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 loading 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 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

Regressions;

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 to higher returns to short positions and lower returns to 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 deterioration.

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:

Conclusion :

Big stock value and momentum premia appear to be smaller than small stock premia. Two reasons offset smaller premia in trading profits: Big stocks have smaller transaction costs, and big stock value and momentum factors are more negatively correlated relative to small stocks and therefore yield better diversification benefits.

The value factor in one country is negatively correlated with the momentum factor in another country. This result suggests that investors can combine value and momentum strategies internationally and continue to enjoy smaller overall portfolio volatility. An investor pursuing value or momentum strategies globally would find that momentum returns are more highly correlated across countries relative to value

With a few notable exceptions, we find that value returns can be low during periods of poor funding liquidity, whereas momentum returns typically exhibit little sensitivity.

The results in this paper suggest that equilibrium value expected returns can be high because value returns are more prone to a downward spiral. Turning to stock market liquidity, value and momentum returns are typically higher when the cost of transacting in the stock market is high.

Presentation

Hello everyone, today we are going to present an article written by Nusret Cakici and Sinan Tan in 2013. The title of our article is Size, Value, and Momentum in Developed Country Equity Returns: Macroeconomic and Liquidity Exposures Size.

We will try to answer the template’s questions while detailing our thoughts as much as possible. At the end of our presentation, we will try to answer as many of your questions as possible so that you have a clear idea of the article we have studied.

First, let us introduce you to what momentum and value are. Momentum and value investment strategies target superior returns on a standalone basis but can be combined to bring diversification and risk management to a portfolio. Long-short momentum and value strategies are often combined since they tend to perform at different phases of the market cycle – a characteristic that helps to smooth long-term performance and control volatility risk. 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.

Let's start with the first slide of the template, strategy background.

The key idea is to see whether value and momentum strategies can be considered as a unique investment strategy in one country or intercountry, using big or small-capitalization stocks. They regroup the article in 4 different studies:

* First, the 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, the 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, the correlation between the value factor in one country and the momentum factor in another country. This is useful for quantifying the diversification benefits of international value and momentum strategies. 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 positive abnormal returns with respect to the Capital Asset Pricing Model (CAPM).

At a simple level, the strategy would be to combine value and momentum strategies for investors and 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 idea is then to combine the two strategies at an international level to reduce the maximum volatility and have better returns.

The performance of this strategy is mostly in the volatility of the portfolio because due to the negative correlations between them, combination portfolio volatilities will be low.

I let the floor to Ernest about the Intuition slide

YOU PART ON INTUITION

Now we will talk about why the return effect exists and why it is not arbitraged away.

The first possible reason why it exists is the observed negative correlation between 2 strategies in different markets. Thus, the combination of strategies helps us to diversify portfolio and reduce risk that leads to increased expected returns. Both of these strategies have their own risks and the combination helps us to cover some weaknesses of one strategy with strengths of another.

The second possible reason is market efficiency. The market is probably not completely efficient. This helps investors who use value strategy to get returns from the undervalued stocks.

The third reason is behavioral biases such as investor herding, confirmation bias and so on. People tend to believe that stocks performing well in the past will continue to do so and they are ready to invest more in these companies. This partially explains momentum strategy returns and therefore the return from the combination of 2 strategies.

Now Thomas will tell you about metric used in the study.

Let’s now talk about the metrics that the authors chose to take.

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.

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

They also use GDP of all countries and liquidity variables such as 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.

and finally 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)

About the method, 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

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 did several correlation computations :

* Correlations between the value factor in country A and momentum factor in Country B.
* Intracountry correlations between value and momentum returns.
* Inter-country average correlations between value and momentum factors.
* Correlations between the value factors across countries.
* Correlations between the momentum factors across countries.

Regressions to measure the macroeconomic risk exposure of each country’s value and momentum factors with future GDP growth.

Robustness check: use consumption growth instead of GDP growth

I let Ernest talk about the key findings of the article

YOUR PART OF THE KEY FINDINGS

In the article the author proved the idea that the combination of value and momentum strategies give diversification benefits to investors. Moreover, he mentioned some other important findings of his study.

The first important finding is that during periods of poor funding liquidity, momentum returns exhibit little sensitivity. It means that the availability of credit to finance the purchase of financial assets does not affect momentum returns. This makes it less risky than value strategy and provides an opportunity for diversification.

The second outcome of the study is that value and momentum strategy returns are high when the transaction costs are low. In other words for small stocks with high transaction costs and low liquidity the return of these strategies might be vanished away by transaction costs. Therefore it is better to concentrate your portfolio on large capitalization stocks or diversify large stocks with small ones.

The next finding is about the overall market condition and these strategies. The author found that value and momentum strategies are more negatively correlated in up markets than in down markets. In addition, there is the same tendency for large capitalization stocks than for small ones. It generally means that the investors get more diversification benefits in up markets and when their portfolio is constructed with large capitalization stocks.

The last finding I want to mention is that momentum returns are higher when future GDP growth is lower. Thus, the momentum strategy can be a good hedge against low future economic growth.

Well why are these findings important? These findings give ideas to investors how they can improve their portfolios.

First of all, the combination portfolio has low volatility due to the negative correlations found in the study. Secondly, the combination of strategies and international portfolios reduce risk and capture higher returns. In addition, investors who care primarily about US GDP growth can find that there are some value opportunities in the European market. And, finally, they can see an impact of stock market and funding liquidity on their momentum and value strategies’ returns.

Now I give a floor to Thomas.

Finally, we are coming to the final slide about the critical assessment.

The conclusion is not very convincing. Indeed, the authors are well resuming the article, and suggest that one investor can combine value and momentum strategies.

The authors propose some strategies according to their regression results, but they do not have practical applications of their strategies.

The principal weakness of this article is that it is difficult to clearly understand what the authors are trying to study at first reading. We needed to read some paragraphs at least 3 times to well understand the topic, the research, and the result. We have no idea how efficient strategies are and if they largely beat the market. Also, they do consider the financial crisis but they do not control it and their set of data is a bit too small.

Improvement

The article can be improved in the introduction. The author should probably explain in a simple way what are value and momentum strategies and elaborate more about his idea of combining them. Furthermore, it is better to show the efficiency of his strategy over the market. Finally, it would be nice to see a larger set of data, and control for the financial crisis.

Future

The future work that the authors recommend is to examine the optimal portfolio choices of various types of investors facing the menu of international value and momentum strategies.

We recommend for future research to study the behavior, returns, volatility of this combination strategy during the subprime, covid and other crises.