ANALYSIS

Low oil price reveals implications of carbon risk

Financial stability, Climate | 12.05.2016 | Otso Manninen

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A significant proportion of the world's investment assets lie with companies whose business activities produce large emissions of carbon dioxide. In the future, climate policy emissions restrictions will affect these companies' ability to operate, which could lower their value. The consequence could be a substantial risk for investors who do not make timely provision against this 'carbon risk'. The fact that the carbon risk is hidden within investors' investment portfolios will simply serve to undermine confidence between market actors.

Carbon risk threatens the value of emissions-producing companies

The decline in the price of oil has been on the news repeatedly over the past couple of years. As a result of this trend, the 300 largest global corporations in the oil and gas sector have lost a total of USD 2,300 billion off the value of their shares, a decline of 39%. Likewise, the assets used as collateral by oil and gas corporations on loans totalling USD 2,500 billion have lost a substantial amount of their market value.[1,2]

Carbon risk arises because climate policy emissions limits may undermine a company's earnings performance and value if its operations produce a lot of emissions. If owners and investors do not take timely account of the impacts of emissions limits, the value of a company that produces a lot of emissions can decline rapidly. Correspondingly, banks and other lenders to these companies are forced to make contingency plans for a situation where such companies may not be as well-equipped as before to service their loans once the emissions limits have come into effect.

The present situation brought about by the low price of oil provides a good example of what the carbon risk occasioned by climate change and a strict climate policy could mean in practice for the financial sector. The difference is that the current low price of oil is presumably a passing phase,

and the earnings capacity of oil and gas corporations and the value of the fossil fuel reserves they administer can be expected to rise from current levels in the years ahead.

Once emissions limits begin to affect corporate valuations, it is unlikely that every corporation can ever restore its previous value. Companies whose business model is strongly based on carbon emissions will at some stage be forced to prepare for emissions limits by developing cleaner technology or a cleaner business model. The later a company begins to prepare for future emissions limits, the harder it will be for it to retain its value far into the future.

Carbon risk could become a problem for the whole financial system

If we look several decades into the future, the future of all companies is uncertain. Why, then, is there a need for a separate warning regarding carbon risk?

The difference between carbon risk and many other types of risk is that in regard to carbon risk a significant number of companies are in practice exposed to a single risk factor – emissions limits. Exposure to a single risk factor allied to the fact the scale of the risk cannot be estimated very precisely should by itself ring warning bells for investors.[3]

The impact on financial stability from carbon risk arises because approximately one third of all securities issued around the world (shares and bonds) are more or less exposed to carbon risk.[4] Pension funds, insurance companies and other financial market participants have investments in such securities. In 2014, the oil and gas sector alone had syndicated bank loans to a total value of USD 1,600 billion.[5]

If we additionally take into account the fact that many other companies are directly or indirectly dependent on the oil and gas sector, it is clear a substantial amount of financial assets are invested in companies that are all exposed to changes in value caused by emissions limits.

It is often hard to assess how much of a large corporation's value depends on emissions-producing business activities. Even harder for an outside observer to assess is how much of e.g. an institutional investor's portfolio is exposed to carbon risk. In a crisis, this lack of transparency can, in a worst-case scenario, lead to speculation and a possible weakening of market functioning, if confidence in other market participants were to falter.

Important to prepare sufficiently and in time for emissions limits

Carbon risk is ameliorated by the fact that emissions limits will come into effect gradually over several decades and both companies and their investors will have time to alter their investments before problems arise. Although this argument is partially true, it fails to take account of three factors.

In the first place, companies with emissions-producing business activities could find it hard to invest sufficiently in clean innovations, as innovations are in the short-term expensive and uncertain – even in the best case they would eat into current income flows, and the benefits would be realised only long-term.

Secondly, investors may be tempted to assume that they will be able to rid their portfolios of these risky investments at the last minute, but that until such time they should hold onto them in the hope of good returns.

Finally, delays in climate policy decision-making and the setting of emissions limits could to some degree lead to a need to impose strict emissions limits on a very tight schedule.

We cannot be sure how big a problem for the financial system carbon risk will eventually turn out to be. There are so many factors influencing developments that at the moment we can only propose a range of possible scenarios. Supervisors should nevertheless be monitoring developments and taking care to ensure that financial sector actors take sufficient steps at a sufficiently early stage to prepare for the coming change. The general tightening of banks' capital adequacy requirements has, however, already improved banks' capacity to cope with problems in the economy. It remains important to ensure that no individual factor such as carbon risk can endanger the entire financial system, either directly or via any other systemically important actor.

Footnotes

1. The corporations may, under applicable conditions, enter part of their as yet unutilised domestic reserves as own funds and use them as collateral for a loan application. As the price of oil declines, the 'collateral value' of the reserves also declines. The dilemma for the banks is that they offered these companies the opportunity to borrow to an agreed limit against these oil assets. As the price of oil has declined, so the value of the reserves has also dipped, and the banks are therefore forced to reduce their credit facilities in order to minimise their risks. This increases the possibility of bankruptcy for these companies, which could actually lead to greater losses for the banks. As long as the price

of oil remains low, the banks only have bad alternatives. ↑

2. If the collateral value of the reserves entered as own funds weakens, this could further depress the price of oil, because as prices fall an increase in production is the only way to prevent a strong decline in cash flow. Thus the price drop leads to pressure for even lower prices, which acts as a self-reinforcing downward trend. For more on this see e.g. BIS (March 2015) Oil and debt. BIS Quarterly Review, http://www.bis.org/publ/qtrpdf/r_qt1503f.pdf. ↑
3. Some institutional investors nowadays ask the companies they invest in how climate policy will affect their business in the future. During the course of 2016, the Financial Stability Board will be developing a carbon risk reporting system, the idea being to enhance the transparency of carbon risk. ↑
4. Prudential Regulation Authority (September 2015) The impact of climate change on the UK insurance sector. See http://www.bankofengland.co.uk/pra/documents/supervision/activities/pradefra0915.pdf. ↑
5. BIS (March 2015) Oil and debt. BIS Quarterly Review. See. http://www.bis.org/publ/qtrpdf/r_qt1503f.pdf. ↑

Key words

carbon risk, climate change, financial stability