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The outlook for business bankruptcies

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The outlook for business bankruptcies

Key takeaways

- *Economic growth and forward-looking indicators of default risk inferred from equity markets, two variables that together predict business bankruptcies in advanced economies, show bankruptcies rising significantly by the end of 2021.*
- *Projections of real GDP growth embedded in the consensus forecast account for the bulk of this projected increase. Unlike in previous downturns, the stock market-based default indicators contribute very little.*
- *As these findings underscore, the pandemic and unprecedented government support for the business sector have driven a sizeable wedge between financial market perceptions of default risk and projections for economic activity.*

No other shock in modern times has hit the business sector on a global scale as badly as the Covid-19 pandemic. In most countries, the lockdowns led to historic contractions in real GDP in the second quarter of 2020. Although the global economy appears to have troughed, the outlook is highly uncertain and many businesses are on the brink of becoming insolvent. On the heels of the unprecedented contraction in economic activity, bankruptcies through the first half of 2020 in many economies stayed relatively low. Moreover, financial markets are pricing significantly fewer corporate defaults and insolvencies than the projected path of real economic activity would suggest.

In this Bulletin, we dig into the apparent disconnect between financial markets and the real economy. Historically, real GDP growth and expected default frequencies (EDFs) – forward-looking indicators of default risk derived from equity prices – both contain economically and statistically significant information for business bankruptcies in advanced economies (AEs). By these two measures, business bankruptcies across AEs are projected to increase by 19–55% in 2020, and then fall back in 2021 as expected real GDP growth rebounds. All told, the number of business bankruptcies across our sample of AEs is projected to rise by an average of about 20% by 2021.

Notably, unlike in past downturns, nearly all of the projected changes in business bankruptcies over the 2020–21 period are due to the projected evolution of real GDP growth. Stock market-based default indicators, by contrast, contribute very little on average. These results highlight the glaring disconnect that has emerged between the near-term expectations for the real economy and market-based indicators of corporate default risk in the wake of the Covid-19 shock. Nevertheless, the projected wave of bankruptcies calls for a policy mix that supports economically viable firms but at the same time quickly and efficiently reallocates resources to firms and sectors with better prospects to drive growth in the post-pandemic world.

Diverging signals on the bankruptcy outlook

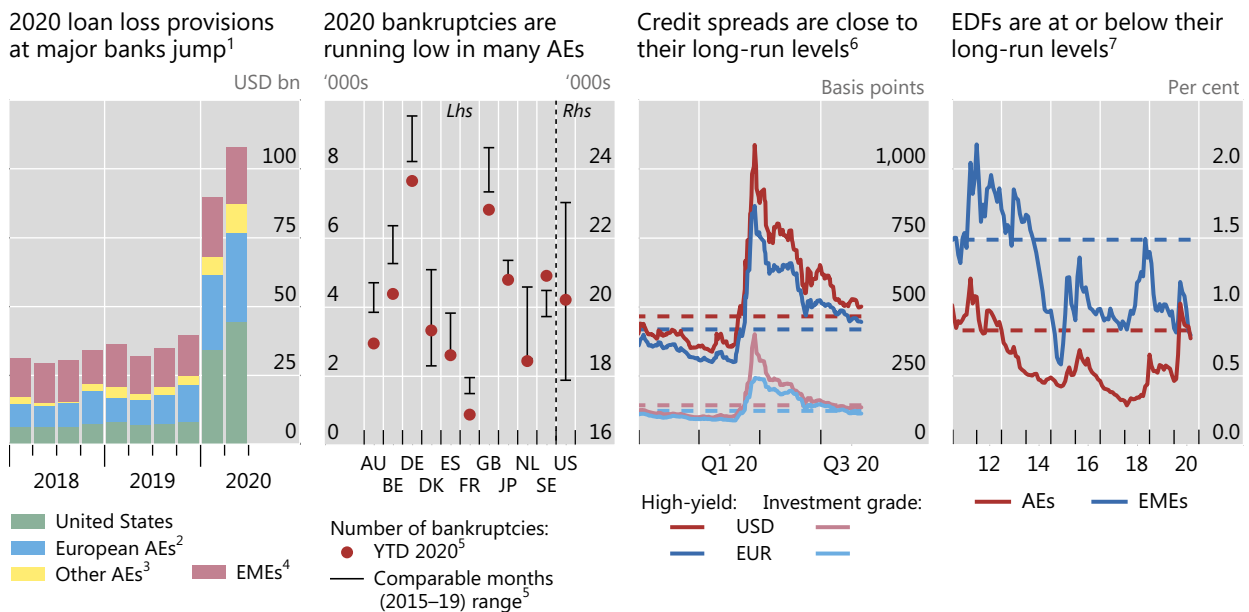
Despite the grim economic news, the outlook for business bankruptcies is highly uncertain. A sharp contraction in global economic growth in 2020 would normally go hand in hand with a significant rise in

business insolvencies. Indeed, banks significantly stepped up loss provisions during the first half of the year in response to a deterioration in the credit quality of their loan portfolios (Graph 1, first panel).

So far, however, far fewer business bankruptcies have been registered for the first half of 2020 than in any of the previous five years in many economies (Graph 1, second panel). Admittedly, stringent lockdowns may have interrupted bankruptcy proceedings, artificially suppressing figures. For example, business bankruptcies in Sweden, which implemented less stringent lockdown measures, are high relative to recent years.

Business bankruptcies and perceived default risk appear inconsistent with bank provisioning

Graph 1



¹ Sum of quarterly loan loss provisions or reclassified impairment of loans when provision data not available for a sample of banks. Series subject to breaks starting in 2018. Data for Q2 2020 not available for several banks; Q1 2020 data used instead. ² AT, BE, CH, DE, DK, ES, FI, FR, GB, IT, NL, NO and SE. ³ CA and JP. ⁴ BR, CN, HU, ID, IN, MX, RU, SG and TR. ⁵ Year to date (YTD): latest data available, July 2020. For AU, ES and GB, June 2020. For DE and FR, May 2020. For ES and GB, quarterly data. The comparable month range is calculated for the period 2015–19 on the same months as the YTD figures. ⁶ Option-adjusted spreads. Horizontal lines indicate median from 2005 to latest available data. ⁷ Median one-year EDFs in a given month calculated from firm-level data; dashed line = January 1999 to August 2020 medians of plotted lines. The sample includes non-financial firms as defined by Moody's CreditEdge for 14 AEs and 10 EMEs.

Sources: ABI, "Quarterly U.S. business filings"; Datastream; Epiq, aacer; ICE BofAML indices; Moody's CreditEdge; SNL; authors' calculations.

Moreover, despite the unprecedented contraction in economic activity, financial asset prices suggest that investors expect corporate defaults and insolvencies to remain low. After spiking in March amid a global flight to safety, corporate bond spreads have fallen back towards their longer-run levels (Graph 1, third panel). Stock market-based EDFs are also subdued. In AEs, median EDFs increased sharply in the early stages of the pandemic but have receded to their historical norms, while in emerging market economies the same measure is well below its longer-run level (fourth panel).

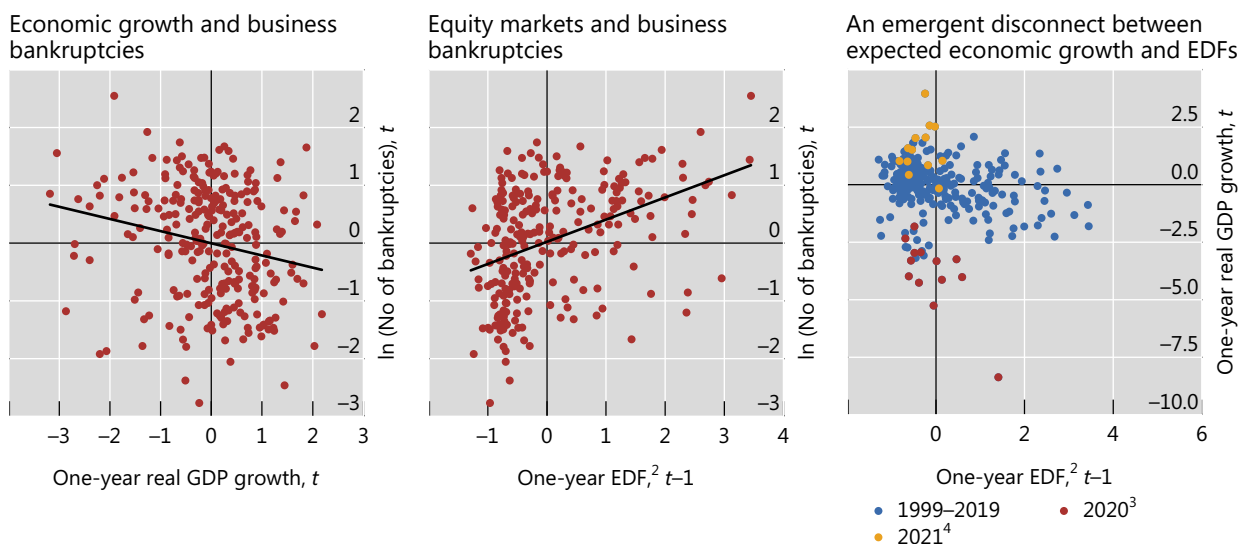
Predicting business bankruptcies

Historically, economic activity together with forward-looking default indicators from equity markets helps predict business bankruptcies. During a downturn, the relationship between bankruptcies and economic activity is clear-cut. As firms' revenues decline, they can lower some costs but must still service existing debts from a smaller pool of resources. This can trigger defaults, insolvencies and potentially bankruptcies,

once final attempts to clear debts fail. Indeed, business bankruptcies are higher in years when real GDP growth is low (Graph 2, left-hand panel).

Historically, economic activity together with forward-looking default indicators from equity markets predicts business bankruptcies¹

Graph 2



¹ The panel comprises annual data from 1999 to 2019 from AU, BE, CH, DE, DK, ES, FR, GB, IT, JP, NL, SE, US. All variables have been standardised at the country level. ² Median one-year EDF calculated from firm-level data. ³ April 2020 Consensus Economics forecasts of real GDP growth for 2020, and median one-year EDFs as of 9 April 2020. ⁴ September 2020 Consensus Economics forecasts of real GDP growth for 2021, and median one-year EDFs as of 22 September 2020.

Sources: ABI, "Quarterly U.S. business filings"; Cerved, *Fallimenti, procedure e chiusure di imprese*, March 2020; Consensus Economics; Datastream; Moody's CreditEdge; national data; authors' calculations.

Financial markets also send timely signals about corporate credit quality. Given the forward-looking nature of those markets, information about potential defaults is impounded in current asset prices. This is especially true for assets whose payoffs are particularly sensitive to defaults, such as corporate equities, which typically lose all value when a company defaults on its debts.

One widely used market-based measure of such risk is EDFs, calculated by Moody's, and based on the seminal work of Merton (1974). According to this option-theoretic approach to credit risk, the probability that a company will default on its debt obligations at any future time is determined by three major factors: the market value of the firm's assets; asset volatility; and the book value of the firm's total debt, the so-called default point (Graph 3).

These factors are combined into a measure of default risk called *distance to default*, which under the assumptions of the model can be translated into a probability of default, ie the EDF. The EDF at a specified horizon thus measures the probability that the market value of the firm's assets will fall below the book value of its total debt.¹ For example, EDFs will be higher for firms with low asset valuations, high asset volatility and higher debt.

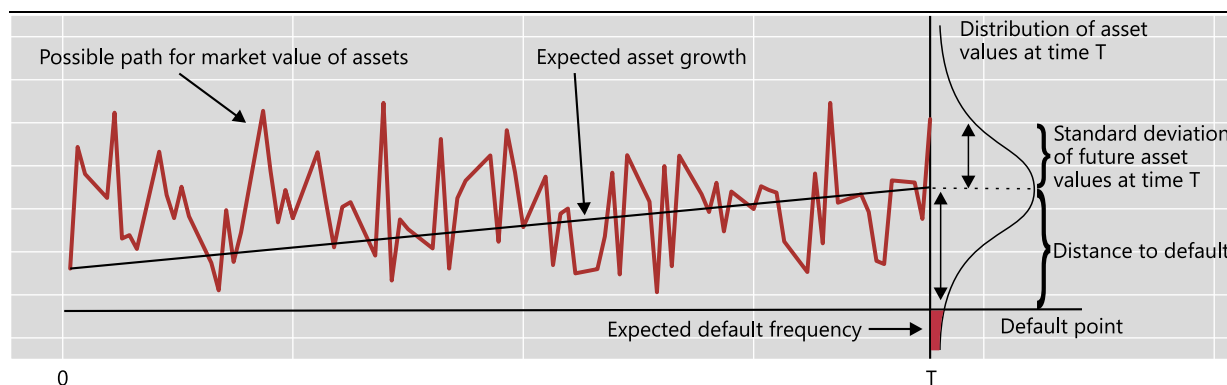
To calculate EDFs, one must estimate the market value of the firm's assets and the volatility of assets since these variables are not directly observable. Assuming that the firm's assets are traded, the market value of the company's equity can be viewed as a call option on its assets, with the strike price equal to the current book value of the company's total debt. Using this insight, Moody's backs out the market value

¹ Empirically, however, Moody's has found that most defaults occur when the market value of the firm's assets drops to the value equal to the sum of the firm's current liabilities and one half of long-term liabilities and the default point is calibrated accordingly.

and the volatility of assets from a proprietary variant of the Black-Scholes-Merton option-pricing model, employing the observed book value of liabilities and the market value of equity as inputs. When assessing corporate credit risk, however, Moody's does not use the model-implied EDFs. Rather, Moody's transforms the model-implied distance to default into an EDF over a specified horizon using an empirical distribution of actual corporate defaults.

Corporate default risk through the lens of the Merton model

Graph 3



Source: Crosbie and Bohn (2003).

Historically, these one-year EDFs do forecast business bankruptcies in the year that follows (Graph 2, centre panel). A significant wedge, however, has recently opened up between EDFs and the consensus outlook for economic activity. In particular, one-year EDFs in the early stages of the pandemic parted markedly from projected real GDP growth and were much lower than the historical relationship would predict (right-hand panel, red dots). According to the latest available data, the configuration of one-year EDFs and projections of real GDP growth for 2021 (yellow dots) has similarly parted ways, though to a less pronounced degree.

Business bankruptcies following the Covid-19 shock

To understand the effect of the Covid-19 shock on business bankruptcies in our sample of AEs, we estimate the historical relationship between bankruptcies, economic activity and EDFs over the 1999–2019 period (Technical Annex).² We use these estimates, together with the September 2020 vintage of the Consensus Economics (CE) real GDP annual growth forecasts for 2020 and the one-year EDFs as of the end of March 2020, to predict the number of firms that will declare bankruptcy in 2020 in each country.³ To forecast the number of bankruptcies in 2021, we use the September 2020 CE forecasts of real GDP growth for 2021 and median one-year EDFs as of the same month, jumping off from the number of predicted bankruptcies in 2020.

By this analysis, the Covid-19 shock greatly pushes up projected business bankruptcies in 2020 across our sample of AEs: the increases range from 19% to nearly 55%, with an average increase of 33% (Graph 4, black dots). Projected business bankruptcies then fall back as the rebound in economic growth pencilled in for 2021 takes hold (orange dots). On balance, the cumulative predicted increases in bankruptcies for the 2020–21 period (numbers in parentheses) range from almost 5% (Denmark) to more than 30% (Australia). All told, the number of business bankruptcies across our AE sample is projected to rise by an

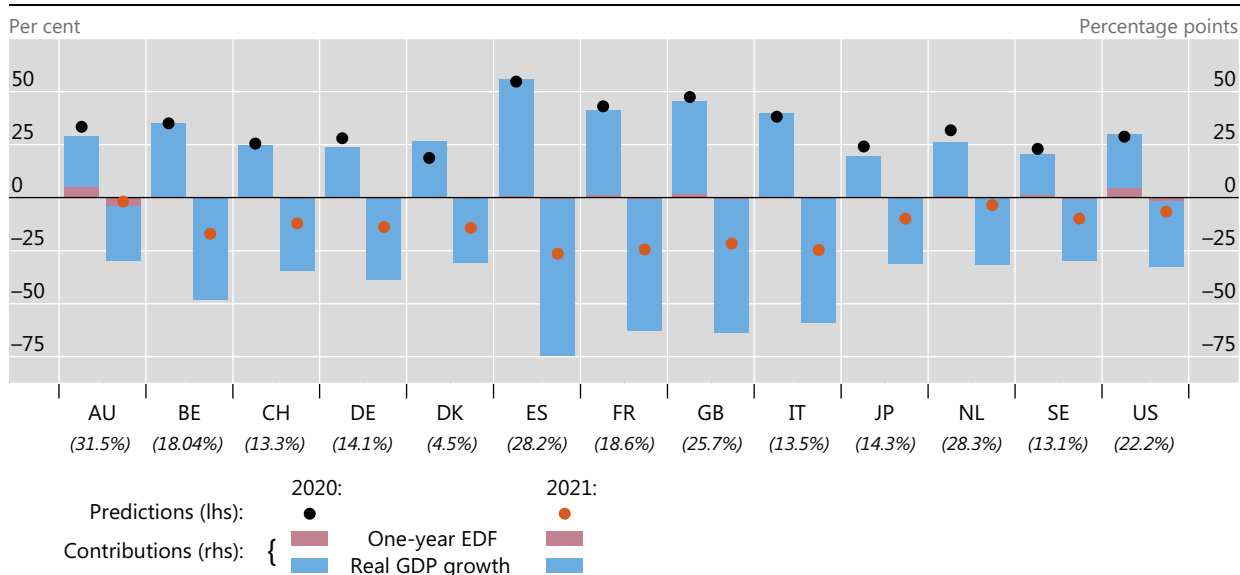
² Our key finding is that the contemporaneous real GDP growth and lagged one-year EDFs are both important – in economic and statistical terms – as well as complementary predictors of business bankruptcies in our sample of AEs over the past two decades.

³ We use median one-year EDFs as of end-March 2020 because this is when EDFs in AEs peaked during the pandemic (Graph 1, fourth panel).

average of about 20% by 2021, roughly 45% of the average increase in business bankruptcies observed between 2007 and 2009. It is also important to keep in mind that a handful of defaults by large, highly levered firms could translate into very large financial losses for their debt holders, a pattern that already appears to be playing out in the United Kingdom and United States in the current credit cycle.

Projected changes in business bankruptcies

Graph 4



The dots represent the projected (one-year) percentage changes in the number of business bankruptcies implied by regression specification (3) in the Technical Annex. For 2020, the projections – the black dots – are based on the September 2020 Consensus Economics forecasts of real GDP growth for the current year and the median one-year EDFs as of 31 March 2020. For 2021 – the orange dots – the projections are based on the September 2020 Consensus Economics forecasts of real GDP growth for 2021 and median one-year EDFs as of 22 September 2020. At each forecast horizon, the bars show the percentage point contributions of the specified variable to the projected percentage change in business bankruptcies. The numbers in parentheses indicate the cumulative predicted changes over the 2020–21 period.

Sources: ABI, "Quarterly U.S. business filings"; Cerved, *Fallimenti, procedure e chiusura di imprese*, March 2020; Consensus Economics; Datastream; Moody's CreditEdge; national data; authors' calculations.

Unlike in previous downturns, these forecasts are almost entirely driven by the expected path of economic activity. Decomposing the projected changes in bankruptcies into the contributions from the forecasted changes in real GDP and that from the one-year EDFs shows that the former account for nearly all of the changes in business bankruptcies in 2020 and 2021 (blue bars). The contributions from the EDFs, by contrast, are negligible in most AEs, reflecting in large part buoyant equity markets (red bars).

Drivers of the divergent default outlook and policy implications

The highly unusual nature of the Covid-19 shock and unprecedented policy support for the business sector are likely to be the key factors prising a wedge between equity market-based measures of default risk and the projected path for economic activity. These policy measures include highly accommodative monetary policy, direct lending by governments and public guarantees on loans to firms provided by the private sector. In addition, some governments have announced fiscal measures to bolster firms' cash flows through temporary unemployment schemes and grants for businesses to pay wages or tax relief. Last but not least, some jurisdictions have introduced moratoriums on certain credit obligations or modified their bankruptcy laws on a temporary basis to reduce the anticipated surge in business insolvencies.

Buoyant investor sentiment could also reflect investors' expectations that the Covid-19 shock will be short-lived and the business sector will weather the storm largely unscathed, thanks to prompt and forceful monetary and fiscal policy responses to the pandemic. That said, the EDFs differ notably across sectors,

indicating elevated default risk in certain segments of the economy (Banerjee et al (2020)). Less benign, investors may believe that they will be able to sell the outstanding corporate bonds to the official sector before their issuers start to experience solvency problems. But such “pass the chicken” considerations should not apply to EDFs, which are derived from perpetual equity securities.

The resulting uncertainty surrounding the outlook for business credit quality raises a difficult trade-off for policymakers. On the one hand, there is a risk that the extensive policy support put in place to help cushion the adjustment for businesses will linger too long. Prolonging credit market support programmes, which were intended to terminate in the short term once lockdowns eased and economic recovery was under way, can result in substantial long-term costs. These include evergreening of credit to zombie firms, which could dampen productivity growth and delay the subsequent recovery (Banerjee and Hofmann (2020)). Delaying the required corporate restructuring could also raise eventual losses for creditors and investors, and higher indebtedness could undermine the sustainability of the recovery and intensify financial stability concerns.

On the other hand, an overly aggressive removal of these support programmes could short-circuit the recovery if firms are unable to secure sufficient external financing to plug short-term liquidity gaps. If the Covid-19 shock is in fact fairly short-lived, withdrawing policy support before the recovery is firmly entrenched runs the risk that liquidity-constrained – but economically viable – firms will face a sudden stop in funding. In turn, this could lead to a surge in defaults, stretching the financial sector’s loss-absorbing capacity and reducing banks’ willingness and capacity to take on risk. This adverse dynamic may already be in play. According to the Federal Reserve’s July Senior Loan Officer Opinion Survey, a significant proportion of US banks have tightened credit standards and terms on business loans in the second quarter. The ECB’s Q2 bank lending survey indicates that banks expect to tighten credit standards for firms in the third quarter, reportedly in response to the anticipated end of state guarantee schemes for business loans in some large euro area countries.

Faced with the maturing of a significant amount of concessional lending, central banks could mitigate such “cliff effects” by spacing out maturities and setting prices in a way that programmes self-liquidate as market funding conditions improve. As we saw during the 2007 subprime crisis, a sudden surge in defaults can trigger a sharp tightening of broad financial conditions, which depresses economic activity and lowers asset values, thereby triggering further defaults. Notwithstanding the uncertainty that surrounds all projections of business bankruptcies in current circumstances, preventing the emergence of an adverse feedback loop between insolvencies, financial conditions and the real economy should be of first-order importance to policymakers in light of the lessons learned during the Great Financial Crisis of 2007–09.

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