The Lam Group
Investment Management

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The Big Picture: It's a small world after all…
Since its introduction in January 1999, the Euro has risen almost 30% against the US dollar. The continuing weakness of the US dollar relative to other developed countries' currencies has been broadly discussed in the investment media and the concept of having portfolio exposures to international asset classes is being trumpeted loudly as an important aspect of asset allocation and investment management.

Is this true?

Of course it is. International asset class exposures within a globally diversified investment portfolio are extremely important. However, whether international exposures actually provide useful diversification is highly dependent on how these exposures are taken.

As with most heavily-marketed investment ideas, many investors do not get the exposures they think they are getting when they buy international investments. This is unfortunate because portfolio diversification using <u>any</u> additional asset classes should serve to increase aggregate portfolio return and reduce overall risk. *To accomplish this, asset classes added to a portfolio for diversification purposes must have low correlation characteristics to core portfolio holdings (usually domestic stocks and bonds).* Sadly, as many investors take the bulk of their international exposures using the international large cap (ILC) equity asset class, the addition of this asset class may not accomplish much from a diversification standpoint.

For large, international companies that compete in the global marketplace, are their customers, markets, or financing sources unique when compared to their domestic competitors? Put another way: Are automobile companies like GM (US) and Toyota (Japan) selling to the same customers in the same markets globally? Do telecom companies like Motorola (US) and Nokia (Finland) access the same international capital markets when they need financing? The answers to these questions are, globally speaking, yes.

That being said, if large global companies are competing for the same customers in the same markets and access the same capital markets for financing, how different can they be? *As a consequence of the growing globalization of markets, the world is, in effect, getting smaller thereby making real portfolio diversification more elusive.* Ironically, this homogenization of markets is most acutely felt by the world's largest companies.

The concept of *historical correlation* is important in determining the suitability of an asset class to be included in a portfolio. Historical correlation data tell us how two asset classes have performed relative to each other.

If two asset classes move in exactly the same direction, at the same time, and by the same amount, they are said to have perfect positive correlation. Conversely, if two asset classes move in exactly opposite directions at the same time and by the same amount, they are said to have perfect negative correlation. The measurement of correlation can range from +1.000 (perfect positive correlation) to -1.000 (perfect negative correlation).

While perfect positively or negatively correlated relationships are rare, all correlation relationships fall between +1.000 and -1.000. To develop a well-diversified portfolio, the goal is to include asset classes with low relative correlations to the core domestic stock and bond holdings.

Table 1 illustrates the historical return, risk and correlation of several equity asset classes over the six-year period: 1/99-12/04.

The MSCI EAFE Index is the performance benchmark for large international stocks. While its intermediate-term performance is superior to that of the S&P 500 (large domestic stocks), it is worth noting the correlation of the MSCI EAFE to the S&P 500 is quite high at 0.839. From the data, we can see that the MSCI EAFE is more highly correlated to the S&P 500 than the domestic NASDAQ Composite (0.795) and the Russell 2000 Small Cap Equity (0.686) indices.

Table 1: Historical Return, Risk and Correlation of Equity Asset Classes

Investment Asset Class	2004	3 Yr	*From 1/00* 5 Yr	*From 1/99* 6 Yr	Total Return 6 Years	Standard Deviation*	Correlation to S&P 500*
Domestic Large Cap Equity (DLC)							
S&P 500 Index (DLC)	10.87	3.58	(2.30)	1.25	7.75	15.93	1.000
NASDAQ Composite Index (DLC)	8.61	3.79	(11.63)	0.00	0.01	33.03	0.795
Domestic Small Cap Equity (DSC)							
Russell 2000 Index (DSC)	18.32	11.48	6.60	8.92	66.96	21.30	0.686
International Large Cap Equity (ILC)							
MSCI EAFE Index (ILC)	20.24	11.89	(1.13)	3.08	19.93	15.60	0.839
International Small Cap Equity (ISC)							
MSCI EAFE Small Cap Index (ISC)	28.16	22.28	7.30	8.96	67.37	16.42	0.642
Emerging Markets Equity (EMS)							
MSCI Emerging Markets Index (EMS)	25.94	22.76	4.62	13.04	108.59	22.13	0.759
REIT Equity (RE)							
Wilshire REIT Index (RE)	33.17	23.39	22.57	17.97	169.51	14.22	0.215
Domestic Investment Grade Bonds (DFI)							
Lehman Brothers Aggregate Bond Index (DFI)	4.35	6.22	7.74	6.27	44.00	3.86	(0.220)
Currencies							
Euro to US $ exchange rate return	7.78	15.15	6.18	2.39	15.23	9.86	(0.059)
Japanese Yen to US $ exchange rate return	4.58	8.53	(0.07)	1.60	10.02	9.92	0.182

* for the period 1/99-12/04 calculated using monthly data.

What the data in Table 1 tells us is that the international large cap asset class is not as useful a diversifying element to add to an investment portfolio as many people think. <u>Unfortunately, it is often only the international large cap equity asset class that many investors use to gain “international diversification”.</u>

There are, however, ways to add diversification benefits to an investment portfolio that give an investor exposures to international asset classes and/or asset classes that benefit from a weakening US dollar. To do this, we must broaden our focus beyond the international large cap asset class.

International Small Cap Equity (ISC)
Small capitalization stocks are riskier, and as a consequence, over the long run, should have a higher expected return than large capitalization stocks. This “small is riskier” concept holds true for both domestic and international equity markets.

International small cap stocks, however, also give an investor a more meaningful exposure to foreign currencies. Many of the companies in the international small cap asset class, by virtue of their small size, tend to operate primarily in their local economies, and as a result, expose the investor to a greater sensitivity to currency movements compared with domestic equity investments or large cap international companies.

The data in Table 1 shows that the ISC asset class has a lower correlation (0.642) to the S&P 500 than all the other equity (non-real estate) asset classes. This low relative correlation combined with its higher risk/return profile make the international small cap equity asset class an excellent diversifying element to an aggregate investment portfolio.

Emerging Markets Equity (EMS)
On the other hand, the emerging markets equity asset class is not a good diversifying element to an aggregate investment portfolio. The data in Table 1 shows that the EMS asset class correlation (0.759) to the S&P 500 is high and similar to correlations in the domestic equity asset classes. This higher correlation to the US equity markets is not surprising as many emerging markets economies are highly dependent on US demand and have currencies that are linked (or pegged) to the US dollar.

While the EMS asset class is highly correlated to the US equity markets, emerging markets are significantly riskier than developed markets. Over the long run, riskier asset classes tend to have higher expected returns. For this reason, the addition of the emerging markets equity asset class is not a great diversifying element to a global portfolio; however, it is useful to the degree it adds additional elements of risk to a portfolio which can increase the expectation of higher returns.

Generally, the inclusion of fixed income asset classes in diversified investment portfolios focuses on the fixed income sector’s low correlation to the equity asset classes.

Table 2 illustrates the historical return, risk and correlation of several fixed income asset classes over six-year period: 1/99-12/04.

The data in Table 2 show us that the domestic investment grade bond asset class (DFI) has extremely low correlation (-0.22) to the S&P 500, and significantly lower risk (as measured by standard deviation). This should come as no surprise; domestic investment grade bonds have always been a great diversifying element to an aggregate investment portfolio.

Table 2: Historical Return, Risk and Correlation of Fixed Income Asset Classes

Investment Asset Class	2004	3 Year	*From 1/00* 5 Year	*From 1/99* 6 Year	Total Return 6 Years	Standard Deviation*	Correlation to S&P 500*
Domestic Investment Grade Bonds (DFI)							
Lehman Brothers Aggregate Bond Index (DFI)	4.35	6.22	7.74	6.27	44.00	3.86	(0.220)
High Yield Bonds (DHY)							
CSFB High Yield Index (DHY)	11.96	13.88	8.17	7.34	52.93	7.04	0.469
International Bonds (w/currencies unhedged)							
Citigroup Non-$ World Bond Index (IFI)	12.13	17.49	8.80	6.36	44.77	8.77	(0.019)
Emerging Markets Debt (EMD)							
JPM Emerging Markets Bond Index (EMD)	11.62	17.99	13.52	15.51	137.52	11.92	0.448
Inflation-Linked Notes (TIPS)							
Lehman TIPS Index (TIPS)	8.46	11.07	10.84	9.38	71.29	5.63	(0.203)
Domestic Large Cap Equity (DLC)							
S&P 500 Index (DLC)	10.87	3.58	(2.30)	1.25	7.75	15.93	1.000
Currencies							
Euro to US $ exchange rate return	7.78	15.15	6.18	2.39	15.23	9.86	(0.059)
Japanese Yen to US $ exchange rate return	4.58	8.53	(0.07)	1.60	10.02	9.92	0.182

* for the period 1/99-12/04 calculated using monthly data.

International Fixed Income (IFI).

The international fixed income asset class is most useful as a diversifying element to an aggregate portfolio if the currency exposure on the underlying foreign bonds is left <u>unhedged</u>. Leaving the currencies unhedged gives the investor an explicit exposure to the foreign currency markets. This explicit currency exposure can provide meaningful diversification to an aggregate portfolio; however, it comes with a cost as the riskiness (as measured by standard deviation) on the international fixed income asset class (8.77) is significantly higher than for domestic bonds (3.86).

The data in Table 2 shows that the international fixed income asset class has a low correlation (-0.019) to the S&P 500. Also, by virtue of the foreign currency exposure, the international fixed income asset class also has low relative correlation to domestic bonds, making this marginally more risky fixed income asset class highly desirable from a portfolio diversification perspective.

Emerging Markets Debt (EMD)

Like the emerging markets equity asset class, emerging markets debt is issued by economies that are highly dependent on US demand and have currencies that are linked to the US dollar. As a consequence, emerging markets debt is more highly correlated to domestic equities than other fixed income asset classes. Additionally, emerging markets debt (11.92) is significantly more risky (as measured by standard deviation) than domestic investment grade bonds (3.86).

With its high correlation to domestic equity markets, the emerging markets debt asset class is not as good a diversifying element to an investment portfolio, nonetheless, EMD is an asset class that can raise the overall the risk/return profile of an aggregate investment portfolio.

In addition to having international equity and debt asset class positions to gain exposures that will benefit from a weakening US dollar, there are some non-international asset classes that can provide meaningful portfolio diversification and may also benefit from a weakening US dollar.

Real Assets:
Real assets, such as real estate (including REITs) and other inflation-linked investments (Treasury Inflation Protected Securities (TIPS) and commodities) can provide meaningful diversification and risk/return characteristics to an investment portfolio, particularly during inflationary or weakening US dollar environments.

With growing domestic budget deficits, the weakness of the US dollar may exacerbate growing inflationary pressures. While we have already seen inflation in the form of significantly higher oil and other commodities prices, the importance of having exposures to real assets will be increasingly important to preserve the long-term purchasing power of an investment portfolio.

While the valuation of REITs and commercial real estate investments continue to be very high and are negatively sensitive to rising interest rates, “real” assets also have characteristics that make them sensitive (in a positive way) to the weakness of the US dollar and increasing inflation. As commercial real estate can’t be “printed” as quickly or readily as the US Treasury can “print” more debt, real assets may hold their value better than financial assets in an inflationary environment or during a period of growing budget deficits.

The REIT asset class data in Table 1 and the TIPS asset class data in Table 2 illustrate these asset classes’s low relative correlation to the S&P 500 and their attractive historical risk/return characteristics.

The Lam Group
The first quarter of 2005 was challenging with most of the domestic equity (except energy) and fixed income asset classes posting negative returns. Fortunately, strong performance in the international small cap and emerging markets equity asset classes, as well as the inflation-linked (commodities) asset class, provided meaningful positive contributions to our portfolio’s aggregate returns and aided our overall management of risk for our clients.

With the continuing prospect of rising US interest rates and the potential for slower growth globally, there is the possibility that investors may experience a period of lower returns than have been enjoyed over the last two years. While investment returns are impossible to predict, in a low-return environment, a disciplined portfolio focus on intelligent asset class diversification, expense minimization and tax efficiency become increasingly important.

The Lam Group
Investment Management

The Lam Group is an independent, fee-only, SEC-registered investment advisory firm with over $105 million in assets under management and clients in Oregon, Washington State, California, Connecticut, New York and New Jersey. We offer both investment management and portfolio consulting services for taxable investors, family offices, foundations, endowments, and select institutions.

Our asset allocation approach utilizes a highly analytical process to determine the appropriate combination of asset classes to build investment portfolios and strategies that realistically and optimally reflect the needs, risk tolerances, and investment horizons of our clients.

The Lam Group is now accepting new clients on a referral basis only.

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Archives for The Lam Group Newsletter are available at our website: www.thelamgroup.com

Asset Class Investment Results:
All portfolios constructed and managed by The Lam Group are designed for an individual client's specific risk tolerances, income requirements and investment horizon. Our investment management approach includes the design of a customized asset allocation plan, the research and selection of the most appropriate and cost-effective asset class investments for the client's specific investment policy, and the on-going monitoring and disciplined rebalancing of the aggregate portfolio to optimize return, manage risk and minimize taxes.

As different clients have different goals, risk profiles and investment horizons, it is not useful to publish a track record of specifically-managed portfolios. The investment performance data below illustrate the returns of some of the actual mutual funds utilized by The Lam Group for specific asset class allocations in the construction of investment portfolios we manage.

Equity Asset Class Category	**1Q2005**	**12 Mo**	**3 Year Annualized**	**Correlation w/ S&P 500***
Domestic Total Equity Market				
-Wilshire 5000 Index (Total Dom. Eq. Market)	- 2.39%	+ 7.13%	+ 4.29%	+0.99
US Total Market Fund	- 2.75%	+ 6.71%	+ 4.06%	+0.99
Domestic Large Cap Stocks				
-S&P 500 Index	- 2.15%	+ 6.69%	+ 2.74%	+1.00
Domestic Large Cap Value Fund	+ 0.19%	+14.03%	+ 8.33%	+0.93
Domestic Small Cap Stocks				
-CRSP 6 -10 Index	- 5.11%	+ 6.82%	+11.80%	+0.85
-Russell 2000 Index	- 5.34%	+ 5.41%	+ 8.05%	+0.83
Domestic Small Cap Value Fund	- 2.90%	+13.39%	+16.50%	+0.77
Real Estate Investment Trusts (REITs)				
-Wilshire REIT Index	- 7.20%	+10.25%	+17.18%	+0.34
REIT Fund	- 6.93%	+ 9.73%	+17.19%	+0.34
Real Estate Fund	+ 1.19%	+19.81%	+20.56%	+0.55
International Large Cap Stocks				
-MSCI EAFE Index	- 0.17%	+15.06%	+11.47%	+0.90
International Large Cap Value Fund	+ 0.30%	+20.46%	+19.04%	+0.84
International Small Cap Stocks				
-MSCI Small Cap EAFE Index (in US $, px only)	+ 3.79%	+18.95%	+21.75%	+0.70
International Small Cap Value Fund	+ 6.65%	+26.16%	+32.89%	+0.63
Emerging Markets Equity				
-MSCI Emerging Markets Free Index	+ 1.20%	+13.82%	+16.01%	+0.83
Emerging Markets Value Fund	+ 2.80%	+29.49%	+30.08%	+0.77

* 3 yr correlation using monthly data

Fixed Income Asset Class Category	1Q2005	12 Mo	3 Year Annualized	Correlation w/ S&P 500*
Domestic Investment Grade Bonds				
-Lehman 1-3 year Govt Bond Index	- 0.25%	- 0.27%	+ 2.92%	-0.50
Short Duration Domestic Inv. Gr. Bond Fund	- 0.30%	+ 0.90%	+ 3.86%	-0.23
Short Duration Domestic Muni Bond Fund	- 0.66%	+ 0.00%	N/A	N/A
-Lehman Aggregate Bond Index	- 0.48%	+ 1.15%	+ 5.99%	-0.30
Domestic Investment Grade Bond Fund	- 0.30%	+ 2.08%	+ 6.61%	-0.18
Domestic High Yield Bonds				
-CSFB High Yield Bond Index	- 1.11%	+ 7.83%	+12.52%	+0.53
High Yield Bond Fund	- 3.33%	+ 2.96%	+ 8.95%	+0.65
Inflation-Linked Bonds				
-Lehman TIPS Index	- 0.33%	+ 2.81%	+10.40%	-0.28
TIPS Fund	- 0.28%	+ 3.47%	+10.91%	-0.28
Commodities-Linked Fund	+11.22%	+10.82%	N/A	N/A
International (non-US $) Bonds				
-Citigroup Non-$ World Govt Index	- 3.10%	+ 6.98%	+16.98%	-0.09
Non-$ Bond Fund	- 3.76%	+ 5.67%	+17.22%	-0.04
Emerging Markets Debt				
-JP Morgan EMBI+ Index	- 1.28%	+ 6.72%	+15.03%	+0.56
Emerging Markets Debt Fund	- 1.42%	+ 7.19%	+15.52%	+0.56

* 3 yr correlation using monthly data