

# FRIEDBERG'S

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## Argentina's pseudo currency-crisis

By Steve H. Hanke

Currency crises come in two varieties: real and pseudo. For a speculator, the trick is to be able to distinguish between these two species. Anticipation of a real crisis requires a short position for profits. To profit from the expectation of a pseudo crisis, a long position is required. Turkey's recent travails represented a real currency crisis, whereas the current troubles in Argentina, as well as those it encountered in 1995, represent pseudo crises.

### Balance sheet diagnostics for real crises

Most modern economists are fonder of theory than balance sheets. Indeed, many economists cannot perform basic balance-sheet diagnostics. This was not always the case. Sir John R. Hicks (1904-1989), a high priest of economic theory and 1972 Nobelist, stated that "most of this stuff that I pick up and see in the journals seems to have very little relevance to the sort of practical problems that really bother people." For Hicks, the balance sheet was the key to understanding how decisions are made and what their expected consequences would be. It is not surprising, therefore, that Hicks said, "I like to look at the balance sheet..."

When it comes to central banks, I share Sir John's sentiments. After all, a balance sheet reveals a central bank's monetary liabilities (high-powered base money). It also shows the make-up of those liabilities, or the split between net domestic assets (the domestic component of base money) and net foreign reserves (the foreign component of base money).

The ability to analyze a central bank's balance sheet in a timely manner is of utmost importance. At the most basic level, it can show whether the central bank is solvent. As former President Suharto's adviser in early 1998, the first thing I did after arriving in Jakarta was to inspect the Bank of Indonesia's balance sheet. I concluded that the BI was insolvent. Consequently, I informed Suharto that he shouldn't be

puzzled by the collapse of the rupiah. It was inevitable.

Things are not always so simple, however. After all, insolvent central banks are not common. Most central banks in emerging-market countries employ pegged exchange rates. With pegged rates, a monetary authority is required to manage both the exchange rate and monetary policy. Consequently, the monetary base contains both domestic and foreign components because both net domestic assets and net foreign reserves on the monetary authority's balance sheet can change, and these changes cause the monetary liabilities to fluctuate.

Pegged rates – managed floats, adjustable pegs, crawling pegs, bands, and with the exception of currency boards and "dollarized" systems, virtually all the other exchange-rate

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Contributions by Albert D. Friedberg, Steve H. Hanke, Neil Rackoff, and Vincent de Caën.

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regimes employed in emerging market countries – invariably result in conflicts between exchange rate and monetary policies. For example, when capital inflows become “excessive” under a pegged system, a monetary authority often attempts to sterilize the effect by reducing the domestic component of the monetary base through the sale of government bonds. And when outflows become “excessive,” the authority attempts to offset the changes with an increase in the domestic component of the monetary base by purchasing government bonds. Real exchange-rate crises erupt as a monetary authority increasingly offsets the reduction in the foreign component of the monetary base with domestically-created base money. This is exactly what happened in Turkey earlier this year.

But things can be even more complicated. Some central banks engage in activities that are not reported on their balance sheets. For example, they buy and sell foreign exchange in the forward markets and record these transactions as off-balance-sheet items that may or may not be made public. This was the case in Thailand in 1997 before the collapse of the baht's peg in July. Although the Thai gross foreign reserves on the balance sheets declined from \$39.2 billion in January to \$32.4 billion in June, the true picture – if the off-balance-sheet items had been reported and included in an analysis of foreign reserves – was life threatening. Indeed, the Thai central bank had sold \$23.4 billion in foreign exchange on the forward market, and these transactions were unreported. If a consolidated balance sheet had been available, it would have shown that the foreign reserve cupboard was virtually bare, with only \$9.0 billion in net foreign reserves in June. It's no wonder that the baht collapsed.

To obtain a true picture of a central bank's operations, then, a current consolidated balance sheet is essential. It contains the information required to determine the basic health of the central bank, the general soundness of a currency and the sustainability of a pegged exchange rate.

To conduct the relevant balance sheet diagnostics – something that remains a mystery for most analysts – the logical place to find current balance sheet information is a central bank's Website. However, of the world's 174 central banks, only 124 have Websites. And of those 124, only 82 post some form of a balance sheet. Of those, only 14 display current balance sheets in which weekly or semi-monthly data are published within two weeks. Noteworthy is the fact that all the currency boards that were installed in the 1990s, including Argentina's, do produce current balance sheets.

But that isn't the end of the story. To find off-balance-

sheets positions of central banks, the skills of even Sherlock Holmes are put to the test. Currently, 45 countries are enrolled in the International Monetary Fund's Special Data Dissemination Standard program. And under Section IV, Part E, the participants are required to list their exposures in the forward markets and mark them to market. However, the data are not kept up to date, as required by the IMF.

Consequently, even if an analyst knows his balance-sheet diagnostics, he is left with the Herculean task of finding current consolidated balance sheet data for central banks. It shouldn't be surprising, therefore, that so few can anticipate real currency crises with any consistency.

To illustrate how bad the state of the art is, it is worth mentioning a “Special Report on Emerging Markets” contained in the July 21, 2001, issue of *The Economist*. That report, “How the Bug Can Spread,” contains no mention of central bank balance sheets. Also absent is a discussion of the type of analysis required to decompose the monetary base under a pegged regime, and therefore to anticipate a real currency crisis. Instead, *The Economist* presents a table that summarizes the standard data used by most analysts to evaluate currencies. These include the following items expressed as a percent of GDP: foreign debt; budget balance; short-term debt; current account balance; and exports to the USA. In addition, the trade-weighted real exchange rate is included. These variables are displayed for 22 countries. If any of the variables are in excess of a threshold value, it is highlighted in red, indicating danger.

This summary of the standard approach fails, of course, even to mention that the best econometric models that use these variables have proven to be unsatisfactory. For example, the models predict only 25% of the real currency crises. For 70% of the crises, the models emit no signals at all. What is worse, in 5% of the crises, the models send out the wrong signal, indicating that all is clear just before a storm.

### Currency boards and pseudo crises

Pseudo crises are another kettle of fish. They are associated with currency board systems. And history shows that these crises have always been pseudo. Indeed, since the first currency board was installed in Mauritius (1849), there has never been a devaluation of a currency board currency.

Argentina, which has had a currency board-like system since April 1991, is part of this history. In 1995, the speculators misread the situation and engaged in a massive attack on the Argentine peso. It was to no avail. And currently, the peso is under attack, trading at a deep discount on the forward

market. The annualized implied yield on the one-month forward market is currently 90% and was recently over 150%. The current pseudo crisis will end like the one did in 1995, with the peso remaining firmly fixed to the dollar at parity. When the storm abates, the speculators will once again scratch their heads and lick their wounds. Why?

Central banks have broad latitude to create base money by altering their net domestic assets via purchases or sales of either Treasury bills or government bonds. Currency boards do not have that flexibility. A currency board system requires that domestic notes and coins, as well as deposit liabilities at the monetary authority, be fully covered by foreign reserves denominated in a foreign anchor currency, and that the domestic currency must trade, without restrictions, at an absolutely fixed exchange rate with the anchor currency.

Currency boards have an exchange-rate policy (a fixed rate), but no monetary policy. With a currency board, there cannot be conflicts between monetary and exchange-rate policies because a board has no monetary policy. Monetary policy is on autopilot, with changes in base money determined solely by changes in the demand for base money. Therefore, changes in base money are determined by the balance of payments, and market forces act to automatically rebalance financial flows and avert balance of payments crises. That's why currency crises that occasionally engulf a currency board system are pseudo, not real.

The characteristics of currency boards can be captured with slightly more technical language. A board's balance sheet is quite different from a central bank's. There are no domestic assets on a board's balance sheet. Consequently, the monetary base cannot be disaggregated into a domestic and a foreign component. Base money in a currency board system contains only a foreign component. Also, a currency board system is driven exclusively by market forces and is, by definition, always in balance. After all, a currency board is nothing more than an exchange house that stands ready to exchange a foreign anchor currency for a domestic currency at a fixed rate of exchange.

And boards can always honor their commitments because they are required to back base money fully by foreign reserves. Consequently, the supply of the domestic currency is totally elastic at the fixed exchange rate (a horizontal line on a supply-demand diagram). The quantity of domestic money in circulation at any point in time is, therefore, solely determined by the demand for domestic money, and the demand for and supply of domestic money are always balanced.

In the case of Argentina, let us consider a hypothetical extreme case. Assume that the demand for pesos completely collapses and that there are no external drains of foreign exchange from the country. Under these assumptions, all the pesos in Argentina would be exchanged for dollars at parity. The country would be voluntarily dollarized, the monetary base would remain as it was before the collapse in the demand for pesos, and the peso currency risk would vanish.

### **From pseudo crisis to panic**

How did Argentina get tangled up in yet another currency crisis? Early in 1991, former President Carlos Menem embraced the currency board idea. To make it happen, he moved his foreign minister, Domingo Cavallo, over to the Ministry of Economy. Cavallo and his team quickly drafted a Convertibility Law for what Argentines call a convertibility system – an uncommon term for an unusual system. Indeed, convertibility deviates in important ways from an orthodox currency board system.

Argentina's convertibility system engages in limited lender-of-last-resort activities; it regulates reserve requirements for commercial banks; it can hold up to one third of the dollar-denominated reserves it keeps to back its monetary liabilities in the form of dollar-denominated bonds issued by the government of Argentina; and the Convertibility Law requires only that the monetary authority's monetary liabilities be covered by a minimum of 100% in dollar-denominated assets. Consequently, when the assets are greater than 100%, the one-to-one link between foreign reserves and the monetary base can be broken, indicating discretionary sterilization.

On April 1, 1991, the central bank was put into convertibility's loose-fitting straitjacket. It did the trick. Annual inflation, which was 1,345% in 1990, fell like a stone. Trade barriers were reduced, and in 1993, YPF, the national oil company, was privatized in what was then the largest initial public offering (\$3 billion) in the history of the New York Stock Exchange.

During the glory days of reform (1991-94), Menem maintained a unified command of the political scene. The reforms, which were developed without the IMF's helping hand, were simple and implemented with speed in large packages. The results in the 1991-94 period were spectacular. GDP per capita measured in dollars increased by 72.8%

However, convertibility's deviations from currency board orthodoxy have resulted in a less than perfect unification of the peso with its anchor currency, the US dollar. Indeed, even though the peso-dollar exchange rate has

remained absolutely fixed at 1-to-1, pseudo currency crises have occasionally erupted, notably in 1995 and at present.

In the wake of the 1995 Mexican "tequila crisis" fallout, Argentina's reform agenda lost momentum. Even though Argentina pulled out of the tequila crisis and GDP grew at a 7% clip in the 1996-97 period, the reform agenda didn't regain its former vigor as it should have. Menem's second term was winding down and losing altitude fast as the 1999 presidential elections approached. To make matters worse, the economy was slumping in the aftermath of Brazil's real currency crisis of 1999.

Many breathed a sigh of relief when Fernando de la Rúa was installed as President in December 1999. They thought a new team would inspire confidence and put some life into the sagging economy. It wasn't to be. The de la Rúa government was a weak left-wing coalition. It proved early on to be incapable of reforming the supply side of the economy and putting order in Argentina's fiscal affairs. The crisis deepened.

Eventually, de la Rúa was forced to appoint Domingo Cavallo as his economic czar. At first glance, that seemed like a good idea. After all, Cavallo had designed the convertibility system and had successfully endured the pseudo crisis of 1995. But Cavallo has made several missteps, which have thrown Argentina from a crisis into a financial panic.

Ironically, Cavallo's mistakes have been tied up with the system he designed. In June, Cavallo injected two more deviations from orthodoxy into the system. First, he introduced a dual currency regime. Under this setup, all exports (excluding oil) take place with a devalued peso, and all imports take place with a revalued peso. All other transactions take place at a peso-dollar rate of 1-to-1.

Second, a law was passed in which the peso's anchor will switch from the dollar to a basket of 50% euros and 50% dollars once the euro reaches parity with the dollar. These changes were viewed by the markets as moves eventually to exit from convertibility. Cavallo gave this view legs on July 9, when he told the *Agence France Presse* that Argentina will leave the peg one day. All this led speculators to conclude that Argentina was starting down a slippery slope. It didn't take long for the markets to start pounding the peso. A panic ensued, and interest rates shot up in anticipation of an exit from convertibility and a devaluation.

This brings me to the issue of exit strategies for exchange-rate regimes. Countries that have exited from flawed pegged regimes and adopted currency boards or dollarized in the 1990s have all realized dramatic improvements in their macroeconomic indicators. Exits from soft to hard

regimes have always stopped real currency crises in their tracks. That is not the case for exits from hard regimes to soft regimes. Recall Hong Kong's exit from its currency board in November 1974. The floating Hong Kong dollar became wildly volatile and steadily lost value against the US dollar. The volatility reached epic proportions in late September 1983, after the fourth round of Sino-British talks on Hong Kong's future. Financial markets and the Hong Kong dollar went into tailspins.

At the end of July 1983, the Hong Kong dollar was trading at HK\$7.31 to US\$1. By Black Saturday, September 24, it had fallen to HK\$9.55 to US\$1, with dealer spreads reported as large as 10,000 basis points. Hong Kong was in a state of panic, with people hoarding toilet paper, rice, and cooking oil. The chaos ended abruptly on October 15, when Hong Kong reinstated its currency board.

Cavallo obviously hasn't read his monetary history carefully. Even talk of exiting a hard regime in the middle of a crisis is like playing with dynamite. Indeed, in July, the dynamite exploded. And incidentally, you don't have to read monetary history to learn about the dangers of discussing exit strategies. Military history teaches the same lessons. General Wesley Clark, former Supreme Allied Commander in Europe makes that perfectly clear in his new book, *Waging Modern War*. Every time the Pentagon spoke of exit strategies for US troops in Bosnia, the Bosnian Serbs would intensify their shenanigans, causing no end of problems for the Allies.

### **An elegant exit strategy**

At present, Argentines are slowly and voluntarily dollarizing the economy, switching from pesos to dollars. This is a torturous process. Indeed, speculators are massively short Argentine pesos that they don't yet own, the peso is trading at a deep discount on the forward market, and the annualized implied yield for a one-month peso forward contract is 90%.

To stop the financial panic, a dollarization law should be passed, now. By doing so at 1 dollar = 1 peso, which is the current spot rate, a massive short squeeze would ensue as the bears attempted to cover their short positions. Dollarization would, by definition, immediately eliminate the peso discount, the currency risks, and lower interest rates.

The nuts and bolts for the Argentina's dollarization are contained in the following draft law:

1. The Banco Central de la Republica Argentina (BCRA) shall cease to issue pesos. It shall withdraw from circulation the Argentine peso monetary base and shall replace it with

US dollars at the exchange rate of 1 dollar = 1 peso. The BCRA shall preferably accomplish the bulk of this task within 30 days after this law enters into force. Peso notes currently accepted for redemption into dollars shall continue to be accepted by the BCRA or the government for five years after this law enters into force. After five years, all peso notes in circulation may be demonetized by a decree of the Executive Power.

2. Wages, prices, assets, and liabilities shall be converted from pesos to US dollars at the exchange rate of 1 dollar = 1 peso. By 30 days after this law enters into force, wages and prices shall cease to be quoted in pesos.

3. Interest rates and other financial ratios shall remain the same in US dollars as they were in pesos. The maturities of loans and other financial obligations shall remain unchanged.

4. The Executive Power may appoint a committee of experts on technical issues connected with this law to recommend changes in regulations that may be necessary.

5. Nothing in this law shall prevent parties to a transaction from using any currency that is mutually agreeable. However, the US dollar may be established as the default currency where no other currency is specified.

6. Previously enacted legislation conflicting with this law is repealed.

7. This law becomes effective immediately.

With an economy that is officially dollarized, Argentina will be ready for the fiscal medicine that has recently been prescribed. Add to that a strong antidote for corruption, and Argentina will once again be in the fast lane.

### **Trading strategy**

For speculators, there are three general scenarios to consider at present.

**Convertibility.** The convertibility system remains in place. Under this most likely scenario, the panic will gradually abate, and Argentina will slide into a crisis. The crisis will also eventually subside. However, this will be a drawn out affair. With convertibility in place, long peso positions are a sure thing. At present levels, the floating rate bonds are also attractive because Argentina will probably not be forced to default. Under present plans for the refinancing of the letes (T-bills) and the zero fiscal deficit program, Argentina's financing gap will be positive (\$2.3 billion) for the remainder of 2001. In 2002, the financing gap will be a modest negative \$5.1 billion, with commitments already in place for 73% of refinancing requirements for 2002.

**Official dollarization.** If voluntary dollarization continues, the authorities might follow a more logical path by exiting convertibility and officially dollarizing. Under this scenario, which is less likely than the first, both long peso and FRB positions would, by definition, be sure things.

**Devaluation.** Although this scenario is priced into the forward market, it is almost unthinkable. A devaluation exit strategy would send Argentina into financial chaos. Among other things, Argentina would be unable to go to the markets to fill its modest refinancing needs in 2002. A default of its sovereign debt, which is 90% denominated in foreign currencies, would be a sure thing. Under this remote scenario, those who had taken long peso and FRB positions would suffer large losses.

Given the probabilities attached to these three scenarios, we recommend staying aggressively long the peso and also purchasing FRBs at present levels.

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**THE ECONOMY****Rambling thoughts on a lazy summer day...**

It has become apparent that the huge dollops of money administered by the US Federal Reserve have brilliantly succeeded in keeping the US economy from a hard fall. The massive drop in corporate profits, the concomitant decline in paper wealth, and the globalized nature of the downturn could well have led to a depression comparable in magnitude to the one experienced in '73-'74 or, with poor luck, something even worse. Though there are still some risks, the outlook should begin to improve. At least for now, we are likely to avoid an outright recession (two consecutive quarters of negative growth).

What is not apparent yet is that the US has managed to avoid the unpleasantness of a hard and rapid fall at the cost of a protracted period of economic stagnation. The reason is that no one has yet invented a way of circumventing real economic adjustments. These adjustments come principally in two ways: short and hard or long and soft. Because the US economy suffers from a grotesque private sector imbalance, and because policymakers have chosen to avoid pain today, the adjustment will have to take place over time.

Add a nagging rise in consumer prices to the mix (core CPI has accelerated to an annual rate of 3.1% over the past 6 months, from 2.5% over the previous year), and you get a very uncomfortable case of stagflation.

What are some of the investment implications of this scenario?

**What about high-grade fixed income?** For one thing, a steady rebuilding of savings should lower real interest rates. Certainly bullish for TIPS, those special US inflation-linked securities. Possibly bullish for regular, nominal Treasuries, though they are subject to inflation risk.

**What about stock prices?** With the virtual disappearance of the equity risk-premium, stocks have ceased being the best game in town. At first, equities are likely to parallel the course of the economy – trendless, boring, range-bound, though expressing lively sectoral rotation. This process is well underway (see Chart 1).

Wall Street will maximize revenues by continuously suggesting new sectors and new investment fads. Commissions, fees, and the inability of the investing public to guess the next winner without the wind of rising prices at their backs will wear away their faith in equities. Meager

investment results – three-year results are already starting to look downright uninspiring (see Chart 2) – will cause disintermediation. Mutual fund redemptions will accelerate. Market illiquidity (falling volumes) will trap many funds into positions that cannot be liquidated, and redemptions will become harder and harder to accommodate. Perceptive investors will realize that early withdrawals will save them taxes (fund investors are stuck with long-term capital gains that preceded them!) and, most importantly, will pay them inflated marked-to-market prices. Finally, the mutual fund bubble will burst, stock prices will fall, and the equity risk-premium will, once again, rise to historic norms. Though stock prices look higher in the short-term, rational investors are well advised to avoid them.

**High-yield securities?** Conceptually, given high cash returns, junk bonds should outperform equities. The fact that the biggest buyers of high-yield securities are mutual funds, however, could leave this market vulnerable to the run on funds described earlier. Okay for the nimble investor, provided it is a well-diversified portfolio. Otherwise, if you are a rational, long-term investor, avoid.

**Emerging market debt and equities?** Stagflation will not only put a continuous damper on world trade but it will also dry up risk capital, putting severe pressure on the world's debtors. This can't be good news for the likes of Brazil, Argentina, Turkey, Indonesia, and the Philippines. It may not be as critical for Thailand, Korea, and Mexico. We would avoid heavy debtors and leveraged economies, and we would make very sure to get paid for the growing international risks. This means higher-than-historic fixed-income spreads and low, low price-earnings ratios.

**Commodity prices?** Very low inventories across most commodities should underpin prices, even under stagnating economic conditions. Best situated are grains, cocoa, and sugar. Gold should come into its own, propelled by a growing fabrication gap and disappointment with financial assets. Industrial metals are in the category of cheap but unlikely to shine. Worst situated is petroleum, plagued by overcapacity and strenuous substitution efforts.

Enough for now, my lawn bowling pals are beckoning.

– ADF

Chart 1 – Wall Street's game: Catch the winning quarter...if you can

S&P RANKED RETURNS	YEAR	QTR		QTR	
	JUN 30/00	JUN 30/00	SEP 30/00	DEC 31/00	MAR 31/01
	JUN 30/01	SEP 30/00	DEC 31/00	MAR 31/01	JUN 30/01
<b>Best Performing Groups for June 30/00 to Sep. 30/00</b>					
ELEC DEFENSE	-23.61	<b>57.84</b>	0.60	-46.76	-9.63
HOMEBUILDING	74.47	<b>40.86</b>	22.66	2.33	-1.32
PERSONAL LOANS	46.22	<b>40.79</b>	-2.99	-4.16	11.71
PROPERTY-CASUAL. INS	65.74	<b>37.14</b>	18.08	-5.94	8.81
ELECTRIC COS.	34.88	<b>33.96</b>	6.09	-4.90	-0.20
<b>Best Performing Groups for Sep. 30/00 to Dec. 31/00</b>					
POLLUTION CONTROL	65.69	-8.23	<b>59.05</b>	-8.33	23.83
TOBACCO	91.20	12.52	<b>48.05</b>	7.81	6.47
ENG.&CONSTRUCTION	91.71	-5.13	<b>47.98</b>	34.59	1.46
SHOES	12.85	1.93	<b>39.86</b>	-25.63	6.44
PAPER&FOREST PROD	25.84	-4.29	<b>34.76</b>	-7.78	5.80
<b>Best Performing Groups for Dec. 31/00 to Mar. 31/01</b>					
ENG. & CONSTRUCTION	91.71	-5.13	47.98	<b>34.59</b>	1.46
TOYS	28.46	-17.99	18.50	<b>22.53</b>	7.88
CONGLOMERATES	1.35	-15.07	0.81	<b>22.23</b>	-3.15
TELECOMM-LONG DIST	-51.48	-20.57	-46.07	<b>21.97</b>	-7.14
HOUSEWARES	19.60	-4.02	5.98	<b>15.80</b>	1.53
<b>Best Performing Groups for Mar. 31/01 to June 30/01</b>					
OFFICE EQPT & SUPP.	-28.58	-16.35	-42.68	11.54	<b>33.53</b>
COMPUTER SOFTWARE	-25.12	-9.84	-26.25	-11.22	<b>26.85</b>
STEEL	21.71	-9.81	9.33	-0.52	<b>24.08</b>
LEISURE TIME	24.80	22.79	-16.27	-1.98	<b>23.84</b>
POLLUTION CONTROL	65.69	-8.23	59.05	-8.33	<b>23.83</b>

Chart 2 – Performance of the 10 largest equity mutual funds

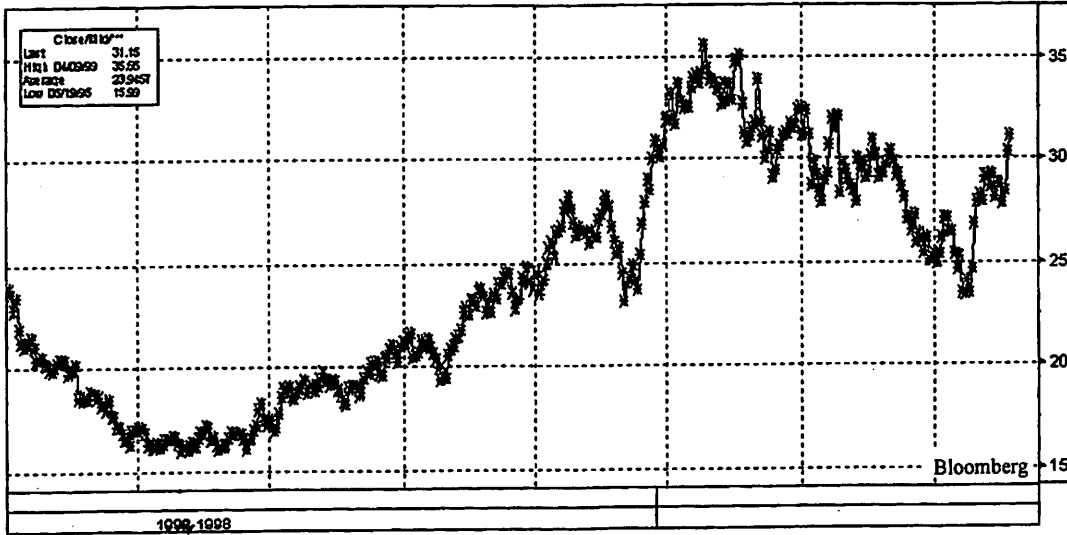
Fund	Net Assets (billions)	Investment Objective	3-Year* Return	1-Week Return	YTD Return
Fidelity Magellan Fund	\$86.007	Large Cap Core	4.90%	-0.55%	-8.30%
Vanguard 500 Index;Inv	78.611	S&P 500 Funds	3.11	-1.02	-8.35
Amer Funds Inv Co Am;A	55.818	Large Cap Value	8.55	-0.20	-2.14
Amer Funds Wash Mut;A	48.536	Large Cap Value	6.53	-0.90	3.23
Amer Funds Growth;A	37.051	Multi Cap Core	16.81	0.20	-9.45
Fidelity Gro & Inc	36.661	Large Cap Core	3.12	-1.17	-7.37
Fidelity Contrafund	34.664	Multi Cap Core	3.96	-0.93	-11.33
Janus Fund	33.170	Large Cap Growth	4.70	0.26	-18.38
PIMCO:Total Return;Inst	31.919	IID	7.24	0.29	5.29
SPDR Trust;1	30.033	S&P 500 Funds	3.01	-0.99	-8.25

\*Annualized. Through Thursday. Source: Lipper

Chart 3 – US price-earnings ratios

**S&P 500 (12 MONTH TRAILING EARNINGS)**

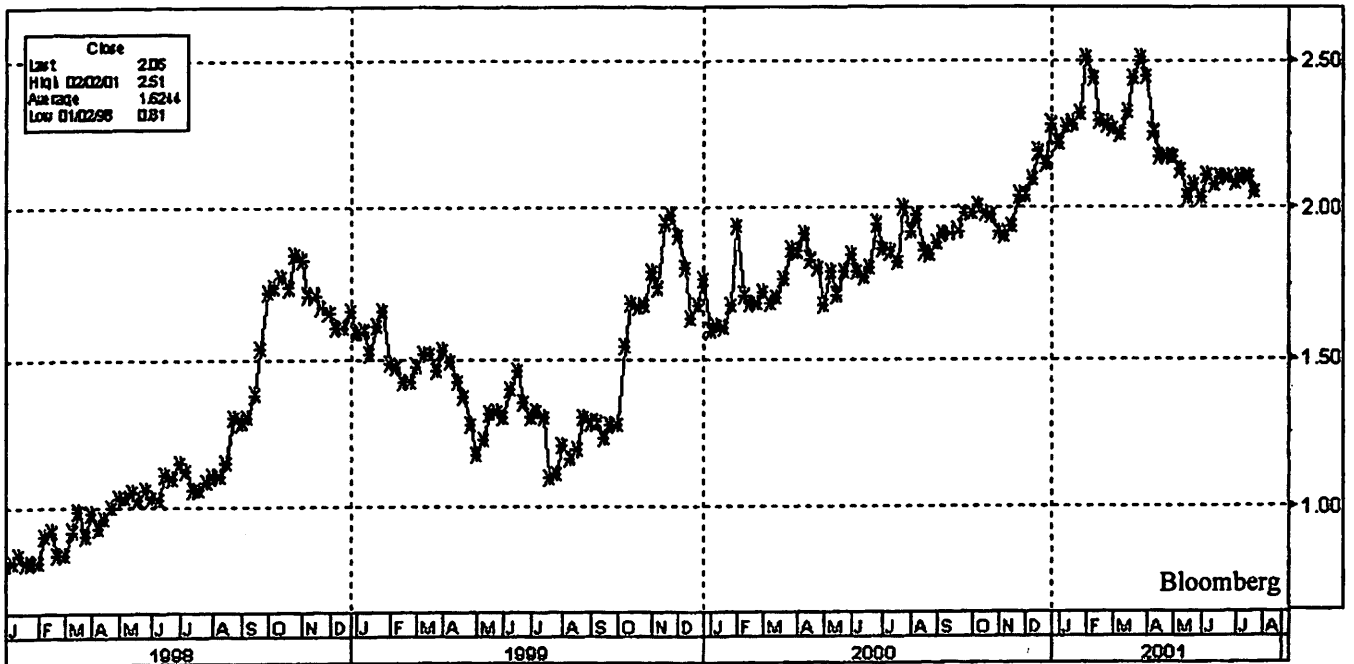
Range **1/1/94** - **7/27/01**      Period  Weekly      Base Currency:  USD  
 Upper Chart:  Mid Line      Moving Averages



Fully priced?

At 31 times earnings, the earning yield equals a very modest 3.2%, 20 bp less than the U.S. government long-term inflation-indexed bond.

Chart 4 – Industrials: 10-year yields, BB1-A1



Risk perceptions seem to be falling. Bullish for the economy?

**STOCK MARKETS****How to play Wall Street***By Neil Rackoff*

You don't need us to tell you that the stock market is in trouble. Nor does it require brilliance to figure out that if those of us regular folk who owned a little piece of capitalism have lost money and are now on the sidelines licking our wounds, so too, not far behind must be those who kindly brought us the party. In other words, the brokerage firms and mutual fund companies won't be immune from the downturn.

Further, the *Financial Times* reported recently that investor optimism fell to a four-year low in July, according to the most recent survey conducted by UBS/PaineWebber and Gallup. In addition, liquidity has been contracting dramatically in the OTC market, which is indicative of investors' growing reluctance to participate in volatile markets. The question then arises as to how to play the weakness in the business of "Wall Street" itself.

We've analyzed the situation and discovered for ourselves some interesting observations that we would like to share. We think that there is a benefit to being long the asset management business and short the brokerage firms as we go into this slowdown. One reason is the leverage inherent in the brokerage business model; another is the more productive cost structure of investment management firms relative to brokerage firms.

Take Goldman Sachs, for instance. Return on equity for its last fiscal year ending November 2000 seems to be a healthy 23%, although it is trending down. However, this was achieved with a leverage of over 20:1 on equity. Put another way, if we remove the leverage and look at return on equity, we find it to be a small 1.14%. Not a very good business by itself.

Compare this with a company like Eaton Vance, an investment management company, and you will see that its return on equity is approximately 52%. Leverage is just 1.76:1, which means non-levered return on equity is around 29%.

To be fair, in addition to their transactional business, brokerage firms are also in the business of managing assets. (Interestingly, brokerage firms have been buying not only

mutual fund companies but also, more recently, hedge fund, fund-of-fund managers). However, as we saw above, brokerage firms' capital structures have tended to be significantly more leveraged than asset managers. Apparently this facilitates more transaction business, while asset managers generally earn smaller but steadier fee income on the assets they manage. But leverage, while great on the way up, leaves little room for error on the way down.

The transactional part of the Wall Street's business seems to be withering away more swiftly. This has contributed to severe second-quarter earnings tumbles at Wall Street titans like Merrill Lynch (down 41%) and Charles Schwab (down 26%). Decimalization has also contributed to shrinking spreads. (Interestingly, Charles Schwab's vast mutual fund business may have helped soften its earnings decline.)

Now earnings at mutual fund groups like T. Rowe Price are also down. Nevertheless, its source of revenue is not shrinking as fast, and even more importantly, its cost of doing business – specifically in personnel productivity – is more favorable. Comparing net income per employee, we can see the drag on profits a large staff creates. In fiscal 2000 Goldman Sachs earned around \$135,000/employee, while Eaton Vance earned \$264,000/employee. Hardly a confidence boosting performance by a brokerage firm with a business model that is so levered.

Looking at relative valuations (Eaton Vance at 20.67x and Goldman Sachs at 14.91x), it appears that the market has discounted the relative underperformance of the latter. This, however, is belied by the fact that Goldman Sachs' enterprise value to net income, at 81.78x, is roughly 4 times higher than Eaton Vance's multiple of 20.85x.

On the assumption that the securities business will continue to chug along at the current pace (or even shrink further), it makes good economic sense to sell investment bankers/brokers and buy asset managers.

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# Behavioral finance: a critical report

By Vincent de Caën

## 1. Efficient Markets Hypothesis

Our Western society is ultimately founded on a particular (some would say peculiar) view of human nature. All of our liberal economics and democratic politics are founded squarely on the assumption of *consistently rational and self-interested* human beings. This ideal view of human nature must be supplemented by a faith that rational individuals, consistently pursuing their own interests, will provide the maximum benefit to the maximum number of citizens: This is the democratic argument from *utilitarianism*. The hallmark of such a society is an equilibrium that cannot be disturbed (an end of history, as it were).

The Efficient Markets Hypothesis (EMH), which has dominated economic theory for more than three decades, is derived straightforwardly by applying these (neo-)liberal assumptions to financial markets. Prices in an efficient market necessarily reflect a rational valuation based on all available information. Risk can be calculated to maximize a rational utility function. With the introduction of new information, rational investors quickly adjust prices: A competitive market of rational investors will quickly return to equilibrium. It must follow that there can be *no excess profits* – no one can hope consistently to beat the market. Earning superior risk-adjusted returns must be an impossibility. The best one could do is passively hold market portfolios. Analysis and analysts are a waste of time and resources.

Ironically, the efficiency or rationality of markets does not require that all players be rational. It could very well be that some market players are generating noise through irrational behaviors. But irrational behavior can be assumed to be random, and to the extent that decisions are random, they tend strongly to cancel each other out.

Systematically irrational behavior, however, does pose a serious challenge to the EMH. The potential distortions of *systematically* irrational behavior could in theory render markets inefficient. The theory requires, therefore, a second foundation: There must be a mechanism to eliminate even these distortions. The hypothesis-saving mechanism is known as “unlimited arbitrage.” Rational arbitrageurs will pounce on systematic deviations and eliminate them by taking advantage of them: Competitive markets should not be able to get too far

out of line, and arbitrageurs should not be able to generate abnormal profits. Even if the arbitrageurs do not immediately eliminate the irrational players, over time such players will lose money. They cannot lose money forever; therefore, they will be eliminated by a sort of Darwinian winnowing.

An alternative to this normative economic model would rest on complementary foundations. The saving mechanism of arbitrage would have to be shown incapable of damping market deviations. And deviations could not be random (or else the effects would be cancelled out). Systematic deviations would have to be attributed to quirks in human cognition. Psychology could render market behavior predictable, at least in part.

## 2. Inefficient Markets Hypothesis and Behavioral Finance

The academic market in ideas is very much like any other: A long bull market is inevitably followed by a bear. At first, a new idea quietly sneaks past the academic gatekeepers with the new handful of young appointments. Colleagues hear whispers, drafts of papers circulate among friends. Once entrenched, a young academic is able to influence students: A stream of graduate papers starts to flow. If the idea is promising, the students will run with it. Eventually articles will sporadically appear in marginal journals – even a doctoral thesis or two. Next, the professional conferences. Then the first international conference devoted exclusively to the new idea. More students, more findings, more journal articles. The bull market is ageing quickly. Only in the latest stage of the rally does the public catch wind. Newspaper headlines. Finally, the market tops out with a spate of scholarly introductions and popular offerings. The last gasp is the textbook. The new idea is already an old idea, and the market recedes.

Behavioral Finance as a new discipline has had a great bull run since the '70s. Two Israelis brought the seminal insights with them to North America: Daniel Kahneman to Princeton, and Amos Tversky to Stanford. The fundamental ideas caught on in the '80s. The business press picked up on the news in the mid-'90s: Anyone who was anyone had at least a brief piece on Behavioral Finance. And finally, the spate of introductory books has appeared (see bibliography below). The books range from the popular (Belsky and Gilovich 1999) to the professional

(Shefrin 2000) to the technical (Shleifer 2000).

The Inefficient Markets Hypothesis rests on twin pillars as well. In contrast to “unlimited arbitrage,” Behavioral Finance argues for “limited arbitrage”; hence, the markets cannot be brought back to fundamental values. In contrast to *rational* investors, Behavioral Finance relies on cognitive psychology to explain systematic irrationality, or investor sentiment.

Arbitrage is the simultaneous buying and selling of the same or similar securities in different markets to capitalize on differences in prices. This arbitrage mechanism is assumed to bring erring prices back to fundamental values, thereby keeping markets efficient, or rational. However, in the real world of arbitrage there are time constraints: Time horizons are necessarily short. In the short term, irrational mispricings might persist, thereby making arbitrage extremely risky (“noise trader risk”). Arbitrage must be limited by constant worries about having to liquidate mispriced assets before they return to fundamental value.

If arbitrage is “limited” (because risky in the short time windows), then market sentiment is free to drive markets away from equilibrium, resulting in inefficient markets. Behavioral Psychology has identified cognitive traits that result in significant and systematic deviations from the standard decision-making model in economics as elsewhere. Broadly speaking, we can categorize these behaviors as “heuristics” and “framing.”

Our forming of expectations is non-Bayesian. Human cognition, in other words, is quirky in its rough-and-ready calculations of stats and probability. Generally, we cannot cope with information overload, and we have developed filters and heuristics (rules of thumb). We readily extrapolate patterns on the basis of a few tokens. We know that what goes up will shortly come down (regression to mean). Our calculations are anchored at past benchmarks (conservatism). In these and many other ways, our *innate* sense of probabilities, as well as our inability to handle too much information – while functional in hunting and gathering on the open savannah – renders us irrational and markets inefficient.

“Framing” refers to how problems are posed. The same scenario can be framed as a gain or a loss, and will accordingly be treated differently. Loss causes great pain, and the same magnitude of loss is more painful than the gain is pleasurable. We sell winners early and hang on to losers to the bitter end (loss aversion). We create mental accounts that prevent us from seeing the bigger picture in a complex situation. We are prone to hedonic editing, filtering information to support our decisions. At bottom, we all have overwhelming psychological needs: the need to control; the need to maintain a positive self-

image; the need to eliminate cognitive dissonance. Our framing and filtering lead to irrational behavior and inefficient markets. We prefer to lose money in exchange for maintaining our psychological well-being.

### 3. Evaluation

“It’s market psychology, the fundamentals haven’t changed.” We hear something similar every day. But what is this psychology? Behavioral Finance is the application of cognitive psychology to market behavior (both individuals and aggregates). Part of the excitement is that we are making concrete and explicit what traders have already known for centuries: Sentiment does rule markets – at least to some extent.

Is all the excitement justified? And could we make money from these findings?

From an academic standpoint, the excitement is perhaps justified. After all, for decades, an imposing economic model has been dominating the landscape. Something new has come along to undermine that dominant model, and to spur original lines of research. Further, from an academic standpoint, *establishing* in theory what we already know intuitively is still a major accomplishment. We should be clear, though, that the excitement is coming primarily from the academics.

It is not clear, however, that we can profitably trade on such information. Certainly if there were money to be made, we wouldn’t expect the publications to be telling us how! The major lesson is generally how not to lose money. The popular offering by Belsky and Gilovich (1999), for example, is written around this theme, somewhat like a self-help or dieting book. And it is true that *not* losing money has its benefits.

There are some who are making claims to having traded profitably on the principles of Behavioral Finance. The AA Ratio Investment Fund of ABN Amro has claimed a 30% return against a 20% benchmark, and 26% against an 8% benchmark. Similarly, Fuller and Thaler Asset Management out in San Mateo, California, trumpet a 31.5% return against a 16.1% benchmark. It is not clear how this performance was achieved, and whether it was *solely* the return on alternative investment strategies. Shefrin suggests that it is primarily investing based on the De Bondt-Thaler effect: Past losers are undervalued, and past winners are overvalued; but over time, the mispricing is corrected, and losers outperform the market and vice versa (2000, ch. 4).

Most of the findings support the academic case brilliantly, but it does not appear that there is money to be made. A good example is the so-called Closed-End Fund Puzzle. In principle these funds should be priced at the value of the underlying

portfolio (net asset value, or NAV). Efficient Markets theorists have great difficulty explaining why it is that these closed-end funds trade away from NAV, usually at a discount of about 10%. Surely from a theoretical point of view, this is all very stimulating. But the question is, can you trade on this?

One theme that appears forcefully is market *underreaction*. For instance, in an inflationary environment, analysts consistently underestimate inflation rates and interest rates – and vice versa in a deflationary cycle. It may be that underreaction could lead to profitable futures trading, especially on the short side, because markets consistently underreact to bad news. Perhaps certain types of new stories could be correlated with systematically inefficient market behaviors in order to develop winning strategies.

Even if inefficiencies or anomalies persist over time, it may be that markets can *learn*. If investors can learn, markets may not be inherently inefficient. We thus return by a circuitous route to that supplemental foundation of the EMH: There are always those who can profit from mispricings and so return prices to fundamental values (however, in a competitive market these opportunities must be eliminated in time). Ironically, all this brouhaha about inefficient markets might serve to render the markets *more efficient*. Indeed, identifying inefficiencies should in principle eliminate them!

There is, however, a serious problem arising from the putative success of Behavioral Finance. Our political-economic institutions are founded explicitly on the assumption of efficient markets (EMH). Supply and demand in an efficient market put capital to work in an optimal manner. The moral argument is that such an optimal mechanism provides the greatest benefit to the greatest number (even though it's not clear how such a utilitarian claim could ever be established).

But what if markets are essentially and irremediably *inef-*

*ficient*? What are the implications? Where does that leave the moral argument? What are the consequences? It's not that these questions are in themselves surprising. What surprises me is that almost none of the recent entries in the bibliography below addresses these questions.

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