

Tactical Risks in Strategic Currency Benchmarks
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Introduction

Generally, pension funds or institutional investors make decisions on currency benchmarks for international portfolios on the basis that currencies have no long term return and that some hedging can reduce overall portfolio volatility. As a result, it is argued that some currency hedging when international allocations get large is valuable from an asset-only or an asset-liability perspective.² However, the one issue with currency benchmark studies is that they are unable to capture a unique aspect of the benchmark – namely, that currency benchmarks have implications for cash flows. Since currency benchmarks are implemented through currency forwards, unlike all other asset classes, when these contracts are rolled periodically, they result in cash inflows or outflows. If currencies have zero long-term returns, then the long-term cash flow implication is also zero. Nonetheless, in the interim, cash flows from such benchmarks can be large and negative. In periods where the market values of the underlying portfolios have fallen, funded ratios have declined and corporate treasurers are facing slowing sales, large outflows of cash are not looked upon favorably.

In this paper, we examine a simple economic relationship in currency markets to highlight likely cash flow risks in current benchmarks implemented by pension funds worldwide. We briefly review the literature on the “carry trade” and then examine the current economic environment and the likely performance of various benchmarks for various base currencies. *We do not suggest that benchmarks be necessarily changed* or that an explicit currency view is being expressed. Instead, we highlight risks that clients should be prepared for should a previous phenomenon in currency markets persist.

The Carry Trade

A consistent result in developed currency markets³ is that counter to economic theory, currencies with higher nominal interest rates tend to *appreciate* (or not depreciate sufficiently) relative to lower interest rate countries.⁴ Therefore, a simple active investment strategy of buying high interest rate currencies and financing them through

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² Muralidhar, Prajogi and van der Wouden (2000).

³ We ignore the emerging market currencies as they are susceptible to crises and hence require more tools to explain their fluctuations.

⁴ In the language of foreign currency markets, this is equivalent to purchasing those currencies that are trading at a discount in the forward market relative to the spot rate. See JP Morgan (1999).

borrowings in low interest rate currencies can prove to be profitable over long horizons.⁵ This trade makes money over the long term and may have periods of short-term underperformance.⁶

Assume that the one-year interest rates in the U.S are 6% and those in Japan are 1%, and the JPY/USD spot exchange rate is 100. Therefore, the one-year forward rate is 5% (6%-1%) stronger for the JPY. Therefore, selling JPY for USD in a forward contract is considered a “positive carry” trade as we are effectively borrowing in yen and investing in USD. This forward contract will generate money if the JPY does not appreciate beyond 95. However, in many situations the JPY has actually depreciated when the interest rate has favored other currencies. The converse for Japanese investors is that hedging the currency risk in U.S. investments implies implementing negative carry trades i.e., selling USD at a higher interest rate to buy lower yielding JPY. These trades lose money unless the depreciation of the foreign currency offsets the negative carry.

From a cash flow perspective, positive carry trades have been net cash in for clients, whereas negative carry trades have been net cash out. For example, U.S. clients have benefited from the fact that U.S. rates were extremely high in the period 1995-2001, and all benchmarks with a partial to a full hedge against MSCI EAFE exposure were beneficial for the clients. On the converse, clients in Euroland with partially hedged benchmarks post the launch of the Euro suffered cash outflows as the Euro depreciated dramatically. Japanese clients have suffered as a result of low rates in Japan.

Figure 1 plots the 1-month LIBOR rates for the U.S., Euroland (represented by Germany), Japan, Switzerland, U.K., Australia, and New Zealand for the period October 1991-2001. The chart shows that interest rates change over time and in a dramatic move this year, the U.S. has gone from being a high interest rate country to a low interest rate country. In Figure 2, we present the perspective of a U.S. investor and chart the carry of different countries with the U.S. As the chart demonstrates, currently, Japan (JPY) and Switzerland (CHF) have interest rates lower than the U.S. (positive carry from hedging), whereas the Euro (DEM) and the U.K. (GBP) have rates that are higher than the U.S. (negative carry from hedging). Figure 3 provides the carry perspective for an Australian investor and one can see that the switch in US rates has caused the carry profile to change.

Figure 4 provides the cumulative cash flows that have been generated from hedging for different base currencies. Historically, the carry for the U.S. versus a weighted basket of currencies was negative in the early 1990s and flipped in mid-1990s. What is interesting is that the trend in the rates in some sense mimics a trend (with a slight delay) in the performance of hedges for U.S. clients, namely that since the middle of 1995, hedged benchmarks for U.S. clients have generated cash as demonstrated in Figure 3. However,

⁵ See Baz, Breedon, Naik and Peress (1999). Muralidhar (1999) provides one explanation for the success of the rule.

⁶ In addition, this trade may not make money for every high interest rate base currencies if there is a secular depreciation in the base currency. The performance of the hedged benchmark will depend on the currency composition of foreign assets.

what is ominous for U.S. clients is the downturn in the carry and the potential reversal in trend in cash flows. In an interesting twist, the Japanese and European situation seems to be the exact opposite post February 1995 coinciding with a secular strengthening of the USD.⁷ Figure 4 also demonstrates that Australia and New Zealand had negative cash implications over the last few years (starting in 1997) because of the negative carry versus the USD and the UK. However, the recent reduction in US rates has not reversed the cash flow experience and this is an interesting example of where the carry trade has not worked over the last cycle.

Tactical Risks for Strategic Benchmarks

In this section, we assume that investors have made allocations to international assets in the proportion of the country weights implied by the market capitalization based international equity indices, with adjustment for Canada. In Table 1, we evaluate the carry of individual currencies assuming different base currencies to evaluate individual relationships. As can be seen, with the exception of a few extreme currencies (Japanese yen and New Zealand dollar) the carry varies across currencies depending on the relative interest rate differential. Hence Table 1, while illustrative, does not provide adequate information about the performance of the overall benchmark.

Table 2 demonstrates the overall carry relationship for different base currencies using the market capitalization weights (with adjustment for Canada) and including all currency pairs. Implicitly, this calculation is providing the client with the bias inherent in their portfolios. Table 2 demonstrates that currently clients in the U.S., Japan and Switzerland would have negative carry against foreign currencies and hence partially or fully hedged benchmarks are likely to underperform or be a drain on cash. On the other hand, clients in Europe, U.K., Australia, and New Zealand are likely to enjoy positive cash flows from partially or fully hedged benchmarks. Canadian clients are on a downtrend from positive carry to potentially negative carry if rates are reduced further.

Summary

One of the naïve trades that makes money in currency markets is to buy high interest rate currencies and sell low interest rate currencies. This note recognizes that the benchmark decision for currency hedging is an implicit (in some cases explicit) carry trade and examines the impact on client portfolios for different base currencies should the carry trade phenomenon continue. The analysis suggests that given rates in October 2001, that clients with partial hedge ratios in the U.S., Japan and Switzerland are likely to experience cash outflows from the currency benchmark, whereas clients in the U.K., Europe, Australia, New Zealand and Canada are likely to experience positive cash flows from the forward contracts. This note is not meant to advise clients to change benchmarks as the focus is only on cash flows and ignores the reduction of volatility, but is meant to highlight an issue that may be ignored in strategic allocation studies. These cash flow implications may be relevant to clients who are averse to such flows.

⁷ Canada is gradually approaching the U.S. situation with the recent reduction of rates by 75 bps.

Figure 1

Interest rates in different countries

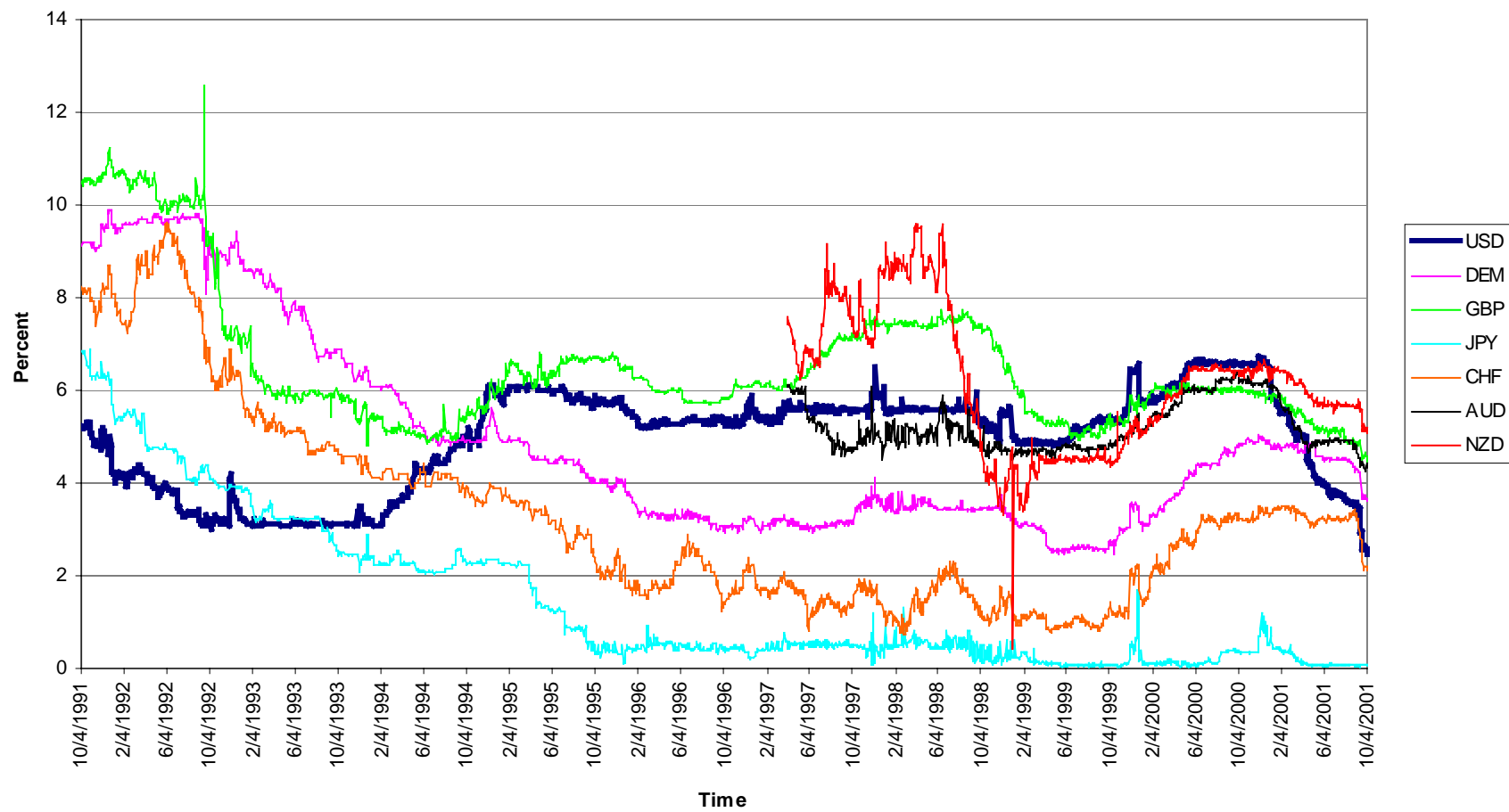


Figure 2

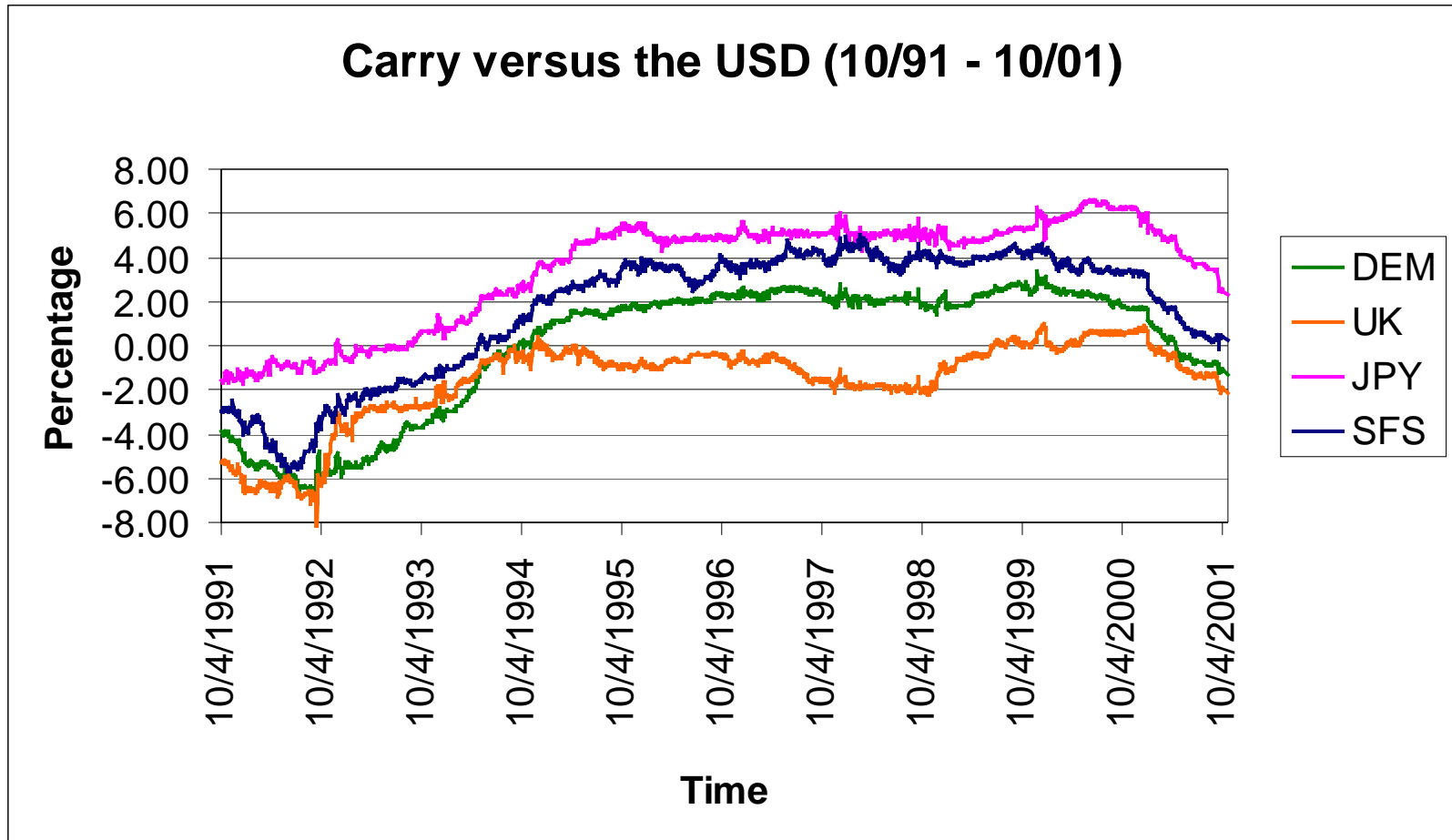


Figure 3

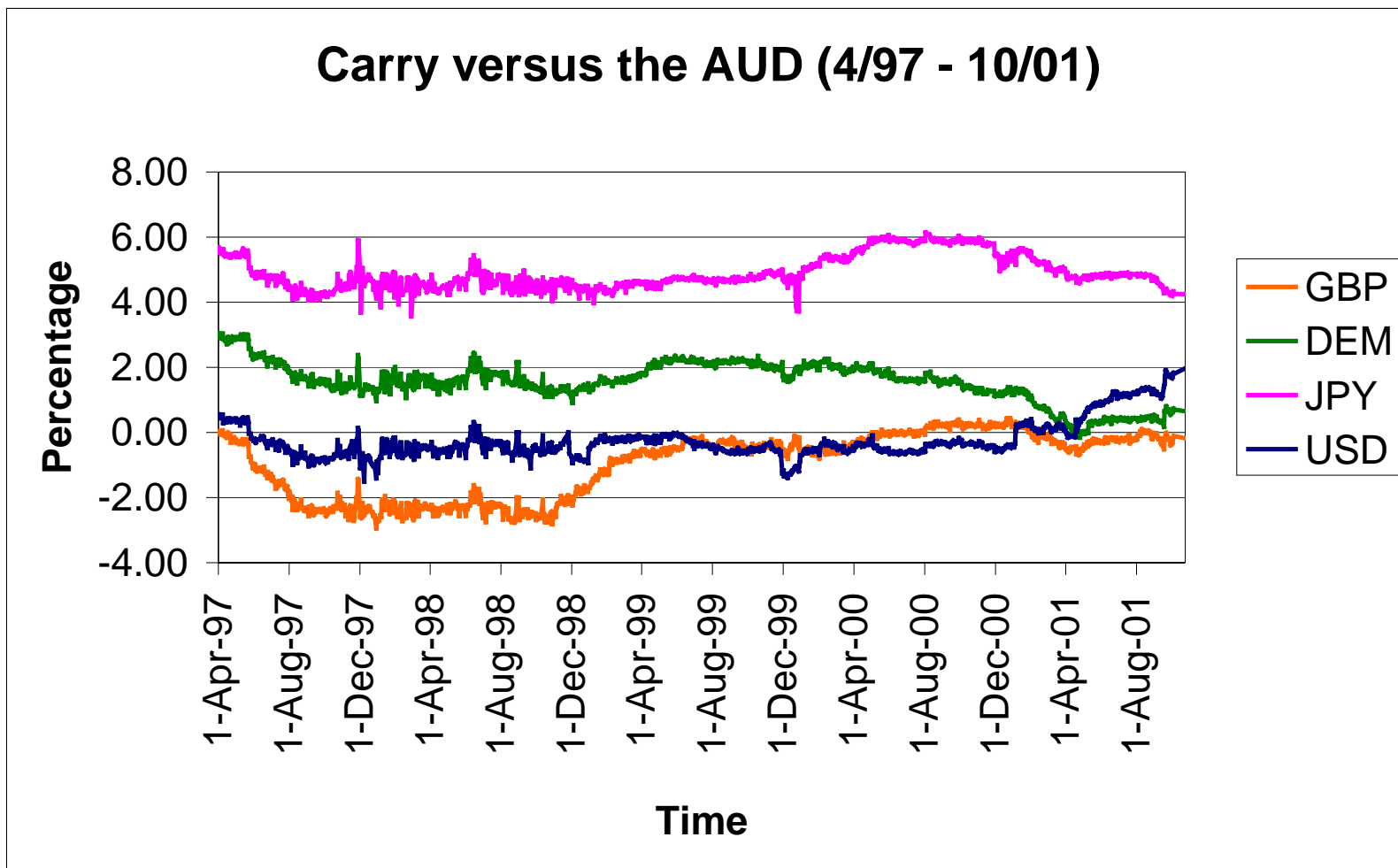


Figure 4

Cash Flow Implications for Different Base Currencies

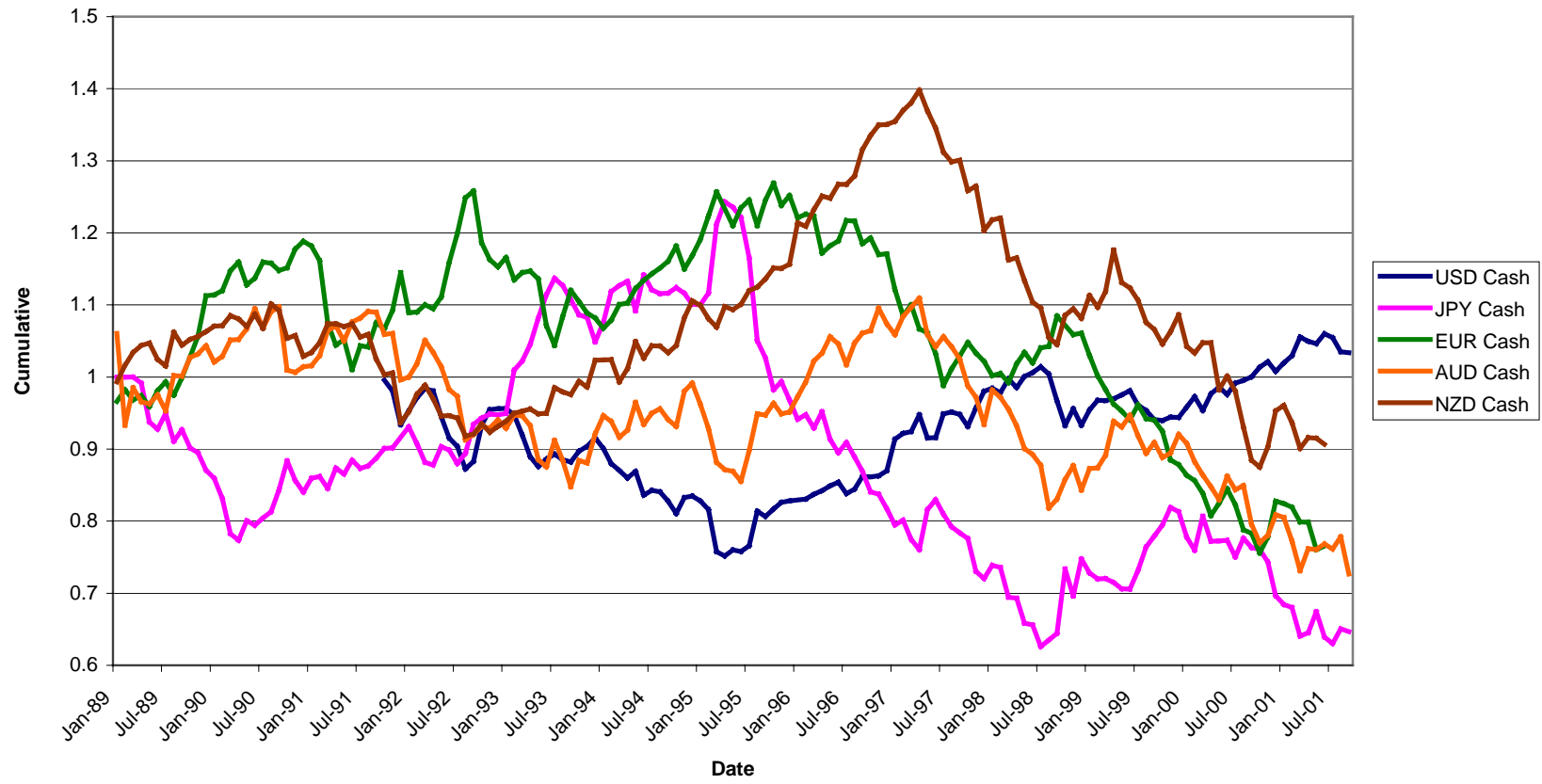


Table 1

		Foreign Currency							
		USD	EUR	JPY	GBP	CHF	CAD	AUD	NZD
B a s e	USD	0	Negative	Positive	Negative	Positive	Negative	Negative	Negative
	EUR	Positive	0	Positive	Negative	Positive	Positive	Negative	Negative
	JPY	Negative	Negative	0	Negative	Negative	Negative	Negative	Negative
	GBP	Positive	Positive	Positive	0	Positive	Positive	Positive	Negative
	CHF	Negative	Negative	Positive	Negative	0	Negative	Negative	Negative
	CAD	Positive	Negative	Positive	Negative	Positive	0	Negative	Negative
	AUD	Positive	Positive	Positive	Negative	Positive	Positive	0	Negative
	NZD	Positive	Positive	Positive	Positive	Positive	Positive	Positive	0

Table 2

Carry	
USD	-0.54%
EUR	1.31%
JPY	-2.83%
GBP	2.11%
CHF	-0.49%
CAD	0.17%
AUD	1.74%
NZD	2.56%

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