31 January 2019

Corporates

Fallen angels and zombies
Potential risks in a downturn

Risks from fallen angels – investment-grade companies suddenly falling to junk status – and zombies – companies kept alive by banks, investors and low interest rates – can be expected to increase during any major downturn. Scope anticipates challenges to ratings during the next major downturn, based on vulnerabilities from high debt levels and weak margins.

Scope's corporate rating methodology anticipates economic downturns by rating through the cycle in a forward-looking manner and by adjusting published debt to better reflect real-world debt burdens to avoid surprises during a down-turn. Debt sustainability is the greatest risk to financial stability, even if there is no single threshold triggering a debt crisis. Scope anticipates rapid increases in challenges for heavily indebted sovereigns, corporations and households if interest rates rise beyond 200 basis points from current levels[1]. Low interest rates have led to unprecedented peace-time borrowing. The question arises: What happens when rising interest rates and/or significant economic slowdowns challenges the sustainability of high levels of debt?

Figure 1: US treasury bond market volatility in 5-year yields, dollar loss and implied loss in USD billions

	Peak	Trough	Difference (Volatility)	Calculated Dollar Loss	Implied loss of 1 bp
1996-2000	7.76	4.18	3.58	198.0	55.3
2001-2005	4.93	2.27	2.66	163.8	61.6
2006-2010	5.07	1.18	3.89	518.8	133.4
2011-2015	2.26	0.62	1.64	255.2	155.6
2016 to date	3.00	1.07	1.93	362.7	187.9

Source: Federal Reserve Board/Haver Analytics, Calculations Scope Ratings GmbH

The risks presented by fallen angels and zombies is real: An estimated record USD 4.3trn in lower-quality corporate loans and high-yield bonds (up from USD 2.4trn in 2010) would face significant challenges if interest rates in the US increase sharply and the US economy deteriorates[2]. This represents a systemic risk, and one that increases as standards deteriorate and covenants loosen in order to expand lending[3]. As can be seen in **Figure 1**, despite a trend of decreasing volatility in 5-year Treasury yields, the real-world implied loss per basis point of change has increased by 240%. This underscores how significant even small changes in interest rates are now owing to the volume of debt[4].

While Scope does not anticipate a major downturn in the world economy in 2019 (it does expect a slowdown), it is prudent to review what the effects would be of a major downturn, given the increasing vulnerability of borrowers if, say, China were to face a major economic downturn, the Fed unexpectedly increases interest rates significantly and/or other major, unanticipated events were to materialise. Scope has observed increasing fragility[5] in the global economy in its Sovereign Outlook 2019.

In this comment, Scope reviews the implications of fallen angels and zombies for ratings.

[1] Here we agree with the analysis presented by the Bank of England, https://bankunderground.co.uk/2019/01/17/a-question-of-interest-is-uk-household-debt-unsustainable/
[2] https://eu.usatoday.com/story/money/2018/09/14/financial-crisis-corporate-debt-trigger-next-meltdown/1290735002/
[3] https://www.ft.com/content/04352e76-d792-11e8-a854-33d6f82e62f8s
[4] The same basic story holds true for US corporate debt, which increases by 76.9% using the same calculations and has an implied current loss of USD 84.8bn per 1bp interest rate change.
[5] Understood in the sense of Prof. Nassim Nicolas Taleb

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Related Research

Sovereign Outlook 2019

Financial Institutions Outlook 2019

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Fallen Angels

Fallen angels present opportunities for contrarian investors

Fallen angels – investment-grade companies that unexpectedly and without reasonable warning move to non-investment grade status – are particularly hazardous as the deterioration in credit circumstances that moves an analyst to downgrade below investment-grade can quickly accelerate as the downgrade impacts the market, effectively resulting in a self-fulfilling prophecy. Fallen angels may return to their previous status if i) structural problems in business segments are successfully addressed by selling or closing these lines and concentrating on more profitable core businesses; ii) a comprehensive cost-cutting exercise is successfully executed; and/or iii) strategic allocation of capital leads to stronger growth in more profitable business lines.

Risk of market price distortions for fallen angels

A distinction needs to be made between different kinds of fallen angels, as the term is used both for investment-grade bonds that have been reduced to non-investment-grade-status due to weakened financial conditions of the issuer and for stocks that have fallen substantially from all-time highs. In the case of the latter, there can be a reasonable expectation of the potential to recover from short-term challenges, especially for value stocks. Contrarian investors, per definition, look to instruments that are severely undervalued to profit from turn-arounds; once a bond is placed on negative watch or has been moved out of investment-grade, portfolio managers, depending on fund-specific covenants, may be required to sell regardless of market conditions. Under such circumstances, prices may not reflect the underlying fundamentals of the issuers and, if there is a reasonable expectation that the issuer may recover from conditions generating the downgrade or credit watch decision, significant profits can be made.

Sovereign and sub-sovereign fallen angels

This effect is not limited to corporate issuers: Heavily indebted sub-sovereign and sovereign issuers may face the same challenges if debt issuances have been excessive and tax revenues fail to bring debt down to more manageable levels. Use of foreign-currency-denominated debt may moreover challenge debt service by a sovereign or sub-sovereign during a currency crisis. Given that economic crisis and currency crisis are oftentimes coincident for emerging market issuers, a sudden fall from grace on the tax revenue side may well be accompanied by significant increases in foreign-currency costs, further worsening the situation.

Identifying key aspects for contrarian investors

Critical for contrarian investors deciding if a fallen angel has hopes of redemption is identifying issuers whose bonds have been downgraded due to temporary conditions – a drop in commodity prices, for instance, or a recession reducing consumer demand – and who are more likely to recover, ceteris paribus, than issuers downgraded due to loss of competitiveness or market share that it is unlikely to recover.

How Scope anticipates what will happen to fallen angels

Such differences are captured in Scope's approach to corporate ratings, which looks beyond the cycle and incorporates key metrics to assess such issues. Scope reviews adjusted debt levels to identify companies with financial fragility with both business profile ratings and financial profile ratings to provide greater transparency in analysis. Scope continues to monitor for rising risks in the corporate sector that could lead to downgrades in the event of unexpected adverse developments.

Zombies

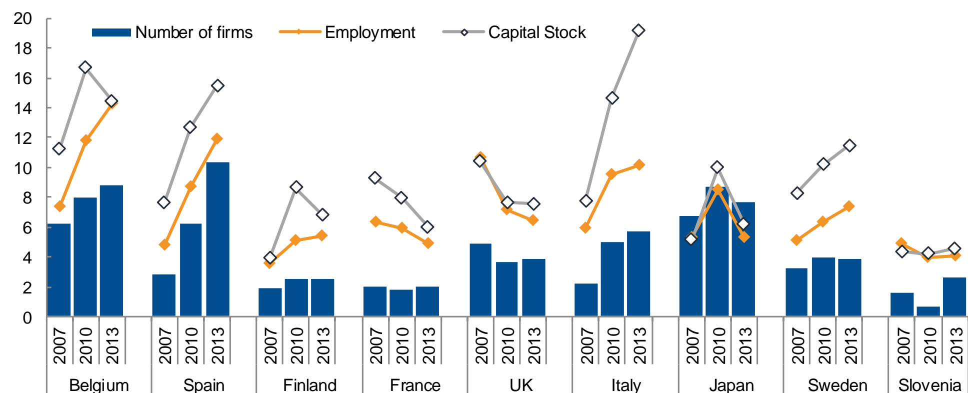
Where did zombies come from?

Zombies[6] are a subtler challenge to ratings. Zombies are also not directly the result of the Great Financial Crisis (GFC) but predate it, with the phrase first used in conjunction with Japan in the 'Lost Decade'. The conditions that allow zombies, as it were, to survive are low interest rates, coupled the desire to push the problem down the road in order to either have someone else deal with it or in the hope that companies will somehow return to

[6] As per the OECD, firms that are at least 10 years old whose EBIT have been insufficient to cover interest payments for at least three years

profitability. Large numbers of zombie companies increase the risks of debt traps, where policy makers face constraints on needed interest rate increases because of the strong negative effects on government, non-financial corporation and household finances. Up to the GFC, zombies cut debt by under 2% of total assets per year relative to non-zombie corporations; after the GFC, both zombie and non-zombie corporations both have largely failed to reduce debt, i.e. zombies are locking in more resources over time, hindering recoveries and reallocation. Further, zombie companies fail to improve their profitability as interest rates fall.

Figure 2: The share of 'zombie' firms over time in 9 OECD countries (number of firms, employment, and capital stock as % of all firms)



Source: Adalet McGowan, Andrews and Millot (2017a), based on ORBIS data.

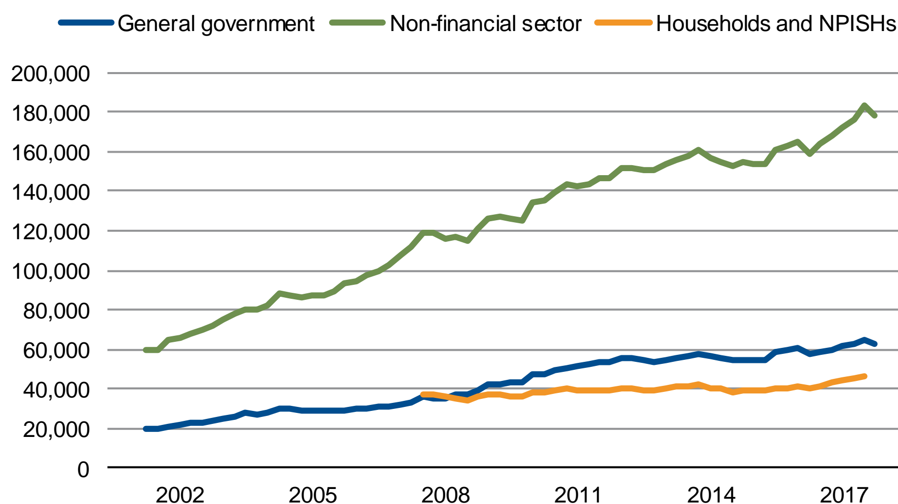
Zombies as symptom rather than cause

Zombies are the symptom rather than the cause of financial crises. Low interest rates encourage credit booms, leading to excessive allocation of labour and capital in sectors such as construction. A finance-productivity nexus develops, with interest rates having a causal effect on productivity development, coupled with persistent low interest rates increasing business cycle amplitude and length (by boosting credit, asset prices and risk-taking) and with differing impact on economic sectors (determined by their sensitivity to interest rates for growth). The resulting financial cycle is much longer and has greater impact than inventory cycles: financial contractions need at first low rates to stabilise the economy and prevent a downward spiral, but when low rates persist, lowered returns depress balance sheet repair, interacting as well with bank weaknesses to delay the resolution of underlying balance sheet problems. For banks, carrying non-performing loans is easier when the opportunity costs are low. Continued support for zombies distorts markets as it shifts revenues to zombies away from successfully operative companies.

Zombies as 'too big to fail'

Arguments can be made that it is counter-productive to support zombies as in the long-term they will fail (with attendant larger losses) unless major reorganization and restructuring are executed, but the need to reform is made moot by financial support, leading to a no-win situation. **Figure 2** shows one estimate of the development of zombie firms through 2013, whereby Scope anticipates that data after 2013 will show further increases as the underlying problems remain unresolved. While some zombies may be obvious – interest expenses exceeding EBIT, a continued inability to pay off debt, coupled with heavy dependence on preferential bank financing, weak capex despite high leverage due to the need to service debt rather than invest – other zombies are not so obvious, especially in sectors with very high R&D costs (pharmaceuticals) or where investments are distorted by government regulations (automotive, utilities).

Figure 3: Credit to entities from all sectors at market value in USD billions, adjusted for breaks



Source: BIS

More than 12% of companies are zombies

Estimates[7] for zombies place them increasing from less than 6% of all companies in key industrialised countries[8] in 2000 to more than 12% in 2016; the likelihood that a zombie remains a zombie (i.e. does not become profitable or is not closed) has also increased from almost 75% to over 85%, underscoring the unnatural persistence of zombies. Lowered overall economic productivity and fewer new companies are the result, as zombies per definition are not profitable and their continued existence ties up capital that may otherwise be used more productively to establish new companies[9].

Negative effects of quantitative easing

To a lesser degree (**Figure 3**), this is also applicable to sovereign and sub-sovereign issuers: Years of loose monetary policy and high leveraging combine to place severe challenges when interest rates start to rise either due to needed monetary policy changes or due to changes in investor policy expectations or the term premium. Simply put, when interest rates start to rise, government discretionary spending will at some point face strain, resulting in cancellation of programmes, downsizing of government and/or significant tax and other government revenue increases. Hard decisions that have been put off must then be made under far less accommodating circumstances. The situation may be made worse by resulting political crises. While household debt globally is lower than government and non-financial corporate debt, the relative lack of resilience of private households makes this sector perhaps the most vulnerable to increases in fragility.

Central banks and QE

Central banks have kept heavily debt-burdened governments, banks, corporations and households effectively on life-support through programs such as quantitative easing and negative interest rate policies: by not allowing these institutions to fail – and allow creative destruction to work out the problems in a more orderly manner – investor capital is effectively trapped rather than being put to more productive uses. In a normal business cycle, sectors that expand too strongly during a boom and then contract sharply during corrections (resulting in misallocation of capital) also see firms fail and new firms enter the fray.

[7] https://www.handelsblatt.com/infografiken/grafik/unprofitable-unternehmen-achtung-zombies/23248848-all.html
[8] USA, Japan, Germany, UK, France, Italy, Spain, Canada, Netherlands, Sweden Switzerland and Denmark
[9] Adalet McGowan, M., D. Andrews and V. Millot (2017), "The Walking Dead?: Zombie Firms and Productivity Performance in OECD Countries", OECD Economics Department Working Papers, No. 1372, OECD Publishing, Paris, https://doi.org/10.1787/180d80ad-en

Unrealized losses and banks with impaired balance sheets

Overly high levels of indebtedness, a challenged banking system and the need to avoid realizing losses hinder such adjustments. Households with debt exceeding their assets (underwater) will not relocate to new jobs in order to avoid realizing housing equity losses; companies unable to return to profitability will be kept operational by banks to avoid realizing bank lending losses; governments unable to finance politically sensitive programs with existing revenue streams will go further into debt to avoid realizing political losses. Core to all scenarios are strong incentives to avoid realizing losses and a continued misallocation of capital, expanding credit lines for weaker borrowers by tapping those who can afford to pay (healthier households, companies and governments) with fees or higher interest rates and/or impairing availability of borrowing[10].

Distortion of market mechanisms

This distorts market mechanisms, resulting in wide-spread misallocation of capital with the resulting negative effects on balance sheets and resources for economic growth. The relationship between misallocated capital and weak productivity is perhaps stronger than main-stream macroeconomics considers[11], with material and long-lasting damage to productivity growth generated by misallocation of capital induced by financial cycles. This also extends to labour misallocation, with significant impact on profitability as labour productivity fails to maintain its pace. What appears to be a shortfall in demand during a recession is really the effect of misallocation of resources across sectors, just as the perceived oversupply of demand during a boom period led to the misallocation of resources to begin with.

Case studies: Japan, Euro area, USA, China

Japan

- Insolvent companies and banks were kept alive when the real estate bubble collapsed in 1990. Thirty years later, many Japanese banks continue to carry large amounts of non-performing loans (NPL) on their books, limiting their ability to lend and helping to drive deflationary pressures.
- Misallocation of capital – keeping companies in crisis alive at the cost of strangling the growth of healthy companies – has added to the difficulties of recovery in Japan.
- Japanese non-financial corporate debt has dropped moderately from the high of 105.2% of GDP in 2008 to 99.9% of GDP in 2017.

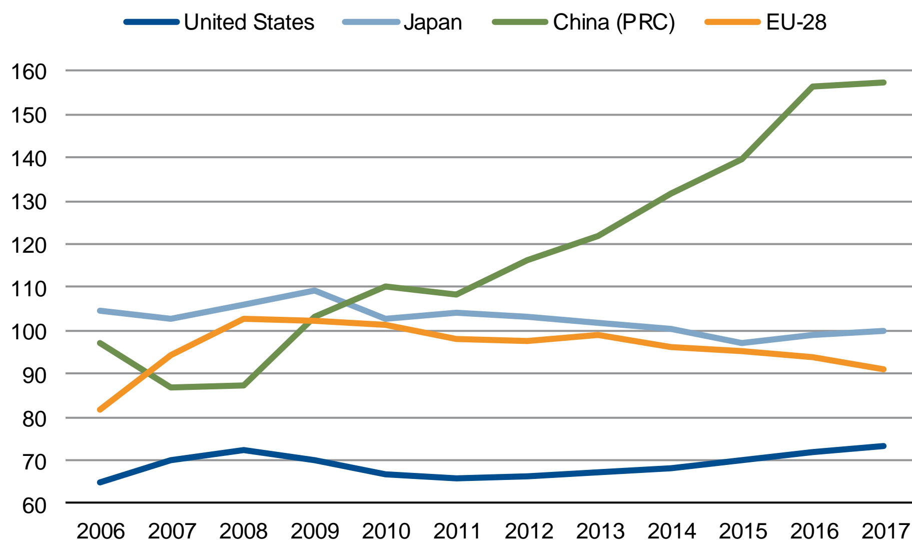
Euro area

- During the GFC and following crisis lending increased to impaired borrowers and forbearance by regulators was more generous.
- Banks in the EU depending on ECB liquidity will be challenged when zombie companies, which in turn have survived because the low interest rates of the ECB hide financial problems, finally succumb to their fate.
- European banks have largely ceased lending to zombies and the European exposure to NPLs is decreasing and primarily a legacy issue, with the overall European banking system in a healthy state with no visible signs of material deterioration in post-GFC loan portfolio quality and reduced debt exposure, despite some continuing regional differentiation.
- European non-financial corporate debt has declined significantly over the last ten years, reaching 90.8% of GDP in 2017, down from the high of 102.8% in 2008.

[10] For a more detailed analysis of insolvency mechansims and their policy effects, see Adalet McGowan, M., D. Andrews and V. Millot (2017), "Insolvency regimes, zombie firms and capital reallocation", OECD Economics Department Working Papers, No. 1399, OECD Publishing, Paris, https://doi.org/10.1787/5a16beda-en; for more details on the role of banks in this context, see Andrews, D. and F. Petroulakis (2017), "Breaking the Shackles: Zombie Firms, Weak Banks and Depressed Restructuring in Europe", OECD Economics Department Working Papers, No. 1433, OECD Publishing, Paris, https://doi.org/10.1787/0815ce0c-en

[11] See remarks by Claudio Borio, Head of the BIS Monetary and Economic Department, Paris, 10-11 January 2018, retrievable under https://www.bis.org/speeches/sp180110.pdf

Figure 4: Nonfinancial corporate debt, loans and debt securities (Percent of GDP)



Source: IMF

U.S.A.

- The increasing supply of collateralised loan obligations (CLOs) results from institutional investor demand for higher returns to meet portfolio return requirements in the face of low interest rates.
- As interest rates rise (in the US, the Fed raised its benchmark rate four times in 2018 and nine times since 2015, with Scope expecting no more than two further increases in 2019), interest costs for many of these loans will increase, as rates for these can reset quickly, raising the risk of defaults as well on these instruments.
- The volume of lower quality corporate debt rose from USD 1.6trn in 2010 to USD 3.0trn in 2018 in the US.
- Effective yields for AAA-rated bonds moved from 2.263% in Jan 2015 to 3.603% in December 2018, BBB-rated bonds from 3.645% to 4.734% over the same time period, reflecting the impact of Fed interest rate increases[12].
- Scope also notes that there has been a shift within investment grade ratings in the US, with 'A' and 'BBB' ratings have roughly equal shares in 2011 at ca. 25%, moving however to a split of 20% and 35%, respectively, at the end of 2018. This reflects the increase of more than 80% of large corporate loans issued by companies with leverage above 4x and more than 70% with leverage of 5x or more, in part fueled by the ability to secure funding at very attractive conditions (including 'covenant light' loans, moving from less than 10% in 2010 to more than 80% in 2018)[13].
- The strong surge in highly leveraged loans with weaker covenants potentially sets the stage for a multitude of fallen angels to appear when a recession occurs.
- Measured as a percentage of GDP, US non-financial corporate debt exceeded pre-GFC levels in 2017 with 73.2% of GDP, just above 2008 levels of 72.5% of GDP.

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[12] ICE BofA Merrill Lynch Corporate Bonds Effective Yield Rates.
[13] See Assessing Global Debt, Davos Edition 2019, Credit Suisse Research Institute, p. 67ff

China

- While official statistics show very low levels of NPLs[14], one estimate place these as high as 24% of total credit (ca. USD 8.5trn) in 2018, if not higher as much is held off balance sheets[15].
- The Chinese approach of addressing these problems is to maintain growth and employment.
- Corporate bond defaults in 2018 increased to 114 defaults, up from 23 in 2017 and 29 in 2016, an increase yoy of 396%[16].
- Even a massive overhaul of bloated state-owned enterprises may fail to resolve underlying debt issues. If the Chinese government steps in to shore up banks, the tab could reach as much as USD 3.8trn if China's experience parallels that of Korea with 37% of GDP in support in the wake of the 1997 crisis; if the experience parallels that of Indonesia, up to 57% of GDP could be more realistic[17].
- The rate of new non-financial corporate debt growth increased from under 2% from 1997-2007 to more than 6% for 2008-201818. According to the IMF, the expansion of Chinese non-financial corporate debt has been very strong, increasing from the low of 86.6% of GDP in 2007 to 157.4% of GDP in 2017.

Implications for credit quality and ratings

Number of zombies rising, indicating greater fragility during a down-turn

The number of zombies is rising: discounting cyclical variations, there has been a ratcheting-up in the number of zombies in recent years. Sectors with heavy dependence on external funding are more likely to have increased zombie shares. The real-world effects of zombies are significant: The BIS has correlated a 10-percentage point decline in nominal interest rates in advanced economies with a 17% rise in zombies, with a cumulative reduction of capex of 17% and employment declining by a cumulative 8%, with similar productivity growth decline[19]. A major challenge during any future downturn is the now limited ability of central banks to provide strong support to alleviate downturns and aid recovery. Recent research points to volatility in debt growth as being more critical for financial crises than absolute levels; the deterioration of credit conditions during an upswing creates effectively the basis for credit quality deterioration during a downswing, especially when these become part of leveraged instruments[20].

How Scope anticipates what will happen to zombies

Key to identifying zombie firms is not only weak past performance, but more importantly expected future profitability. Scope's corporate rating approach underscores this aspect by identifying companies that face future financial difficulty. Scope continues to monitor for rising risks in the corporate sector that could lead to downgrades in the event of unexpected adverse developments.

[14] For a discussion on the challenge of estimating Chinese NPLs, see https://ftalphaville.ft.com/2015/10/28/2143147/guest-post-sizing-up-npl-risk-in-china/
[15] https://www.bloomberg.com/news/articles/2019-01-17/forget-the-trade-war-china-is-already-in-crisis
[16] ibid.
[17] ibid.
[18] See Assessing Global Debt, Davos Edition 2019, Credit Suisse Research Institute, p. 57ff
[19] See Banerjee, Ryan and Hofmann, Boris, The rise of zombie firms: causes and consequences, BIS Quarterly Review, September 2018, retrievable under https://www.bis.org/publ/qtrpdf/r_qt1809g.pdf
[20] For a broader discussion, see the speech on Debt Dynamics,by Ben Boadbent, LSE 23 Jan 2019: https://www.bis.org/review/r190123a.pdf

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