

ASCENT

BY PETERCAM INSTITUTIONAL ASSET MANAGEMENT

N°4 AUTUMN 2013

**FOCUS ON
EMERGING
MARKETS**

**CREATING PANIC-AWARE
STOCK MARKET SCENARIOS**

**CORPORATE
GOVERNANCE AND
THE UN PRI**



Petercam

Institutional
Asset Management



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EDITO

Dear reader,

Welcome to the autumn edition of Ascent, Petercam Institutional Asset Management's newsletter on its research and management capabilities.

Despite some hesitation earlier in the year, the global economy remains on track for a sustained recovery. Traditional industrialised countries are clearly seeing improved economic activity. In the US, Japan and even in Europe, there are clear signs of improvement.

The biggest surprises have come out of Europe in recent months. Following a recession lasting one and a half years, Eurozone economic growth got back into positive territory in the spring. Moreover, the leading indicators continued to edge higher during the summer.

Unlike in previous years, however, emerging markets are lagging behind for the time being. The imminent shift in US monetary policy is hampering most emerging markets.

Against this backdrop, based on recent analysis and given the turmoil in emerging markets this year, particularly on the fixed income side and for currencies, we have provided a broad view of emerging markets five years after the onset of the crisis.

It's quite important to have an in-depth understanding of emerging markets, as they play an increasingly important role in the global economy and since 2007 have become the main contributor to global growth.

Secondly, Frederiek Van Holle aims to show how we can model a panic event into a return distribution of a stock portfolio and how this impacts the tail risk of a typical equally weighted portfolio. The risk of a stock portfolio depends on the weights of the stocks in the portfolio, the volatility of the individual stocks and the correlations between the stocks. Because these volatilities and correlations are time-varying, the risk profile of a portfolio changes over time even for constant portfolio weights.

Last but not least, Ophélie Mortier, Petercam's Responsible Investment Coordinator, has written an article on the lessons investors and other stakeholders can draw from the fire in the garment factory in Bangladesh. Health and safety are intrinsic elements of the social responsibility of companies.

We do hope you will enjoy reading this fourth edition as much as we have enjoyed writing it. Please do not hesitate to pass on your feedback to us.

Sincerely,

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Francis Heymans, *Partner & Head of Sales and Marketing*

Guy Lermينياux, *Partner & CIO Equity*

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CREATING PANIC-AWARE STOCK MARKET SCENARIOS



Petercam Institutional Asset Management is capable of incorporating correlation regimes in customized mandates. This article shows our expertise in that regard.

Frederiek Van Holle, Quant Specialist, Client Solutions



The risk associated with a stock portfolio depends on the weightings of the stocks in the portfolio, the volatility of the individual stocks and the correlations between the stocks. Because these volatilities and correlations are time-varying, the risk profile of a portfolio changes over time, even for constant portfolio weightings. In a normal situation, the fact that the stock returns are not perfectly correlated creates benefits of diversification. However, a number of empirical studies document that correlations between (international) equity returns are higher during bear markets than during bull markets. During this distressed period, correlations between stocks could become very high and the benefits of diversification might no longer apply at the very moment they are needed most. An investor with a strict downside risk constraint could face an unexpected risk limit breach at that time. When constructing portfolios with a downside risk constraint, it would be interesting to generate portfolio return scenarios that take

potential (panic/distress) correlation shifts into account. In "A New Breed of Copulas for Risk and Portfolio Management", Attilio Meucci proposes a way to generate panic-aware return scenarios for an investment portfolio. In this article we will show how we can model the panic event into a return distribution for a stock portfolio and how this impacts the tail risk for a typical equally-weighted portfolio.

Portfolio returns are in fact the realisations of a multivariate distribution. This distribution can be fully described by the individual distributions of the underlying stocks (the so-called marginal distributions) and the correlation structure between the stocks, the so-called copula. The copula captures the true dependence structure between random variables when all the distributional characteristics of the marginal distributions have been filtered out. Before going further into technical details, let us consider an example. We picked 14 stocks in the BEL20 index. There was no special

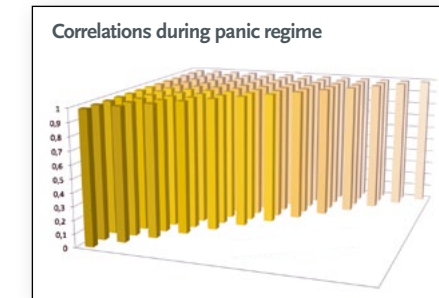
reason to include one stock or the other, save for the availability of total return data. We gathered data on weekly total returns from 31/03/2004 to 16/10/2013 for the following stocks: KBC, Solvay, GBL, UCB, Belgacom, Colruyt, Delhaize, Umicore, Ackermans, Bekaert, D'leteren, Befimmo, Cofinimmo and Anheuser. Let's take two stocks: KBC and Belgacom. If we want to model the multivariate distribution of these two stocks, we must first estimate individual distributions. One way to do this is to impose certain distributional assumptions such as "normality". However, since we have sufficient observations, we prefer not to impose any distribution and estimate the "true" distribution based on the historical data, including any potential skewness or fat tails. The two pictures below show the empirical distribution compared to the normal alternative. For a stock like Belgacom the normality assumption does not seem to be wrong, but for a stock like KBC the true distribution has much fatter tails and a skewness towards positive returns.

In addition, we model the tails of the distributions separately because, by definition, there are fewer observations. The above steps are repeated for every individual stock. In this way, we obtain the first component of the multivariate distribution, namely the marginal or stock-specific distributions.

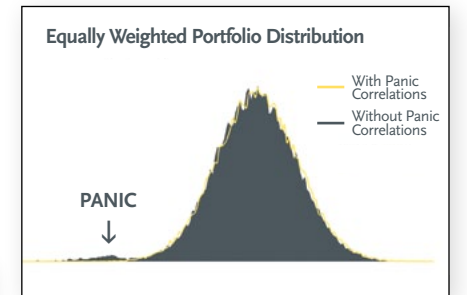
The next step requires an estimate of the correlation structure between our 14 stocks. We will model this correlation structure so as to incorporate a correlation structure during normal (non-panic) periods as well as a panic correlation structure. More specifically, we will create a generic copula that contains the non-panic correlations and the panic correlations. When combining this generic copula with the fitted marginal distributions, we will have created a multivariate distribution which is panic aware. The following describes the steps to create the generic panic copula.

First, decide on a correlation structure during non-panic times. For example,

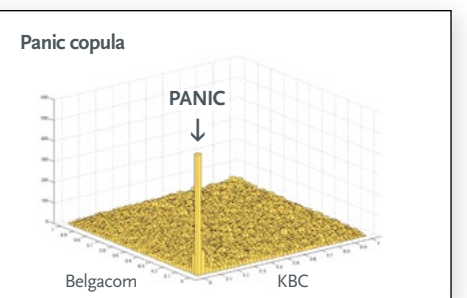
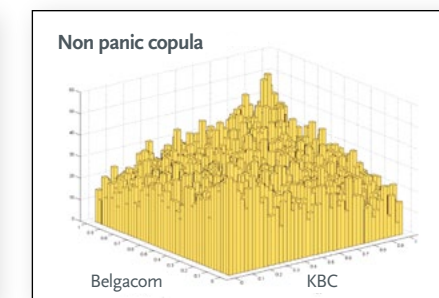
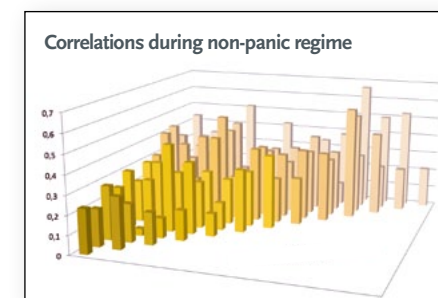
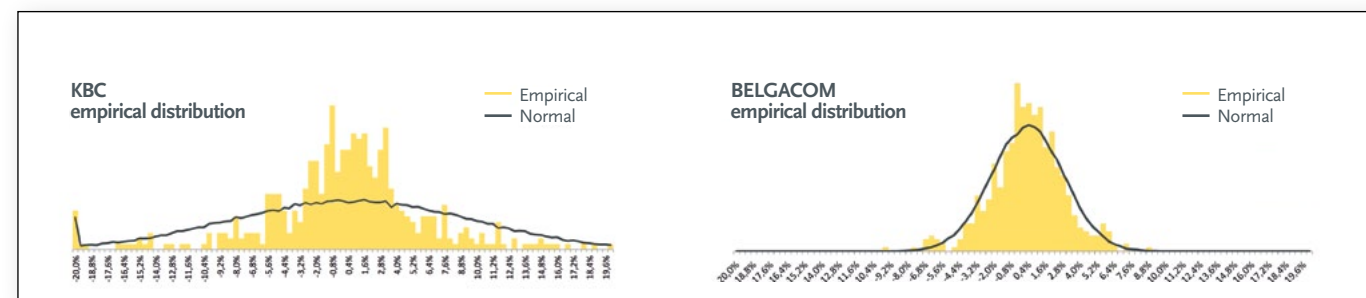
we could take the historical correlation matrix from 31/03/2004 to 31/12/2007. Apparently, the correlations are typically positive and vary between 4% and 67%. Constructing a portfolio with these stocks allows for risk reduction through diversification.



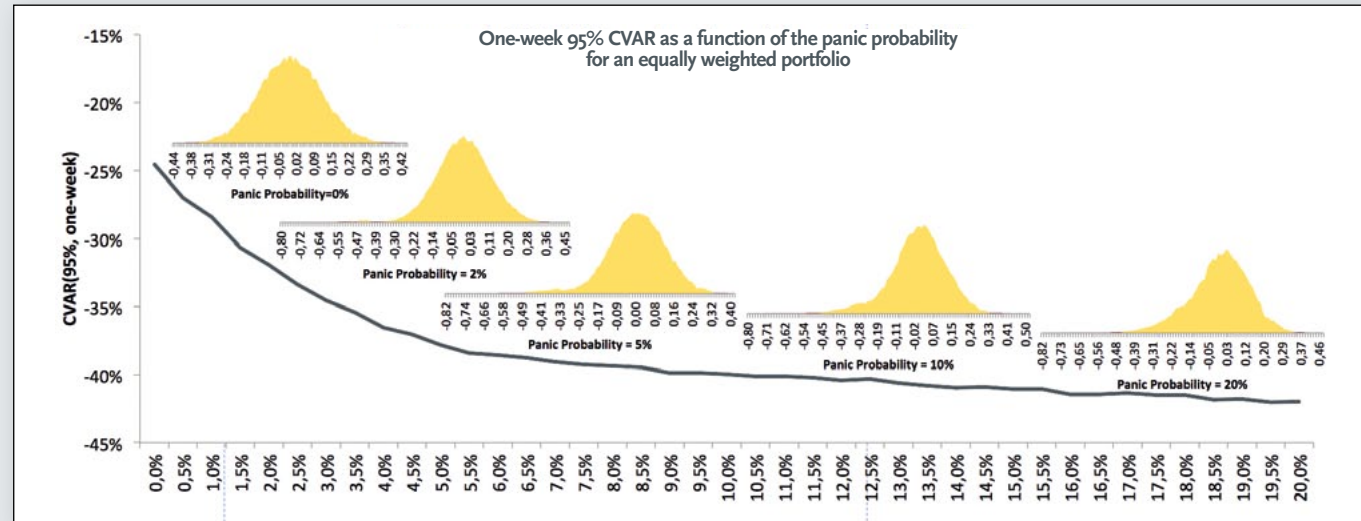
Second, decide on the panic correlation. Optimally, we select a high correlation (we take an extreme case with a downside correlation of 0.99) and decide on the probability of a panic event. Initially, we set this probability at a low level of 2%. However, this parameter can be used for a scenario analysis as shown later on in this article.



Third, estimate the copula that contains both regimes respecting the probabilities. It is not within the scope of this article to explain in detail the steps required to perform this estimate. The main point here is that it is possible to generate a mixed regime correlation structure. The graphics below show the correlation structure between Belgacom and KBC with and without panic events. If we construct an equally weighted portfolio of the 14 stocks, the distribution of the portfolio returns will look as shown below. When panic correlations are taken into account, one can clearly see the increased downside tail risk. For investors with downside risk constraints, taking into



EMERGING MARKETS FIVE YEARS AFTER THE START OF THE CRISIS



Hans Bevers,
Senior Macro-Economist

In-house research is of utmost importance to Petercam Institutional Asset Management. We strongly believe that this is a key factor in exploiting market inefficiencies and making well-grounded investment decisions for our equity and fixed income portfolios.

account downside correlations will impact their optimal portfolio composition.

This analysis also shows the limitation of a VaR measure for downside risk. The one-week 95% VaR for the equally weighted portfolio is estimated at -20% when downside risk correlations are ignored. This becomes -21% when panic correlations are taken into account. The difference in VaR is not significant, but when considering the 95% one-week CVaR¹, the asymmetry in downside risk becomes visible. For the no-panic distribution the CVaR is -25%, which becomes -32% when panic correlations are taken into account.

A simple example shows that considering even a low panic probability has an impact on optimal allocation. First, we compute an optimal allocation for the situation where no panic probabilities are used for the 14-stock universe. The optimiser is asked to maximise the CVAR (i.e. make the CVAR less negative) and furthermore we only impose a no-short selling and full-investment constraint. In this case, the optimal portfolio has a non-zero allocation in 12 of the 14 stocks (GBL and Umicore have a zero allocation). It seems that, to make the CVAR less negative, the optimiser needs to diversify as much as possible. If we don't take the downside correlation into account, the expected 95% one-week CVAR is -23%. However, when the portfolio distribution takes into account a panic scenario the

expected CVAR of this optimal portfolio becomes -31%.

Another interesting feature of analysing portfolios in this way is that one can stress-test the portfolio via scenario analyses. By gradually increasing the probability of a crisis one can estimate the impact on the tail of the portfolio or, alternatively for a given panic probability, change the downside risk correlation. In the graph above, we gradually increase the panic probability from 0% to 20% and compute the 95% weekly CVAR for each scenario for an equally weighted portfolio. One can clearly see the impact on the downside risk of the portfolio and how the distribution of the portfolio returns is impacted. As the probability of a panic event increases, the left tail of the distribution becomes heavier.

In conclusion, the benefits of diversification within an investment portfolio are highly dependent on the correlations between the various assets in the portfolio. A portfolio that invests in only one asset class has a higher risk of suffering from a sudden increase in correlations when markets go down. However, one can take downside correlations into account during the set-up phase of a portfolio, and this can make it possible to avoid unpleasant surprises in bearish markets. In addition, the technique presented in this article also allows for stress-testing the portfolio in order to gain a greater insight into the downside risk and the

impact of the assumptions. When tail risk becomes relevant, downside risk statistics such as CVaR perform better in capturing downside risk than the often-used VaR.

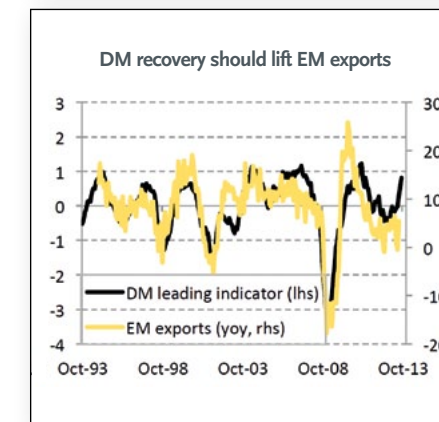
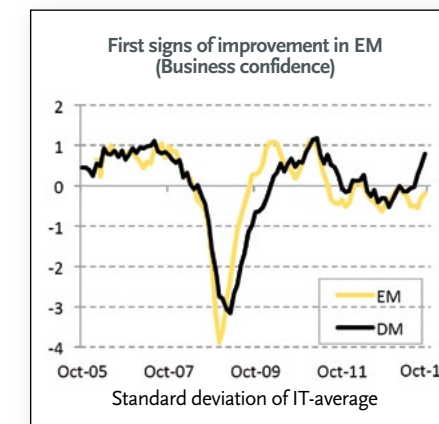
¹ The CVAR or Conditional VaR or Expected Shortfall is the average of the outcomes below the VaR.

The macro-economic research team provides essential support to the investment teams and consists of two economists with a combined relevant experience of twenty years. The Chief Economist primarily focuses on Developed Markets while the author of this article has a primary focus on Emerging Markets. Based on recent analysis and given the turmoil in emerging markets this year, particularly on the fixed income side and for currencies, we would like to provide a broad view of emerging markets five years after the onset of the crisis.

EM GROWTH SET TO PICK UP

Emerging markets (EM) play an increasingly important role in the global economy and since 2007 have become the main contributor to global growth. In 2008 and 2009, when the global economy was mired in a deep recession, they held up very well and were the engine driving global growth. However, EM have lost some of their shine ever since the rapid recovery from the Great Recession. Whereas the growth rate of the BRIC countries averaged 9% in the years before the crisis, this figure has now fallen back to around 4%. As these four countries make up more than 50% of economic activity in EM, this has had a major impact on EM growth in general. The explanation for this growth deceleration in the BRICs is both cyclical - global

economic activity has stayed depressed in recent years - and structural. Following a promising start to the year, economic indicators in EM have been overwhelmingly disappointing. The good news, however, is that low growth in EM is bottoming out. Leading indicators in developed markets (DM) have been picking up in recent months, which in



turn should support EM exports and economic activity. Meanwhile, despite EM currency depreciation in recent months, EM-wide inflation is likely to remain broadly in check. As a result, EM monetary policy will remain relatively loose and this should allow economic activity to accelerate. Ever since the beginning of the last decade, EM have come a long way in getting inflation (expectations) under control. This is largely due to the implementation of inflation targets, but also to increased discipline with regard to public finances. However, this does not exclude the fact that inflation is currently running too high in a number of countries, especially Indonesia (8.4% versus upper target of 5.5%) and Turkey (7.9% versus target of 5%).

NO REPEAT OF THE CRISES OF THE LATE NINETIES

EM currencies have depreciated substantially following the Fed's comments on reduced monetary stimulus in late May. Several observers in recent months had warned of a repeat of the EM crises of the late nineties, but we believed from the beginning that such fears were overblown. This belief was based on a number of arguments: first, external debt levels (mostly denominated in foreign currencies) in EM are now considerably lower than back then, second, most currencies are no longer pegged to the USD and, third, most



countries have built up a large pool of international reserves over the last decade. All this limits the risk of a self-fulfilling currency crisis prophecy. Finally, EM monetary policy is set to remain relatively loose and economic activity should accelerate in the coming months. In recent weeks EM currencies have stabilised, and in some cases (Indian Rupee, Brazilian Real) even recovered some lost ground.

EM currencies should be able to withstand this correction quite well

This, however, does not mean that EM currencies can expect a strong recovery and we believe that they are likely to remain vulnerable in the face of the gradual unwinding of extremely loose monetary policy in the US. While it is true that tapering of QE in the US has been postponed, the issue is set to reappear on the agenda of financial markets rather soon. But, all in all,

since tapering will only be implemented very gradually EM currencies should be able to survive this reasonably well. That said, this may prove more difficult for countries which are highly dependent on foreign capital.

MEASURING EXTERNAL VULNERABILITY OF EM

The knowledge that EM are now less vulnerable to a self-fulfilling crisis prophecy does not mean that external imbalances in EM should be ignored. After all, a number of EM have seen a significant current account deterioration in recent years. Probably the most comprehensive way to measure a country's vulnerability is via a combination of a flow approach (balance of payments) and a stock approach (international investment position). Moreover, it is also important to consider to what extent short-term external debt levels are covered by international reserves (if there are insufficient international reserves, this increases a country's vulnerability).

a) Balance of payments: this indicator summarises the transactions an economy has with the rest of the world for a specific time period (typically 1 year). Transactions between residents and non-residents may include goods, services and income (current account) or financial claims/liabilities vis-à-vis the rest of the world (financial account). When a country runs a current account deficit this must be financed by inward financial flows, and it's only logical that this becomes more difficult whenever the risk appetite of international investors decreases.

b) Net international investment position (NIIP): this indicator measures the value and composition of an economy's external finan-

cial assets and external financial liabilities on a specified date. The difference between these two sides of the balance sheet gives the net position. If the value is positive (negative), the country is an internal creditor (debtor). The countries that come out of this analysis as most vulnerable include Turkey, South Africa, India and Indonesia. Moreover, although current account deficits in several CEE countries have narrowed significantly, net external liabilities in this region remain high.

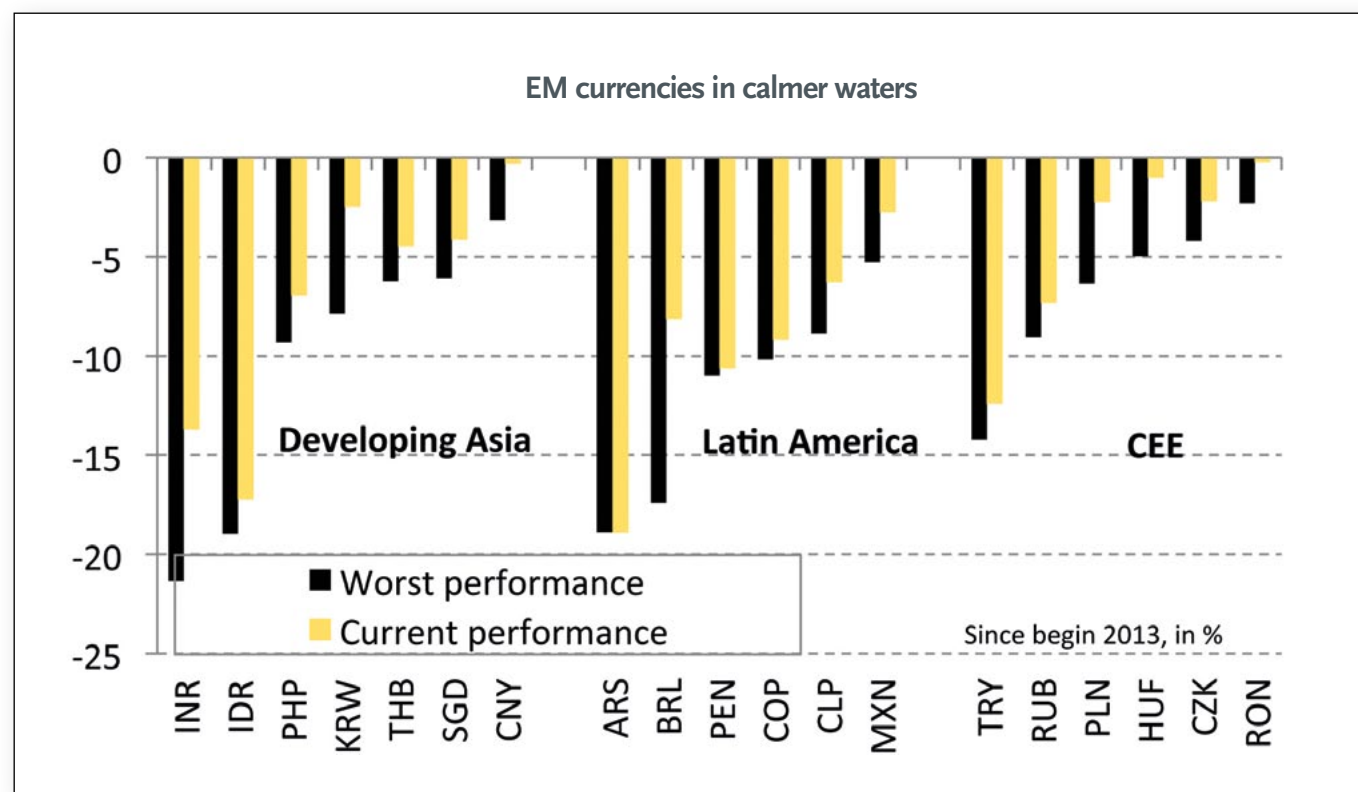
WHAT KIND OF RECOVERY IN EM?

Although economic activity in EM looks set to strengthen over the following months, the recovery is likely to remain modest. A return to stellar pre-crisis growth rates is in any case not on the cards. Firstly, Chinese growth is likely to decrease further in the coming years despite the current improvement in momentum. Secondly, a number of EM can no longer count on the pre-crisis commodity boom as prices of various hard and soft commodities have fallen substantially since then. Thirdly, structural issues in the BRIC countries remain and are unlikely to be resolved anytime soon as the upcoming 2014 elections in South Africa, India, Indonesia and Brazil risk slowing down structural reforms. Fourthly, although private credit growth has come down in recent years, it is probably still too high in a number of countries such as Russia, Turkey, Thailand and Brazil, which limits the possibility of a credit-driven recovery. This is also the case because interest rates in EM are expected

to move gradually higher, in line with what will happen when the FED starts to taper QE in early 2014.

CONCLUSION

Following a promising start to the year, economic news out of the emerging world has been overwhelmingly disappointing. However, improved leading indicators in DM look set to support EM exports and economic activity over the coming months (although a strong recovery is probably not on the cards). Inflation, meanwhile, remains broadly under control so that monetary policy throughout the EM region will remain relatively loose for the time being. Finally, although a repeat of the EM crises of the late nineties is highly unlikely, EM currencies are likely to stay vulnerable against the backdrop of a gradual unwinding of US monetary policy.



HOPES AMID THE RUBBLE OF THE BUILDING IN SAVAR



Ophélie Mortier,
Petercam Responsible
Investment Coordinator

Asset managers as well as institutional and private investors are becoming increasingly aware of their responsibilities in corporate life and of the importance of criteria other than financial criteria. This is reflected by the growing number of asset owners and asset managers who have signed the Principles for Responsible Investment of the United Nations.

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This is reflected by the growing number of asset owners and asset managers who have signed the Principles for Responsible Investment of the United Nations. This increased popularity is seen not only in terms of their sheer numbers, but also in terms of the assets under management. Petercam became a signatory to the UN PRI in September 2011.

These six Principles encourage asset owners and asset managers to advocate ESG criteria (Environment, Social, Governance) at all company levels.

Corporate governance criteria are usually relatively well established among asset managers, as they are likely most closely connected with accounting issues. Evaluating the quality and feasibility of a business plan involves an assessment of the reliability of management, as well as issues regarding the Board of Directors, its composition, quality and transparency, which should all be taken into consideration.

The BP environmental disaster and that company's ensuing stock crash has been a turning point. It was when people starting asking questions about environmental issues and related financial costs which may impact the valuation of oil companies as well as other types of companies. Environmental legislation is becoming

ever stricter, with fines and legal costs rising consistently, although compared with the revenues of the companies in question they are often still negligible. And not to mention reputational risk, which is sometimes even more important. All these factors explain why companies have been paying more attention to this issue.

The tragic news regarding the catastrophic collapse of and subsequent fire in the building in Savar, Bangladesh on 24 April that claimed 1,100 lives (as at 16 May) can form an additional argument to pay more attention to social criteria. It is true that this has not been the first incident of this kind. As a matter of fact, during the past six months this has been the third incident in Bangladesh involving fatalities. But the Savar tragedy took a huge human toll and received a considerable amount of media coverage. Textile companies such as H&M or Inditex cannot afford to ignore the many questions on this matter. These companies run a huge reputational risk. It is certainly also awkward to display a pretty and smiling Vanessa Paradis on various billboards in European cities wearing a beautiful blouse from retailer H&M's "Conscious Collection", while at the same time a photo of the CEO of that retailer, featuring the slogan "Enough fashion victims", circulates on the Rana Plaza site.

Today, the financial cost is limited to the operational risk resulting from the delay caused by the production downtime and the time it takes to find an alternative. When you consider that the textile industry

accounts for more than 80% of Bangladesh's exports and employs more than 3.5 million people, it will not take long before an alternative is found.

The reputational risk remains key. But if at the end of the day this leads to better practices, it is a good thing. However, it is very difficult to distinguish the "green-washing" from sound initiatives in all the efforts companies take to assume their social responsibility. Indeed, large multinationals are very efficient in drawing up a clear and detailed policy, as well as procedures and commitments. Nonetheless, putting these good resolutions into practice and following up on them is a different kettle of fish entirely. Tragic incidents such as that of the building in Savar may reveal relatively unknown methods. We have been blinded by Vanessa's beautiful smile, which has made us turn a blind eye to some dubious practices. We must raise awareness among investors and consumers, regulators must impose stricter controls and financial consequences must be more serious in order to put an end to these practices.

Could the integration of ESG criteria be a vicious circle? Financial institutions are said to pay more attention to them and be more careful about their procedures and controversies. Increased scrutiny and related reputational risks can encourage companies to introduce procedures and policy aiming at enhancing their extra-financial profile. These enhancements can have a positive influence on different stakeholders, be they employees, clients or suppliers.



Finally, there is also a legal risk, which is expected to become more outspoken in the mid to long term. The government of Bangladesh is facing growing pressure from Europe and elsewhere to improve safety standards and control mechanisms. The importance of the textile industry to the country can be primarily explained by the workers' miserably low wages, which are among the lowest in the region. In fact, China has seen this industry relocate to its neighbouring countries as wages in China have been rising dramatically.

Wages have not risen in Bangladesh since 2006. It should therefore come as no surprise that workers, few of whom are members of a labour union and who are often violently suppressed by the authorities, are standing up for their rights. This became clear with the intervention of the Rapid Action Battalion, an elite anti-crime

unit of the Bangladesh police deployed in principle against organised crime and terrorist attacks. Labour unions are often outlawed in industry and are forced to work clandestinely, with ridiculously low budgets.

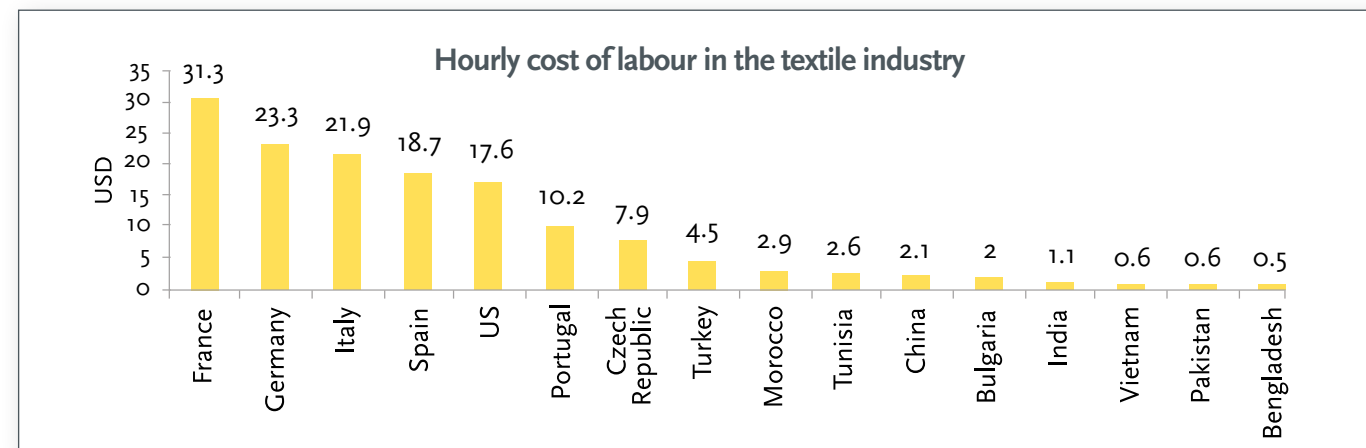
Wages have not risen in Bangladesh since 2006.

If it is confronted by new tensions, the government of Bangladesh will certainly be obliged to alter its stance towards labour union representation, and take a fresh look at its position towards NGOs rallying to defend the rights of this sector's workers, who are considered as disturbers of the national peace.

So let's consider the agreement that has emerged from the tragedy in Bangladesh as an important step towards a more sustainable economic activity. It is without question regrettable to note that among those companies which have declined to sign this agreement - which requires them

to monitor the safety of the factories for at least the next five years - we see American retailers such as Wal-Mart, which often get their hands dirty in this regard. Furthermore, let us rejoice at a similar initiative taken by the investment community. It involves the signature of a declaration, as a result of which asset owners representing more than USD 1,200 billion in assets managed by major textile manufacturers and the retail sector demand that they collectively ensure that the fundamental social rights of the International Labour Organization be upheld, and that there is zero tolerance of any abuse in the production chain.

This demonstrates that it is important for the entire supply chain to be monitored. It is crucial for all stakeholders of the company. Choosing a supplier must only be done after a thorough analysis and it has to be an intrinsic part of corporate strategy.



Source: Exane BNP Paribas

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