Economic Outlook
Martin Eichenbaum, Ph.D. and Sergio Rebelo, Ph.D.
Northwestern University
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Economic outlook
United States

<table>
<thead>
<tr>
<th></th>
<th>Real GDP growth</th>
<th>Inflation</th>
<th>Unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>2.3</td>
<td>2.0</td>
<td>8.3</td>
</tr>
<tr>
<td>2013</td>
<td>2.7</td>
<td>2.2</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Source: Survey of Professional Forecasts.

- We foresee a modest recovery with little inflationary pressure.
Bond markets expect inflation to remain below the Fed’s informal 2 percent target into the indefinite future.

Source: Federal Reserve Bank of Cleveland, TIPS-based estimates of expected inflation corrected for movements in inflation risk premia.
Despite the large increase in the monetary base, inflation has remained close to zero in Japan for the last 15 years.

Downside risks

Europe

• There is an increasing likelihood of an orderly restructuring of Greek debt, accompanied by 130 billion Euros of rescue funds.

• Two important concerns:
  – Can the Greek government get enough debtors to sign off so that the restructuring is “voluntary”? 
  – What will the impact of this restructuring be on the usefulness of CDSs for hedging sovereign default.

• The ECB bought Europe time to get its house in order by providing banks with 3-year loans at 1 percent rates. Many banks used these funds to buy sovereign debt.
  – Pluses
    • Yields on sovereign debt have fallen, particularly at the two year horizon.
    • Banks are using the profits to recapitalize without tapping equity markets.
  – Minus
    • The Euro banking system is more exposed to sovereign debt risk than it would otherwise be.

• Prognosis for Europe: slow growth but no melt down.
  – An important contributing factor: counterproductive contractionary short-run fiscal policy.
Downside risks

Oil markets

• Another important source of potential risk is a disruption of oil markets due to political instability in the Middle East.

• Oil prices have risen by 15 percent since October, in part because of the recovery and in part because of rising political risk.

• If a war with Iran breaks out, all bets are off.
Asset pricing anomalies
Asset pricing theory

\[ E(R_i) - R_f = \alpha + \beta_i \left[ E(R_M) - R_f \right] \]

- \( E(R_M) \) = expected return to the market
- \( E(R_i) \) = expected return to asset i
- \( \beta_i \) = measure of systematic risk
  (slope of regression of returns to asset i on risk factor)
- \( R_f \) = risk-free rate
- \( E(R_M) - R_f \) = risk premium

\( \alpha \) = measure of abnormal performance.

Standard asset-pricing theory says that \( \alpha \) should be zero.
Anomalies

• An anomaly is a strategy with positive alpha.
• Today we will talk about four classic anomalies that have been widely exploited by hedge funds.
  – Value
  – Size
  – Momentum
  – Carry trade
  – Currency momentum
• The strategies that exploit these anomalies involve zero net investment, so we describe their payoffs as “excess returns”.

Sharpe ratio = average excess returns/standard deviation of excess returns.
Value

- Rank firms according to book-to-market.
- Go long on the top 30 percent.
- Go short on the bottom 30 percent.
- Construct the long and short portfolios so that they have the same average firm size.
Size

• Rank firms according to size.
• Go short on the top half.
• Go long on the bottom half.
• Construct the long and short portfolios so that they have the same average book-to-market ratio.
Momentum

• Rank stocks by their cumulative return from month t-12 to month t-2.
• Go long on the top third.
• Go short on the bottom third.
• Construct the long and short portfolios so that they have the same average firm size.
Carry trade
(equally-weighted across currencies)

- Borrow low-interest-rate currencies.
- Lend high-interest-rate currencies.
- Implement this strategy on a portfolio of currencies.
- Take equal-sized positions in the different currencies.
Currency momentum
(equally-weighted across currencies)

• Go long on currencies for which it was profitable to go long in the previous month.
• Go short on currency for which it was profitable to go short in the previous month.
• Take equal-sized positions in the different currencies.
Value, Size, Momentum, Carry, and Currency momentum strategies have much larger expected returns than those predicted by asset-pricing theory, i.e. they generate alpha.

Source: authors’ calculations.
In-sample performance does not guarantee out-of-sample performance.

Cumulative returns to different strategies

Source: Kenneth French’s data library and authors’ calculations.
In-sample performance does not guarantee out-of-sample performance.

All these strategies have fat tails with bad outcomes that occur with low probability.

Distribution of monthly payoffs to different strategies

Source: authors’ calculations.

In-sample performance does not guarantee out-of-sample performance.

How to deal with crash risk?

Diversify across currencies

• It requires discipline to not increase the weight of seemingly more profitable strategies.

• An added benefit of this approach is an increase in the Sharpe ratio.

• There are also variants of carry and currency momentum in which the downside is eliminated by buying puts (calls) on the currency that you are long (short).
How to deal with crash risk?
Diversify across currencies and strategies.


<table>
<thead>
<tr>
<th>Strategy</th>
<th>Worst monthly excess return (not annualized)</th>
<th>Worst annual excess return</th>
<th>Year of worst annual return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>-12.9</td>
<td>-27.9</td>
<td>1999</td>
</tr>
<tr>
<td>Size</td>
<td>-16.6</td>
<td>-20.6</td>
<td>1998</td>
</tr>
<tr>
<td>Momentum</td>
<td>-34.8</td>
<td>-52.8</td>
<td>2009</td>
</tr>
<tr>
<td>Carry trade</td>
<td>-8.0</td>
<td>-5.6</td>
<td>2008</td>
</tr>
<tr>
<td>Currency momentum</td>
<td>-8.1</td>
<td>-10.9</td>
<td>2010</td>
</tr>
<tr>
<td>Stock market</td>
<td>-23.1</td>
<td>-40.0</td>
<td>2008</td>
</tr>
<tr>
<td>Equally-weighted portfolio of four stock market strategies</td>
<td>-8.8</td>
<td>-6.8</td>
<td>2009</td>
</tr>
<tr>
<td>Equally-weighted portfolio of two currency strategies</td>
<td>-4.5</td>
<td>-4.0</td>
<td>2010</td>
</tr>
<tr>
<td>Equally-weighted portfolio of all six strategies</td>
<td>-6.6</td>
<td>-3.9</td>
<td>2009</td>
</tr>
</tbody>
</table>

Source: Kenneth French’s data library and authors’ calculations.
In-sample performance does not guarantee out-of-sample performance.
Cumulative Returns to Stock Market Versus Portfolio of Value, Size, Momentum, Market, Carry and Currency Momentum

Source: Kenneth French’s data library and authors’ calculations.
In-sample performance does not guarantee out-of-sample performance.

Disclosure

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