This paper explores momentum and value factor returns in 23 developed international stock markets. It contributes to the existing literature by working with country-level data rather than regional data, focusing on the size patterns in value and momentum returns, and exploring the macroeconomic and liquidity loadings of value and momentum returns.

4 Interests of research:

* First, interest here is to understand whether investors can earn the same value and momentum returns if they restrict their analysis to large capitalization (big) stocks, which typically have lower transaction costs relative to small capitalization (small) stocks. They find that for almost all countries, value and momentum effects are smaller for big stocks.
* Second, correlation between value and momentum in the same country. the economic question is whether investors in a given country can earn significant diversification benefits by combining value and momentum strategies. They find that value and momentum factors are negatively correlated in any given country
* Third, correlation between the value factor in one country and the momentum factor in another country. This is useful for quantifying diversification benefits of international value and momentum strategies. The economic issue here is whether investors could pursue value and momentum returns in different countries, and, yet still enjoy portfolio diversification. They find that a majority of intercountry correlations between value and momentum factors are statistically significant and negative
* Fourth, they explore if country value and momentum returns generate significant and positiveabnormal returns with respect to the Capital Asset Pricing model (CAPM). Fourth, they explore if country value and momentum returns generate significant and positive abnormal returns with respect to the Capital Asset Pricing model (CAPM).

Data: firm monthly return data from January 1990 to March 2012 but to form the momentum factors, one year is lost, therefore the value and momentum returns start from January 1991.

Total of 14 525 firms. These numbers suggest that their data set has comprehensive coverage in the developed economies of the world

GDP of all countries

Liquidity variables: VIX, LIBOR rate, US TED spread (difference between the LIBOR rate and the 3-Month U.S. Treasury Constant Maturity Rate) and the average interbank rate for the G7 countries.

Credit risk variables: the Aaa minus the 10-year constant maturity U.S. Treasury rate and the Baa (Moody’s Seasoned Baa Corporate Bond Yield) minus the 10-year constant maturity U.S. Treasury

Rate

Asset pricing factors: They calculate the following four asset pricing factors for each of the 23 developed countries: the market factor, the SMB (small minus big) factor, the HML (high minus low) factor, and the momentum (WML) factor

They form their portfolios monthly. For all countries, the market factor is simply the value-weighted average of all stock returns in the country. For each country, they form six portfolios to calculate the SMB and HML factors

Six value weighted portfolios

The size factor, SMB, is the equal-weighted average of the returns on the three small stock portfolios (Small) minus the average of the returns on the three big stock portfolios (Big).

They construct value minus growth returns for small and big stocks, HMLs= SV - SG and HMLb = BV – BG with HML being the equal-weighted average of HMLs and HMLb

Results:

These findings are consistent with Fama and French (2012) who report insignificant size premia by grouping same countries into four regions: North America, Asia Pacific, Japan, and Europe.

In all countries except Spain and the Netherlands, small stock value premia point estimates are larger than the big stock value premia

An overwhelming majority of European countries exhibit small stock momentum premia but not big stock momentum premia. In four of the 16 European countries (Austria, Belgium, Germany, the U.K.), small stock momentum premia are significantly higher than big stock momentum premia. Australia and New Zealand also have statistically significantly higher small stock momentum premia.

Our results suggest that Australia and New Zealand in the Asia Pacific region or Austria, Belgium, Germany, and the U.K. in Europe may be driving the results for the regions.

Correlation

In all countries, the correlation point estimates are negative: Value does well when momentum does badly and vice versa. The negative correlations suggest that investors can combine value and momentum strategies in their country portfolios to improve the risk return trade-off.

At a simple level, the implication of combining value and momentum strategies for investors would be to remove stocks that became value stocks because of low momentum from the long positions in high B/M stocks and to remove stocks with high momentum from the short position in low B/M stocks.

The implication for investors is that smaller big stock value and momentum premia can be offset by lower transaction costs and more negative correlations relative to the small stocks.

Due to the negative correlations, combination portfolio volatilities are lower.

if a stock has been doing well over the last year, it is probably included in a long position in the momentum portfolio and in a short position in the value portfolio.

These results show that investors can obtain diversification benefits even when they pursue value and momentum strategies in different countries, rather than in the same country. The intercountry negative correlations are an intriguing result, and we conjecture that global liquidity and recession factors can help explain these correlations.

The table shows that value and momentum are negatively correlated, more so in up markets than in down markets, and more so for large capitalization stocks relative to small

Comparing the results in Table 7 and Table 8, momentum returns are more highly positively correlated across two countries relative to the value returns. The implication is that international diversification is more easily achieved for value than for momentum.

These results show that European momentum strategies can be attractive to investors since alphas are large and significantly positive, and betas are negative and significant more than half the time

For each country, we run three sets of regressions: The first regression uses the global future GDP growth; the second regression uses the U.S. future GDP growth; and the third uses the country’s own future GDP growth.

only four of the 16 European loadings on the GDP growth rates are significant and positive, which contrasts with this region’s mostly significant and positive loadings on either the global or country-level GDP growth rates. The implication is that investors who care primarily about U.S. GDP growth can still pursue European value opportunities without worrying about low investment returns preceding recessions

Specifically, low funding liquidity can trigger risk-management-driven sell-offs, leading higher returns to short positions and lower returns to the long positions. Results are also affected by short position capital requirements relative to maintaining a levered long position

Overall Table 13 shows that coefficients are mostly positive and often significant implying that value returns are higher during times of poor stock market liquidity: Value returns can be a hedge for stock market liquidity deteriorations.

Broadly, the table shows that very few of the GDP growth coefficients are significant. This result suggests that momentum returns are statistically unrelated to the GDP growth variables we use. The few significant coefficients are negative and in Europe (with one exception): Momentum returns are higher when future GDP growth is lower. Thus, 16 momentum strategies are actually good hedges against low future economic growth.

It appears that the momentum puzzle for Asia Pacific countries, Canada and the United States is exacerbated by the stock market liquidity considerations. These positive loadings mean that momentum returns are high when stock market liquidity is poor. Turning to Europe, three larger economies have significant and positive loadings, whereas six smaller economies have significant and negative loadings. The negative loadings imply that covariation with the Sadka (2006) or Pastor and Stambaugh (2003) liquidity factors can help explain the high European momentum premia

Robustness check: