scoring system. High and stable ROEs, consistent earnings growth that analysts believe in, and low financial leverage are all inputs to our system. Beta is included in the equation too.

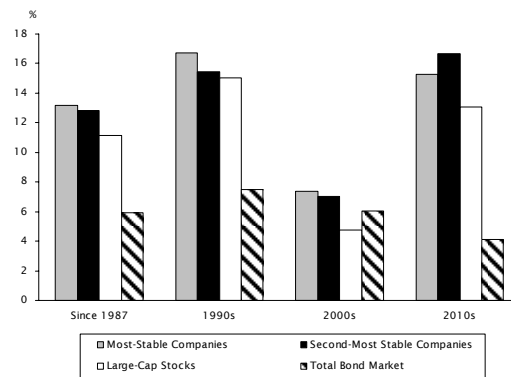
Exhibit 1: Fundamental Stability Score Component Parts 2016



Source: Empirical Research Partners Analysis.

¹Computed over the trailing twelve quarters.

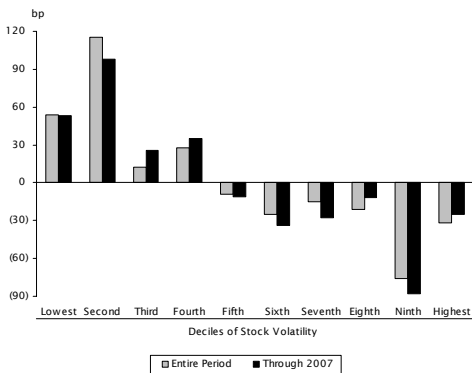
Exhibit 2: Large-Capitalization Stocks Nominal Returns of the Most and Second-Most Stable Deciles Based on Fundamentals and Those of the Vanguard Total Bond Market Index Fund Monthly Data Compounded and Annualized 1987 Through August 2016



Source: The Vanguard Group, Empirical Research Partners Analysis.

The recent outperformance of stable stocks is part of a longstanding trend and that slice of the market has led since the 1990s, trouncing the bond market (see Exhibit 2). In this chart the grey bar at the left represents the top-decile of fundamental stability and the black bar to the immediate right is the second-most-stable group. Going even further back to the early-1960s stable issues have been winners, and that remains true even if the post-Crisis years are excised from the analysis (see Exhibit 3). The picture becomes even more extreme when the holding period is lengthened to two years (see Exhibit 4).

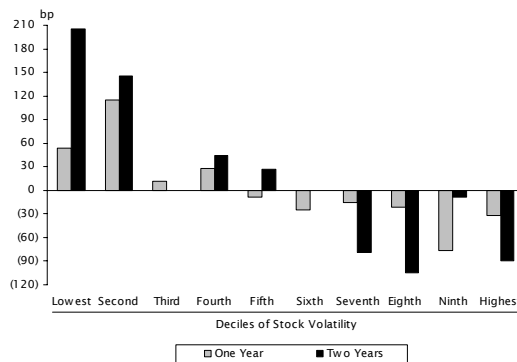
Exhibit 3: Large-Capitalization Stocks Relative Returns by the Volatility of Fundamentals Sorted By Lowest to Highest Volatility¹ Measured Over One-Year Holding Periods 1963 Through August 2016



Source: Empirical Research Partners Analysis.

¹Volatility is based on our stability score.

Exhibit 4: Large-Capitalization Stocks Relative Returns by the Volatility of Fundamentals Sorted By Lowest to Highest Volatility¹ Measured Over One- and Two-Year Holding Periods 1963 Through August 2016



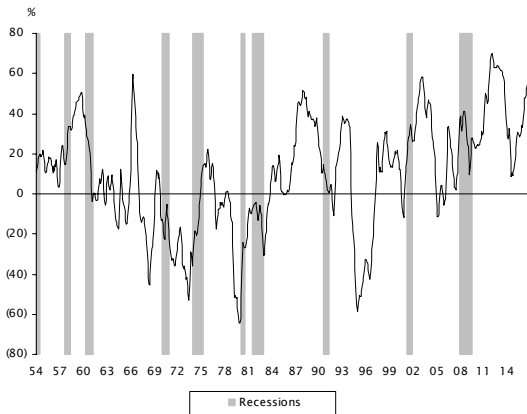
Source: Empirical Research Partners Analysis.

¹Volatility is based on our stability score.

The Arguments for an Interest Rate Explanation

There's prima facie evidence that there's a connection between the performance of the stable stocks and that of bonds and Exhibit 5 examines the correlation between the two dating back to the early-1950s. During the 30+ year bull market in bonds those correlations have been positive, more so in the 2010s than before. On the flipside, the relationship for the least-stable group has been quite negative (see Exhibit 6). We think that what we're capturing here are the effects of changes in growth rate expectations and discount rates.

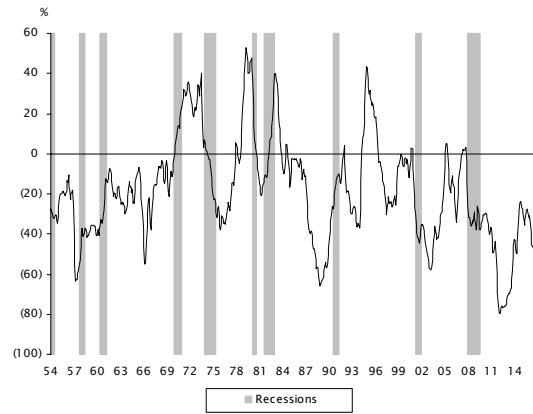
Exhibit 5: Large-Capitalization Stocks
Correlation of the Relative Returns of the Most-Stable Quintile of the Market with the Total Returns of Ten-Year Treasury Bonds¹ 1954 Through August 2016



Source: Bloomberg L.P., National Bureau of Economic Research, Empirical Research Partners Analysis.

¹Computed over a twenty-four-month window; equally-weighted returns. Prior to 1978, total return of Long Bonds is used. Data smoothed on a trailing three month basis.

Exhibit 6: Large-Capitalization Stocks
Correlation of the Relative Returns of the Least-Stable Quintile of the Market with the Total Returns of Ten-Year Treasury Bonds¹ 1954 Through August 2016

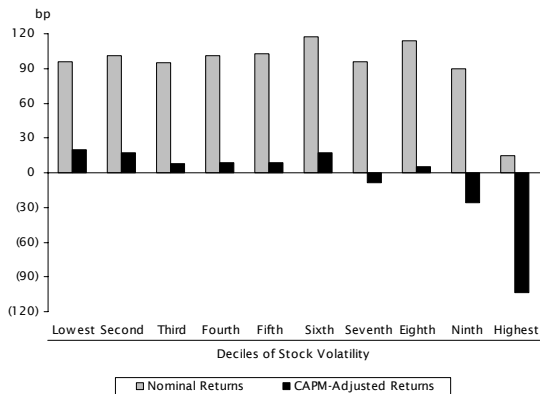


Source: Bloomberg L.P., National Bureau of Economic Research, Empirical Research Partners Analysis.

¹Computed over a twenty-four-month window; equally-weighted returns. Prior to 1978, total return of Long Bonds is used. Data smoothed on a trailing three month basis.

The academics who studied that relationship used a somewhat different methodology than ours.¹ They defined volatility as the variance in residual performance after accounting for the three-factor Fama-French model. The risk factors it uses are beta, size and price-to-book ratios. The universe of stocks they used was very broad, encompassing issues of all capitalizations. That decision can have a big effect on the findings as micro-cap stocks are typically overrepresented in the tails.

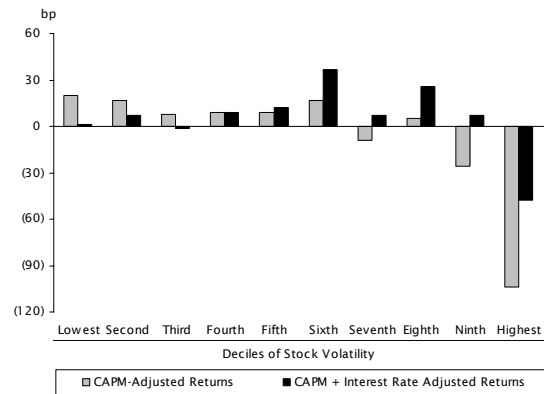
Exhibit 7: U.S. Equities
Monthly Returns by Stock Volatility¹ Before and After Adjustment for a CAPM Model Sorted by Lowest to Highest Volatility July 1963 Through 2014



Source: Driessen, J., Kuiper, I. and Robbert Beilo. 2016. "Does Interest Rate Exposure Explain the Low Volatility Anomaly?" Working Paper.

¹Volatility is measured as the variance of the residuals of a three-factor Fama-French model. The three factors are beta, size and price-to-book ratios.

Exhibit 8: U.S. Equities
Returns Adjusted for a CAPM Model and a CAPM Model + Interest Rates Sorted by Lowest to Highest Volatility¹ July 1963 Through 2014



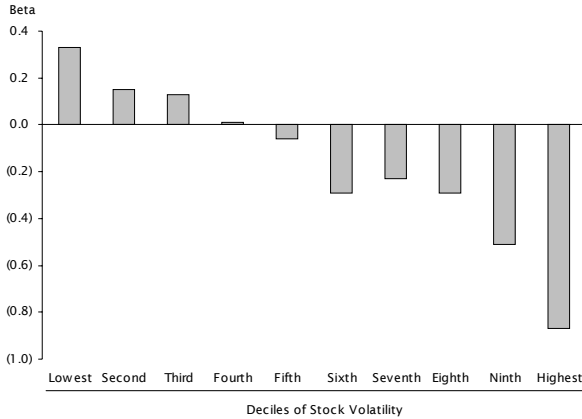
Source: Driessen, J., Kuiper, I. and Robbert Beilo. 2016. "Does Interest Rate Exposure Explain the Low Volatility Anomaly?" Working Paper.

¹Volatility is measured as the variance of the residuals of a three-factor Fama-French model. The three factors are beta, size and price-to-book ratios.

¹Driessen, J. Kuiper, I. and Robbert Beilo, 2016. "Does Interest Rate Exposure Explain the Low Volatility Anomaly?" Working Paper.

Exhibit 7 (overleaf) presents the returns by volatility decile for the period July 1963 through 2014, the grey bars, and the excess returns that remain after adjusting for a CAPM model, the black ones. While the black bars reveal an advantage for low-volatility stocks, the real finding was that it was the highly-volatile ones that fared poorly. The authors then incorporated interest rates into the equation, with provocative results (see Exhibit 8 overleaf). After that addition the performance advantage of the most-stable stocks disappeared, and the best results were in the middle of the distribution. The three-most-stable deciles have positive interest rate betas, meaning that lower rates are beneficial, while those in the bottom-five deciles are negative, particularly in the highest group (see Exhibit 9). This research supports the view that the bull market in bonds has been an underpinning of the low-vol phenomenon.

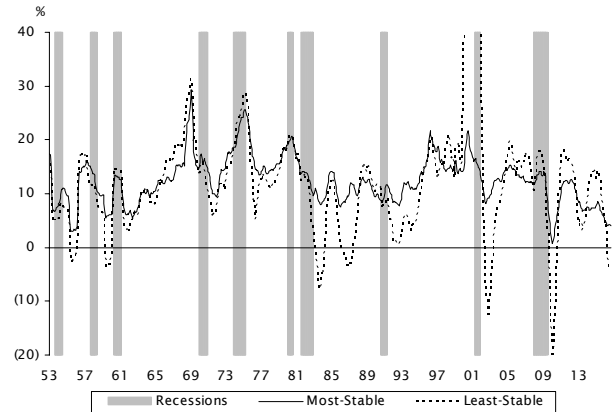
Exhibit 9: U.S. Equities
Interest Rate Beta by Stock Volatility¹
Sorted by Lowest to Highest Volatility
July 1963 Through 2014



Source: Driessen, J., Kuiper, I. and Robbert Beilo. 2016. "Does Interest Rate Exposure Explain the Low Volatility Anomaly?" Working Paper.

¹Volatility is measured as the variance of the residuals of a three-factor Fama-French model. The three factors are beta, size and price-to-book ratios.

Exhibit 10: Large-Capitalization Stocks
Revenue Growth of the Most- and Least-Stable
Quintiles of the Market¹
Based on Fundamentals
1953 Through Early-September 2016



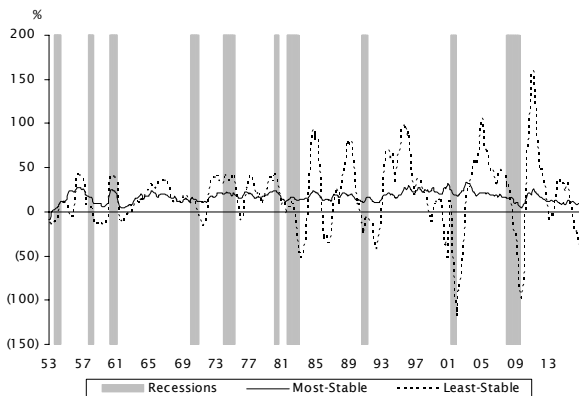
Source: Empirical Research Partners Analysis, National Bureau of Economic Research.

¹Equally-weighted data smoothed on a trailing three-month basis.

There's a Cyclical Component Too

The fundamentals of stable and -volatile companies have something to do with it too, and lately there have been notable differentials in revenue and earnings growth. The performance of the volatile companies have become more erratic making it more important to get the timing right when investing in them (see Exhibits 10 and 11). The widening spread in the volatility of growth rates is another explanation for what's gone on in the past 30 years. During the commodities bust, there's been a wide gulf between the growth rates of the two cohorts, also the case in its mid-1980s precedent.

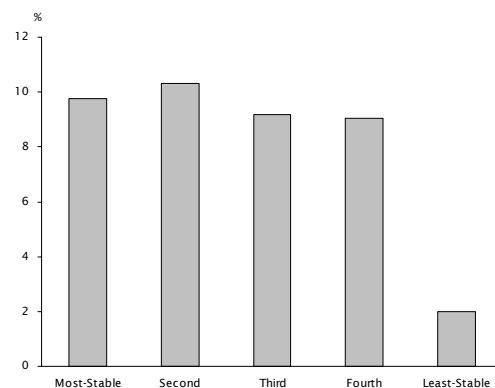
Exhibit 11: Large-Capitalization Stocks
Earnings Growth of the Most- and Least-Stable
Quintiles of the Market¹
Based on Fundamentals
1953 Through Early-September 2016



Source: Empirical Research Partners Analysis, National Bureau of Economic Research.

¹Equally-weighted data smoothed on a trailing three-month basis.

Exhibit 12: Large-Capitalization Stocks
Median Free Cash Flow Margins
By Quintiles of Fundamental Stability
As of Early-September 2016

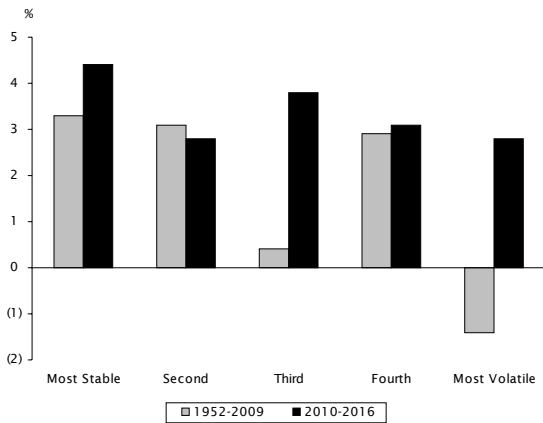


Source: Empirical Research Partners Analysis.

Conclusion: Storm Warning

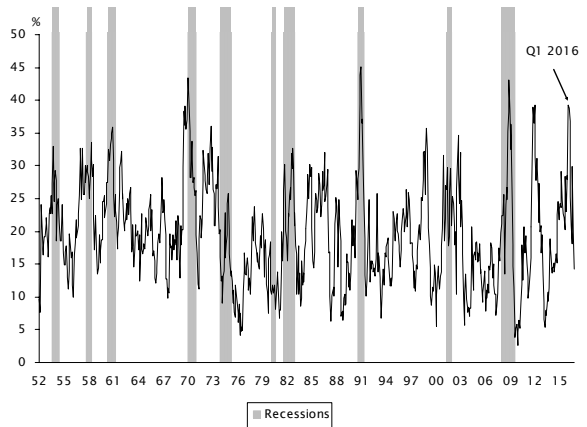
The performance of stable stocks isn't entirely explained by their role as bond proxies, but that does look to be a significant part of the story. Free cash flow has played a role too and many stable businesses have produced lots of it. Exhibit 12 (overleaf) presents the current median free cash flow margins by quintile of our stability score. They're high across the board with the exception of the least-stable group, the home to many of the beleaguered commodity businesses. In the post-Crisis years those margins have been a source of alpha because they were sustained, and the greatest alpha came in the most-stable group, where investors felt most confident in extrapolating the output further into the future (see Exhibit 13).

Exhibit 13: Large-Capitalization Stocks Relative Returns to the Highest Quintile of Free Cash Flow Margins Depending on the Quintile of Fundamental Stability 1952 Through Early-September 2016



Source: Empirical Research Partners Analysis.

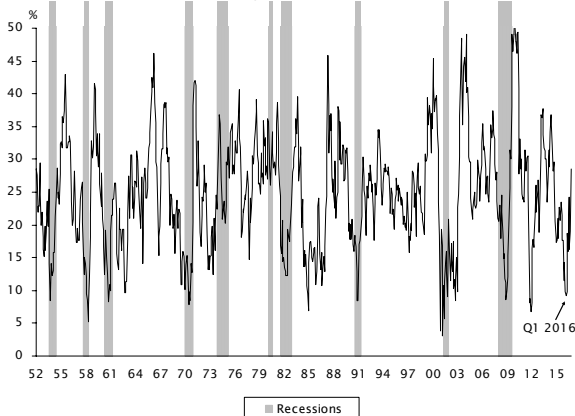
Exhibit 14: Large-Capitalization Stocks in the Most-Stable Quintile Share in the Best Quintile of Price Momentum 1952 Through Early-September 2016



Source: National Bureau of Economic Research, Corporate Reports, Empirical Research Partners Analysis.

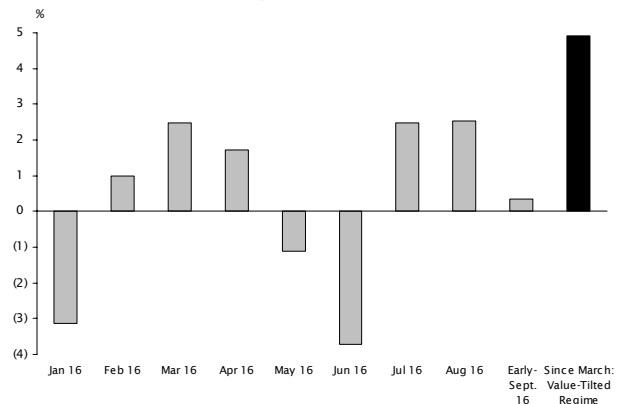
At the moment the rate-sensitivity issue is front and center because it looks like the Fed could renew its efforts to raise interest rates this year. Expectations for monetary policy expressed in the Fed Funds futures bottomed in late-June and since then stable stocks have lagged the market by (5) percentage points. The situation is potent because in the first-quarter of the year many of them had taken on momentum characteristics (see Exhibit 14). We see the opposite pattern in the least-stable issues (see Exhibit 15). The market began to discount a different scenario in mid-February and since then we've been in a value-tilted regime (see Exhibit 16). Less bad has been good enough to invoke the laws of gravity and bring valuation spreads down. We think that there are signs that a breakdown of that rate-driven love affair with stability is underway, and a change in the weather could be extreme.

Exhibit 15: Large-Capitalization Stocks in the Least-Stable Quintile Share in the Best Quintile of Price Momentum 1952 Through Early-September 2016



Source: National Bureau of Economic Research, Corporate Reports, Empirical Research Partners Analysis.

Exhibit 16: Large-Capitalization Stocks Relative Returns to the Best Quintile of Valuation¹ 2016 Through Early-September



Source: Empirical Research Partners Analysis.

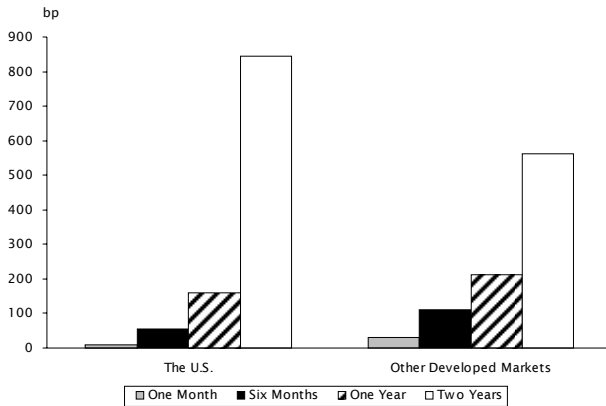
¹Equally-weighted data.

Screen Time: Too Much of It is a Bad Thing

Patience Pays Off

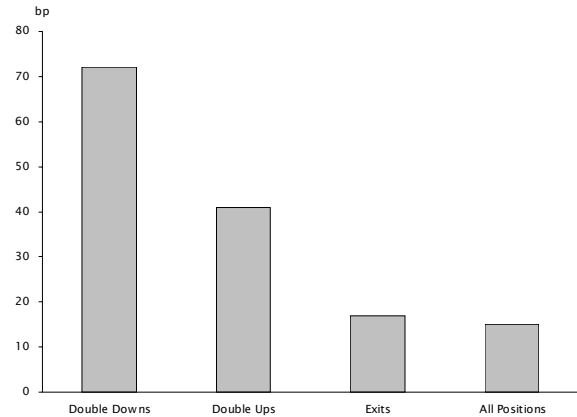
One theory we've had is that the equity yield curve has steepened as the delivery of information became instantaneous, the number of drawdown-phobic traders has multiplied and as transaction costs have nearly disappeared. The trading space became overcrowded, making patience a valuable commodity. We find loads of evidence to support that hypothesis, and conclude that to win it you've gotta be in it. For example, in the 2010s there's been a sizeable reward to holding on to companies with high free cash flow for several years, both in the U.S. and elsewhere (see Exhibit 17). In fact the real payoff came in the second year of the holding period.

Exhibit 17: The U.S. and Other Developed Market Stocks
Relative Returns of the Highest Quintile of
Free Cash Flow Yield
Measured Over Holding Periods of One Month to Two Years
2010 Through August 2016



Source: Empirical Research Partners Analysis.

Exhibit 18: Hedge Funds
Double Downs and Double Ups
Four-Factor Alpha Measured Monthly
1990 Through 2013



Source: Jonathan Rhinesmith, 2014. "Doubling Down," Working Paper.

¹The monthly performance of double downs, double ups and exits averaged over six-month windows. Accounts for value, size, momentum and the market's return.

Conviction has always played a central role in portfolio management, and there's been significant alpha to be had by buying one's favorite stocks when they're down. Doubling down, that involves literally doubling the size of an underwater position, has been almost twice as profitable as doubling up (see Exhibit 18). To do that one has to be willing to look wrong, a harder and harder thing to do in an era of continuous monitoring and big penalties for drawdowns.

At the same time it's not obvious that there's any rule-of-thumb left that can help investors take advantage of the day-to-day foibles of their competition. It used to be that there was an overreaction to news, providing opportunities (see Exhibit 19). That too has largely disappeared as the size of the crowd reacting to every piece of information has multiplied.

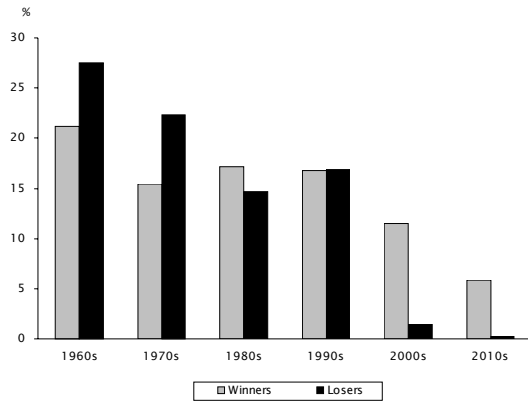
An Experiment Proves a Point

We read an interesting paper that presented the results of an experiment designed to inform how investors react to the flow of information.² In the experiment professional foreign exchange traders were given a chance to earn extra money by trading a mutual fund-like vehicle that tracked the relative value of the U.S. Dollar on an online platform. It was described to them as a leveraged USD Index Fund. Each trader started with GBP £1,000,000 and for every pound they earned in profit they'd receive GBP £1/5,000. They could trade 24 hours a day over a ten-day period. The test was set up so that the fund would return an average of +17% over the test period ± 9% standard deviation. They could earn more than \$1,400 by participating and 342 individuals did so, organized in tranches over a two-month span earlier this year.

²Larson, F., List, J. A. and Robert D. Metcalfe, 2016. "Can Myopic Loss Aversion Explain the Equity Premium Puzzle? Evidence from a Natural Field Experiments with Professional Traders," NBER Working Paper No. 2605.

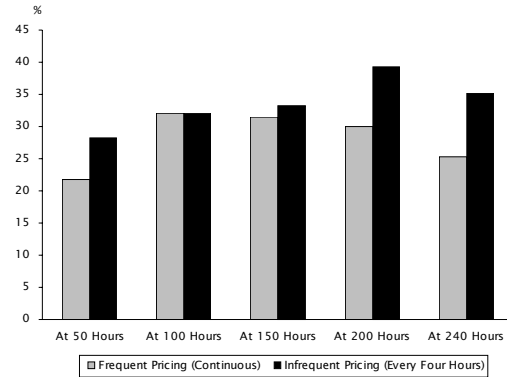
The participants were divided into two groups: one received continuous pricing data, the lifeblood of traders, and the other saw prices only every four hours. Those in the first group felt the pain of drawdowns more frequently than their counterparts. As the ten-day test period went on, those seeing prices continuously took less risk, odd behavior since the experiment was designed to allow them to earn money (see Exhibit 20). On the other hand those with infrequent pricing information took more risk, and in the last two days of the test their allocation to the risky asset was +10 percentage points greater than that of their better-informed counterparts (see Exhibit 21). And, since the game was skewed in favor of the participants, they earned considerably more money (see Exhibit 22).

**Exhibit 19: Large-Capitalization Stocks
Big Winners and Losers in a Five-Day Period
Share of Move Reversed in the Next Five Days
1963 Through Late-April 2016**



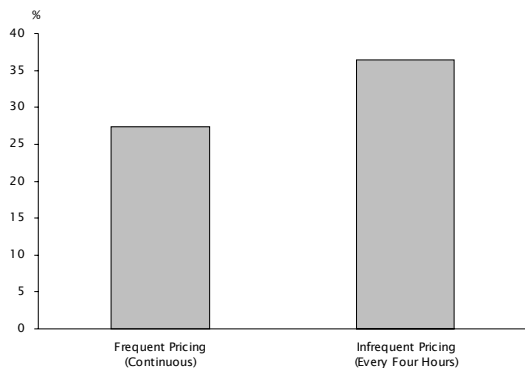
Source: Empirical Research Partners Analysis.

**Exhibit 20: Risk Taking by Professional Forex Traders
Mean Allocation to the Risky Asset
at Various Points in a Ten-Day Experiment
Sorted by the Frequency of Price Delivery
2016**



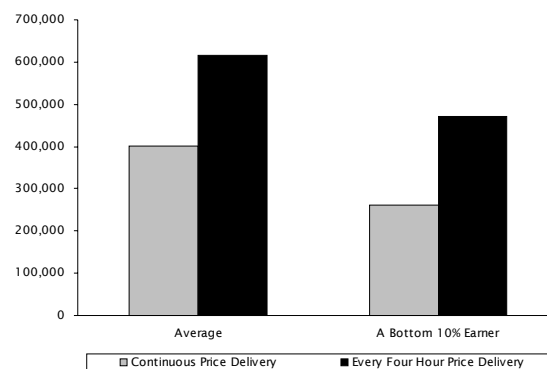
Source: Larson, F., List, J. A. and Robert D. Metcalfe, 2016. "Can Myopic Loss Aversion Explain the Equity Premium Puzzle? Evidence from a Natural Field Experiments with Professional Traders," NBER Working Paper No. 22605.

**Exhibit 21: Risk Taking by Professional Forex Traders
Mean Allocation to the Risky Asset in the
Last Two Days of a Ten-Day Experiment
Sorted by the Frequency of Price Delivery
2016**



Source: Larson, F., List, J. A. and Robert D. Metcalfe, 2016. "Can Myopic Loss Aversion Explain the Equity Premium Puzzle? Evidence from a Natural Field Experiments with Professional Traders," NBER Working Paper No. 22605.

**Exhibit 22: Risk Taking by Professional Forex Traders
Profit Units Earned in a Two-Week Experiment
Sorted by the Frequency of Price Delivery
2016**



Source: Larson, F., List, J. A. and Robert D. Metcalfe, 2016. "Can Myopic Loss Aversion Explain the Equity Premium Puzzle? Evidence from a Natural Field Experiments with Professional Traders," NBER Working Paper No. 22605.

Conclusion: Riding the Curve

We believe that equity investors should ride the equity yield curve and that holding period has become a more important determinant of performance. It also seems like the presence of unlimited real-time information has been detrimental to the results of active managers as they've had too many opportunities to react to developments that ultimately prove inconsequential.

The median U.S. large-cap stock has an ROE of 13% and is priced to a 4.3% free cash flow yield. In the other developed markets those numbers are 10% and 4.6%. Even in a setting of low nominals and interest rates there are real benefits from compounding to be had.

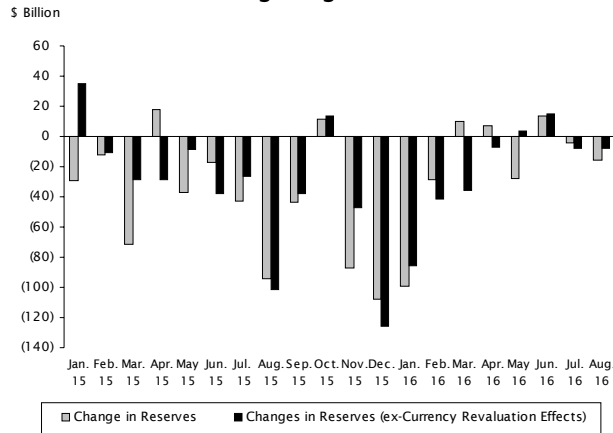
A Brief Note on China: Muddling Through

Apocalypse, When?

We've thought that the most likely scenario for China was that it would muddle through a multi-year transition phase, and that growth expectations would be marked down over time. An end-of-the-world collapse has seemed unlikely. That's more or less what's happened and we still hold that view.

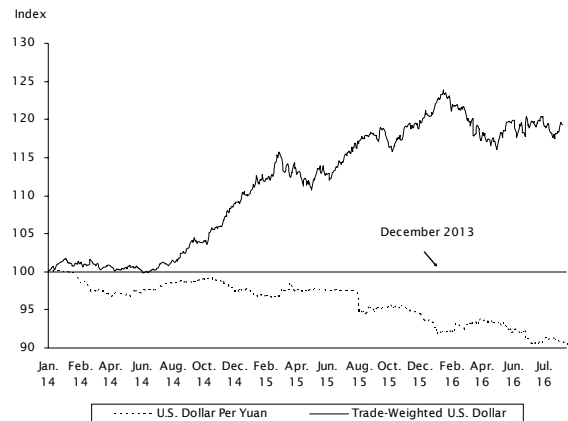
The alternative narrative is that the faith in the Chinese system will break down, and the collapse in confidence will spur a run on its foreign currency reserves. A balance-of-payments crisis will follow. That story, that had some credibility at the beginning of this year, hasn't played out, and China's reserves have experienced little change in the last five months (see Exhibit 23). Its leadership has been able to engineer a further (3)% devaluation in the Yuan, and the year-over-year change in the trade-weighted currency has gone from +11.5% a year ago to (8)% last month (see Exhibits 24 and 25). Coincident with that reversal, export growth rates, expressed in local currency, turned positive (see Exhibit 26).

Exhibit 23: China Foreign Currency Reserves Month-over-Month Changes 2015 Through August 2016



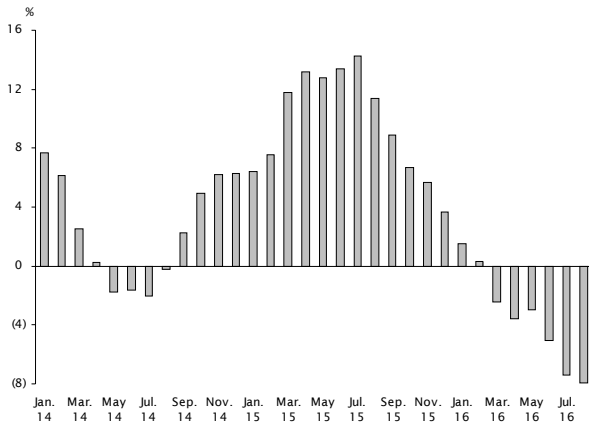
Source: CEIC, International Monetary Fund, Empirical Research Partners Analysis.

Exhibit 24: U.S. Dollar Per Yuan and Trade-Weighted U.S. Dollar 2014 Through Early-September 2016



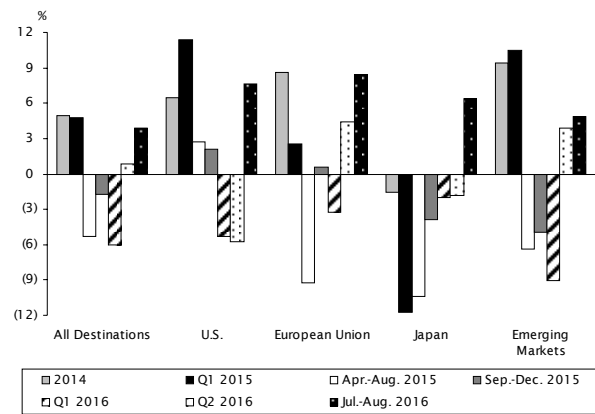
Source: Federal Reserve Board, Bloomberg L.P., Empirical Research Partners Analysis.

Exhibit 25: The Trade-Weighted Yuan Year-over-Year Changes 2014 Through August 2016



Source: Bank for International Settlement, Empirical Research Partners Analysis.

Exhibit 26: Chinese Exports by Destination Measured in Local Currency Year-over-Year Changes 2014 Through August 2016



Source: CEIC, Empirical Research Partners Analysis.

China has also made progress in rebalancing its economy toward the consumer. Much is made of the Keqiang Index that weighs electricity production, rail freight and lending volumes to gauge the rate of growth of the economy. It crudely captures the trend in manufacturing, the longstanding engine of growth of the Chinese economy. We created a similar construct for the consumer sector, combining data for retail sales, urban household income, the

passenger traffic of railroads and airlines with the electricity usage of the services side of the economy. It portrays a much-smaller slowdown (see Exhibit 27). Consumption has picked up in rural areas as well, but the level is still less than half that of urban locales (see Exhibit 28). Consumption is misstated in the official Chinese statistics by about ten percentage points of GDP because the cost of housing, spending by high-end consumers and company-paid outlays are all underestimated (see Exhibit 29).

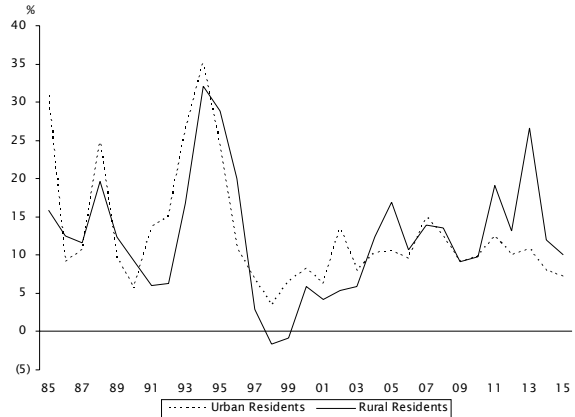
Exhibit 27: China
Consumption and Keqiang Indices¹
2005 Through July 2016



Source: CEIC, Empirical Research Partners Analysis.

¹The Consumption Index is an average of changes in retail sales, urban household income per capita, rail and air passenger traffic and tertiary industry electricity consumption. Smoothed on a trailing three-month basis. The Keqiang index is the equally-weighted average of changes in electricity production, rail freight and lending volumes.

Exhibit 28: China
Consumption Per Capita for Urban and Rural Residents
Year-over-Year Changes
1985 Through 2015

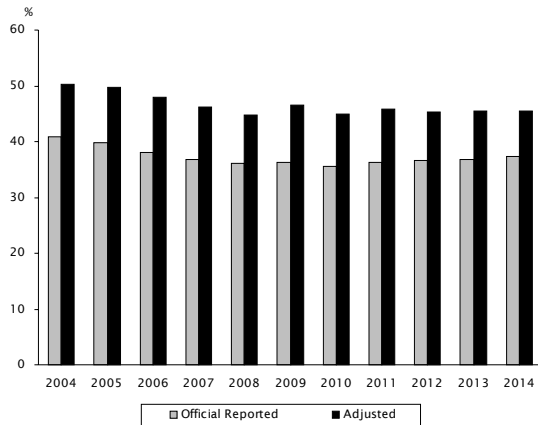


Source: CEIC, Empirical Research Partners Analysis.

Conclusion: Not Thailand

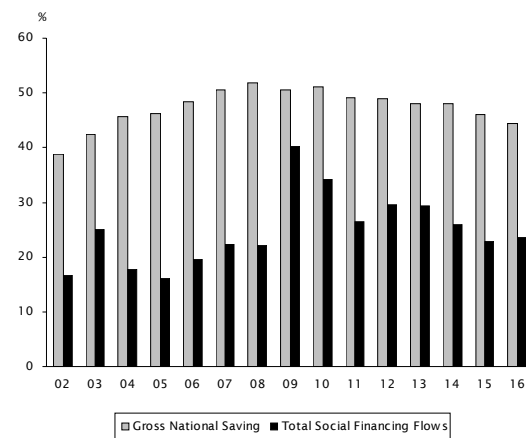
China is less dependent on the kindness of others than most other countries because it still has a very-high savings rate (see Exhibit 30). While that rate is no doubt overstated because estimates for consumption are too low, the vast bulk of the surge in debt has been financed locally. That’s why the entire system must be called into question to create a bear case that endangers the rest of the world. We don’t see evidence that we’re close to that point.

Exhibit 29: China
Household Consumption Expenditure
as a Share of GDP
Official and Estimated
2004 Through 2014



Source: Zhang, J. and Tian Zhu, 2013. "Re-estimating China's Underestimated Consumption," Working Paper, Empirical Research Partners Estimates.

Exhibit 30: China
Gross National Saving and Total Social Financing Flows
as a Share of GDP¹
2002 Through 2016E



Source: International Monetary Fund, CEIC, Empirical Research Partners Analysis.

¹Gross national saving is gross disposable income less final consumption expenditure after taking account of an adjustment for pension funds.