MARTIN CURRIE
A Franklin Templeton Company

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For institutional, professional and wholesale investors only

INNOVATIVE APPROACH TO RISK ANALYSIS

Analysing portfolio risk exposures through fundamental assessments

Warren Buffett once said that *"risk comes from not knowing what you are doing"*[1].

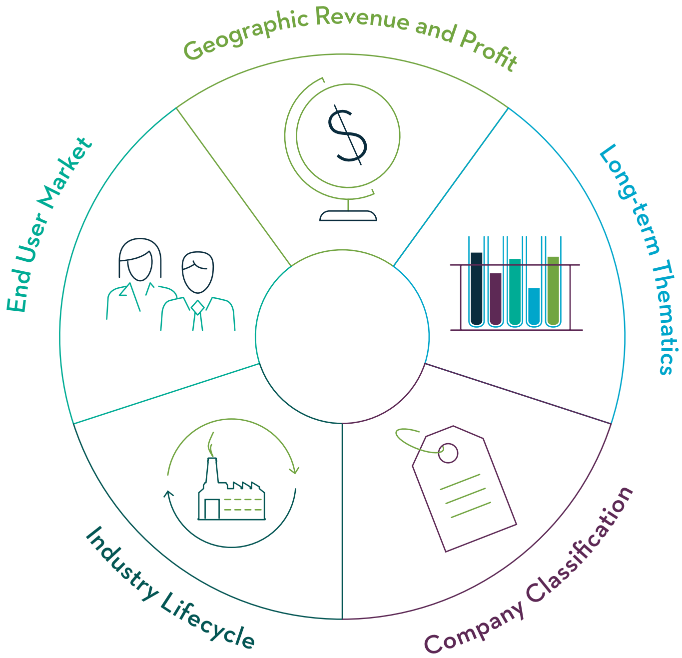
That is the risk that we eliminate by having detailed fundamental assessments of our portfolio exposures. It permits us to know more accurately how our portfolios are positioned, gives us visibility of specific fundamental risk exposures, and enables us to achieve more efficient diversification.

Zehrid Osmani
Head of Global Long-Term Unconstrained
Lead Senior Portfolio Manager

Our innovative risk analytics combine various layers of assessments, through five lenses: thematics analytics, geographic exposures, end-user market exposures, industry life-cycle, and company classification assessment.

This approach complements traditional risk tools and portfolio assessments. We believe this benefits asset allocators, investors and investment officers by pushing the boundaries of our analytics towards more accurate risk representations.

[1]Source: Des Moines Sunday Register as at 8 February 1988. Heralded investor Buffett turns eye toward silver by Reuters News Service.



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Geographic fundamental exposures provide an accurate account of country risks

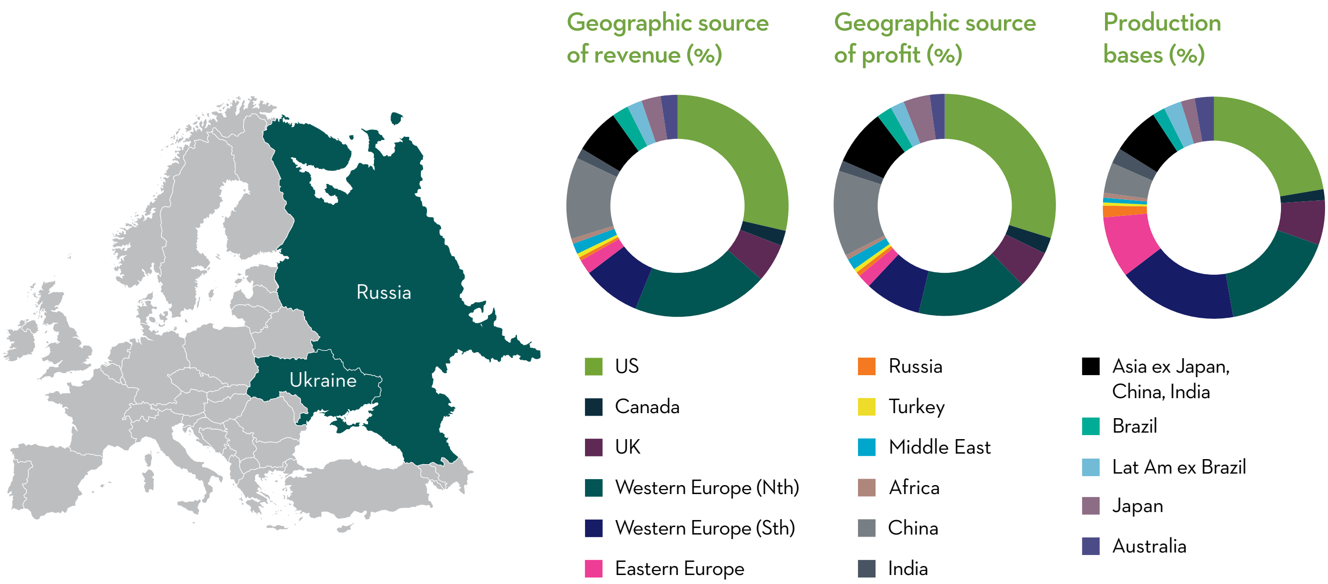
As part of our fundamental analysis, we assess a company's exposure to various geographies in terms of revenues, profits and production bases.

This delivers a complete picture of the fundamental geographic exposure of a company. It also permits us to carry out various assessments of regions where we are underweight or overweight. In turn this allows us to manage risk exposures more efficiently, and to achieve diversification more effectively.

Traditional risk tools, when analysing country risk, assess portfolios by the country of listing for each stock that is held in the portfolios. This unfortunately in our view, does not give a full rendition of country risks.

Ukraine and Russia conflict exposure

When the tragic invasion of Ukraine by Russia began, our traditional risk tools were concluding that we had no country risk exposure to either nation, given that we didn't hold any stocks listed in these countries. However, we had exposure to Russia and Eastern Europe indirectly, through companies that had presence in these markets.



Source: Martin Currie as at 31 December 2023. Representative Martin Currie Global Long-Term Unconstrained account shown.

The exposure to Russia was c.1% on revenues and on profits, as well as on production bases. We knew what stocks gave us that exposure and which stocks gave us outsized position, so we were able to attend to these names and assess whether share prices had already adjusted for the eventuality of that revenue and profit going to zero, or whether we needed to attend to these holdings.

For Eastern Europe, our exposure was closer to c.2% on sales and profits, but was significantly higher on production bases at c.8-12% depending on the portfolio. For example, our European portfolio had higher exposure than our global portfolio.

For Eastern Europe, our database has more granular country data which we don't show on the pie chart. Our 8-12% exposure to Eastern Europe in terms of production base was mostly comprised of Poland, Hungary and Romania for the Global, International and European strategies. This illustration highlights the superior approach to portfolio risk analytics using fundamental geographic exposures assessment.

Industry risks addressed through end user market exposures

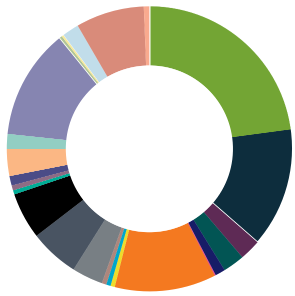
We also assess companies in terms of their end user market exposures.

While companies can belong to specific sectors or industries, their end-markets can be to a very different sector or industry. We analyse this across the consumer, corporate or government end markets.

In the same way as with geographic exposures analysis, it permits us to both manage diversification more efficiently, and risk exposures more effectively. Having an accurate assessment of end user markets for each company gives us a more accurate picture of portfolio exposures by end-markets.

Level one analysis

Level two analysis



Source: Martin Currie as at 31 December 2023. Representative Martin Currie Global Long-Term Unconstrained account shown.

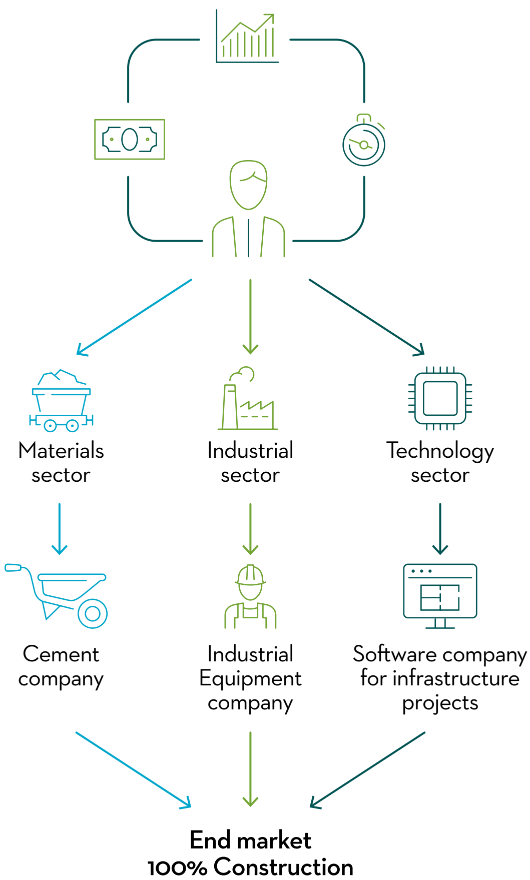
End user markets exposure to construction industry

Take a cement company for example, which is classified in the Materials sector under index classifications. Its end user market is the construction industry.

Equally, take a company like Caterpilar, selling industrial equipment, which typically has its end user market exposure to the construction industry again.

Instead, if we take a company like Autodesk in the US, or Nemetschek in Europe – both companies are classified in the Technology sector given that they are software companies. Yet the bulk of their business is software that is used by the construction industry, as way of project managing more efficiently any construction projects. The end user market of these type of technology companies is therefore construction again.

An investor could have exposure to three stocks in three distinct sectors and appear diversified sectorally, yet these three stocks end up all being exposed to the construction industry in terms of end-user market exposures. This example therefore highlights that there would be 100% exposure to the construction sector.



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Thematic exposures highlighted by theme visibility

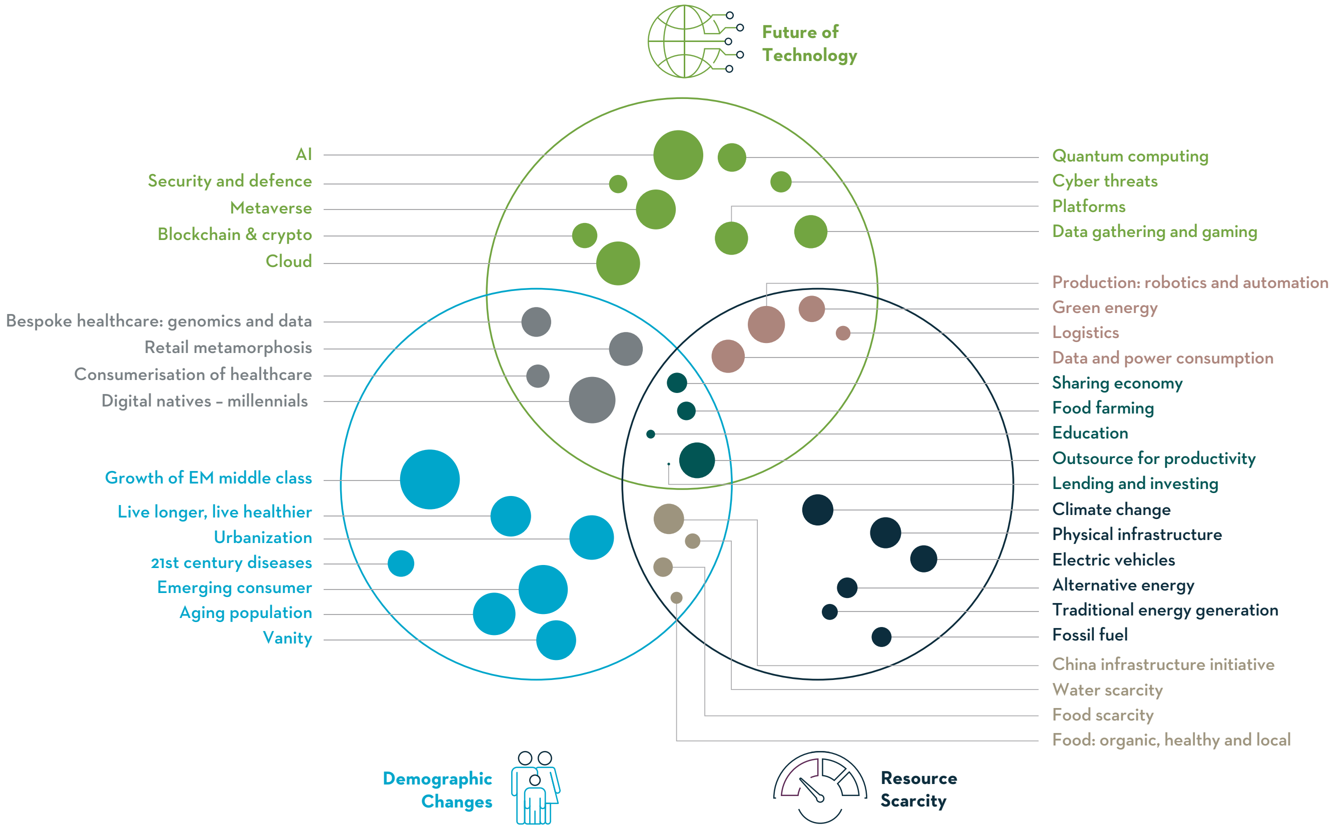
Accurately estimating thematic exposures running through portfolios is important. Both for better diversification, and for visibility of thematic risk exposures.

We have developed a thematic framework, centered on three mega-trends, which are Demographic Changes, Future of Technology and **Resource Scarcity**.

These are mega-trends that will be present in economies on a multi-decades basis, and that capture all parts of the economy. We list various themes, which feature within each of these mega-trends, with some themes overlapping with more than one mega-trend.

We assess each company in terms of themes that the company is facing. By doing this estimation, we are able to aggregate the analysis at the portfolio level. This permits us to have a more accurate assessment of thematic exposures running through the portfolio, ensure a more efficient diversification, and finally gives us better visibility of any theme that we might not have researched, or that we might want to gain more exposure to.

As an aside, valuation discipline is indeed critical when assessing thematic opportunities, as the market has a tendency, at times, to push thematics to levels that get disconnected from the fundamental realities of such themes. In other words, themes can end up being frothy.



Source: Martin Currie as at 31 January 2024. Representative Martin Currie Global Long-Term Unconstrained account shown.

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Thematics exposures assessment

In a similar manner to end-user market assessment, one can take a series of stocks that are in different sectors, yet exposed to a similar theme. This negates the diversification effort, which makes it critical to have a good visibility of thematic exposures.

As way of illustration, the theme of ageing population can be captured through:

- Healthcare company tackling the ailments associated with an ageing population
- Dental company within the Medical Technology sector
- Travel & leisure company that can capture the so-called grey-dollar spend
- Robotics company within the industrial space to tackle increased autonomous needs
- Consumer company related to specific senior population consumption
- Life insurance company in the financials space

All in all, this would equate to six companies in six distinct sectors, all exposed to the Ageing Population thematics, i.e. providing no diversification by theme.

Fundamental risk analytics supplement traditional risk analytics

Detailed assessment of portfolio exposures, based on fundamental assessments of geographic exposures, end user market exposures, and qualitative assessment of thematic exposures, permits us to have a more accurate rendition of portfolio exposures.

It allows us to diversify portfolios more efficiently, whilst at the same time permitting us to attend to any are of risk that might need attending, whether it is a geographic risk, an end-user market risk, or a thematic risk.

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- Investing in foreign markets introduces a risk where adverse movements in currency exchange rates could result in a decrease in the value of your investment.
- This strategy may hold a limited number of investments. If one of these investments falls in value this can have a greater impact on the strategy's value than if it held a larger number of investments.
- Smaller companies may be riskier and their shares may be less liquid than larger companies, meaning that their share price may be more volatile.
- Emerging markets or less developed countries may face more political, economic or structural challenges than developed countries. Accordingly, investment in emerging markets is generally characterised by higher levels of risk than investment in fully developed markets.

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