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ENHANCING INSOLVENCY FRAMEWORKS TO SUPPORT ECONOMIC RENEWAL

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ABSTRACT/RÉSUMÉ

Enhancing insolvency frameworks to support economic renewal

This paper updates of the OECD Insolvency framework indicator, which summarises the main features of insolvency systems, with respect to their ability to prevent the failure of viable firms, allow a timely exit of non-viable companies, facilitate corporate restructuring and promote entrepreneurship by offering a second chance to honest failed entrepreneurs. The indicator covers 45 countries, including all OECD and European Union members. Since the indicator's previous vintage (2016), most countries have enhanced their insolvency frameworks, notably early warning systems and pre-insolvency procedures. There is still room for improvement, particularly on simplified frameworks for small businesses, which are still often lacking. However, many countries report future insolvency reform plans. The paper also highlights the importance of efficient insolvency procedures as pressure on businesses arises from the gradual withdrawal of COVID-related policy support, the rise in energy costs and interest rates, along with the restructuring needs induced by the green and digital transitions.

JEL classification codes: D24; K35; O40; O43; O47.

Keywords: personal and corporate insolvency, zombie firms, capital misallocation, productivity, firm exit

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Améliorer les procédures d'insolvabilité pour soutenir le renouveau économique

Ce document met à jour l'indicateur de l'OCDE sur les procédures d'insolvabilité, qui résume les principales caractéristiques des systèmes d'insolvabilité, en ce qui concerne leur capacité à prévenir la faillite d'entreprises viables, à permettre une sortie rapide des entreprises non viables, à faciliter la restructuration des entreprises et à promouvoir l'esprit d'entreprise en offrant une seconde chance aux entrepreneurs honnêtes ayant échoué. L'indicateur couvre 45 pays, y compris tous les membres de l'OCDE et de l'Union européenne. Depuis la précédente version de l'indicateur (2016), la plupart des pays ont amélioré leurs procédures d'insolvabilité, notamment les systèmes d'alerte précoce et les procédures de pré-insolvabilité. Des marges d'amélioration persistent, notamment concernant les procédures simplifiées pour les petites entreprises, qui font encore souvent défaut. Cependant, de nombreux pays font état de futurs plans de réforme. Le document souligne également l'importance de procédures d'insolvabilité efficaces, alors que la pression sur les entreprises s'accentue du fait du retrait progressif des politiques de soutien liées au COVID, de la hausse des coûts de l'énergie et des taux d'intérêt, ainsi que des besoins de restructuration induits par les transitions verte et numérique.

Classification JEL: D24 ; K35 ; O40 ; O43 ; O47.

Mots-clés: insolvabilité personnelle et des entreprises, entreprises zombies, mauvaise affectation du capital, productivité, sortie d'entreprise

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Enhancing insolvency frameworks to support economic renewal

By Christophe André and Lilas Demmou[1]

1. Introduction

1. The importance of sound insolvency frameworks for business dynamism, economic renewal and productivity is increasingly recognised in policy circles (Bricongne et al., 2016; Djankov and Koch-Saldarriaga, 2020; Demmou et al., 2021). Systems that neither inhibit corporate restructuring of viable firms encountering temporary financial distress nor excessively penalise business failure, can facilitate the reallocation of resources towards more productive uses and entrepreneurial risk-taking (Andrews et al., 2017, Adalet McGowan et al., 2017 a,b, 2018; Banerjee and Hofmann, 2018).

2. Insolvency reforms can boost productivity through a variety of channels: i) reducing the share of capital sunk in zombie firms[2] spurs the reallocation of capital to more productive firms; ii) timely restructuring can raise the likelihood that zombie firms subsequently return to better financial health and that the weakest non-zombie firms avoid turning into zombies. This can lift aggregate productivity, entailing lower social costs than if adjustments only occur via the exit of weak firms; and iii) insolvency regimes can facilitate technological diffusion by promoting experimentation and providing laggard firms with the scope to implement the necessary business changes to move closer to the technological frontier (Andrews et al., 2017).

3. The successive and partly interrelated shocks that recently hit the global economy (COVID - 19 pandemic, disruptions of global value chains, economic consequences of the war in Ukraine, oil and commodity prices, global inflation), as well as the green and digital transitions, further increase the need

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[2] Zombie firms are low productivity firms that would typically exit in a competitive market. Different definitions can be found in the literature. For example, Adalet McGowan et al. (2018) define zombie firms as companies aged at least ten years and with an interest coverage ratio below one over three consecutive years. Banerjee and Hofmann (2018) use the same definition, but also a narrower one, which further imposes a ratio of asset market value to replacement cost (Tobin's q) below the median within the firm's sector in any given year. Epaulard and Zapha (2022) define zombies as firms whose financial obligations were greater than their operational income in the year preceding an insolvency or pre-insolvency filing.

for effective tools to enable speedy business reorganisation and foster economic renewal. The heterogeneous impact of shocks across and within industries has increased reallocation needs; for some sectors, COVID-19 was essentially a temporary shock, while others are vulnerable to behavioural changes induced or accelerated by the pandemic (for example retail trade facing greater competition from online shopping or office-letting hit by a permanent increase in teleworking) and subsequent shocks. Corporate debt has increased during the pandemic, from an already high level and inefficient restructuring could raise insolvency risks and prevent over-indebted companies from operating normally (i.e. investing and hiring), especially if the recovery proves weak.

4. In 2016, the OECD introduced its insolvency indicator to summarise the most relevant features of insolvency frameworks for resource reallocation and productivity growth (Adalet McGowan and Andrews, 2018). The indicator adds to the OECD Economics Department toolkit for monitoring structural reforms and assess developments in productivity. The fact that Greece, India, Italy, Latvia, Portugal and the Slovak Republic report reforming insolvency regimes as one of their top five structural policy priorities in the latest edition of OECD Going for Growth (OECD, 2021b) illustrates its policy relevance. Since 2016, many countries have implemented significant reforms, notably to introduce or enhance early warnings and pre-insolvency procedures to help businesses restructure in a timely manner. To take stock of these developments, experts from OECD and selected non-member countries answered a questionnaire, which translated into an update of the OECD Insolvency indicator to reflect the state of insolvency frameworks in 2022. In addition to the topics covered in 2016, the new questionnaire includes information on temporary amendments to insolvency rules adopted during the pandemic and on plans for future reforms. The country coverage has been expanded from 39 to 45 countries, including the EU non-OECD members.

5. This paper is organised as follows: Section 2 presents the 2022 OECD insolvency indicator and discusses the main developments since 2016. Section 3 outlines policy reform priorities going forward and provides examples of best practice; Section 4 describes recent developments in bankruptcies and examines how current and future economic challenges could reinforce the need for efficient insolvency frameworks.

2. The 2022 OECD insolvency indicator

2.1. The indicator’s key features

6. The OECD insolvency indicator is a composite indicator, originally constructed as part of an OECD project on exit policies and productivity growth. It builds on responses to a questionnaire filled in by country experts.[3] The first vintage provided a measure of the adequacy of insolvency frameworks in 2016, but also included values for 2010 for many countries (Adalet McGowan and Andrews, 2018). The 2016 indicator covered 39 countries, including all OECD current members, except Colombia and Iceland, as well as China, Malaysia and Russia. The 2022 indicator covers all OECD countries, plus Bulgaria, Croatia, Cyprus[4], India, Malta, Romania and South Africa.

[3] Annex A indicates how answers to the questionnaire are converted into numerical values. A more detailed description of the OECD Insolvency indicator can be found in Adalet McGowan and Andrews (2018).

[4] Note by Türkiye: The information in the documents with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the “Cyprus issue”. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in the documents relates to the area under the effective control of the Government of the Republic of Cyprus.

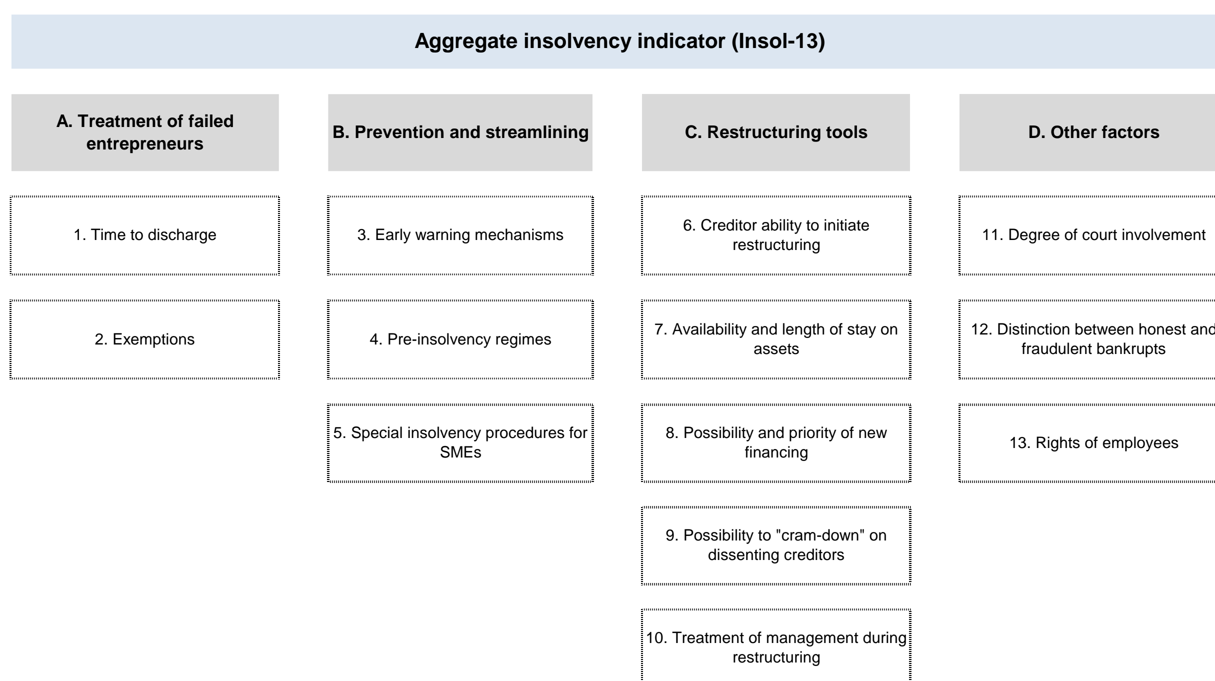
7. The indicator is based on thirteen key features, which – based on international best practice and existing research – may carry adverse consequences for productivity growth by delaying the initiation and increasing the length of insolvency proceedings (Andrews et al., 2017). These indicators are grouped into three key sub-components, plus a miscellaneous item (Figure 1).

8. First, the treatment of failed entrepreneurs will affect their ability to start new businesses in the future via the availability of a "fresh start" – i.e. the exemption of future earnings from obligations to repay past debt due to bankruptcy. A high time to discharge is likely to raise the costs and stigma of failure, which could adversely affect productivity growth by reducing firm entry and experimentation with risky business strategies, as well as the likelihood that non-viable firms exit the market in a timely way.

9. Second, the lack of design features that aid prevention and streamlining – i.e. enable the early detection and resolution of debt distress (e.g. preventative restructuring frameworks such as pre-insolvency regimes) – can push viable firms experiencing temporary financial distress into formal insolvency proceedings. Pre-insolvency procedures are particularly relevant in the wake of the COVID-19 crisis, where distinguishing viable from non-viable firms is even more challenging than usual. Delays and higher costs associated with formal proceedings can erode the final value of the firm, prevent the quick reallocation of assets and resources of distressed firms to more productive uses and limit the opportunity of entrepreneurs to start a new business, lowering business dynamism and productivity.

10. Third, design features of insolvency regimes that inhibit corporate restructuring can hamper productivity growth through a variety of channels. For example, when only debtors can initiate restructuring and minority shareholders can block a restructuring plan (i.e. cram-down is absent), it is less likely that weak firms that encounter temporary distress are successfully restructured in a timely manner, leading to more resources being trapped in low productivity firms. These frictions will be exacerbated when there is no priority given to new financing over unsecured creditors in the event of restructuring, since capital injections are typically required to facilitate internal reorganisation.

Figure 1. The structure of the OECD insolvency indicator



Note: A stay on assets is a measure that prevents actions by creditors, with certain exceptions, to collect debts from a debtor who has declared insolvency, with the intention to keep the operations of the firm going. "Cram-down" refers to the overriding of the votes of a minority of creditors who vote against the restructuring plan.
Source: Adalet-McGowan et al. (2017b).

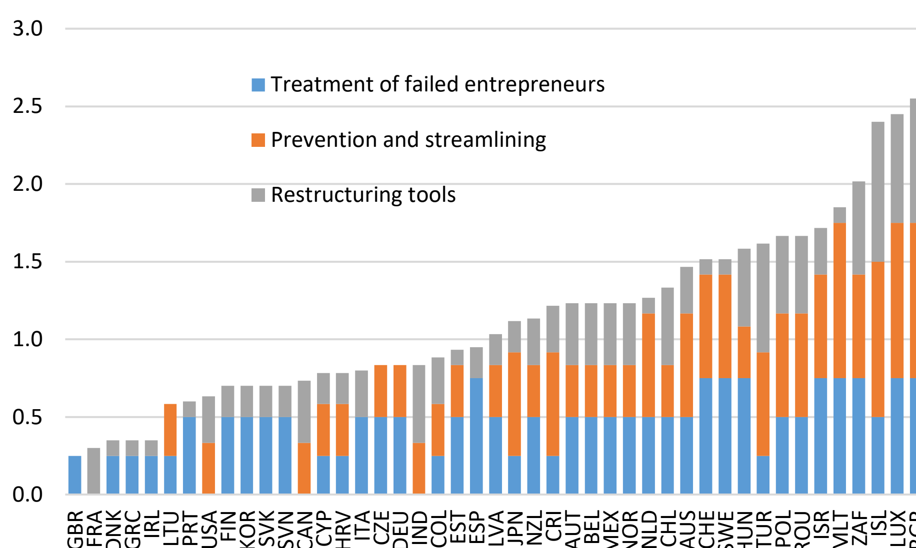
2.2. Results from the 2022 survey

2.2.1. Aggregate insolvency indicator

11. The three main components all contribute significantly to cross-country differences in the OECD insolvency indicator (Figure 2), with a lower value corresponding to more favourable frameworks. Most countries can improve the treatment of failed entrepreneurs to give them a second chance. Countries with the best insolvency frameworks overall also tend to have effective prevention and streamlining procedures. There is generally room to enhance restructuring tools, but with wide differences across countries.

Figure 2. Insolvency frameworks vary widely across countries

OECD insolvency indicator main sub-components, 2022



Note: The scores for the three main sub-categories are scaled from zero to one, with lower scores indicating more favourable frameworks.

Source: OECD 2022 questionnaire on insolvency frameworks.

Note by Türkiye

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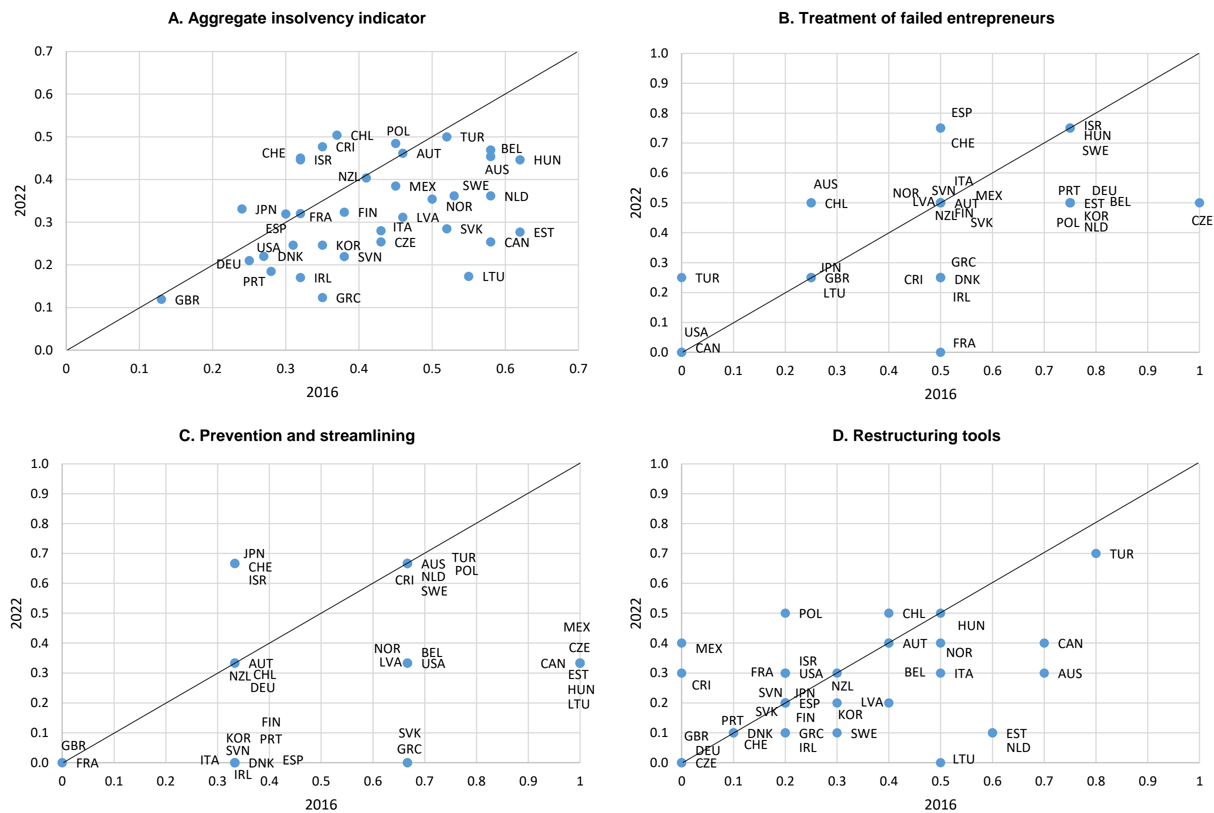
12. Insolvency frameworks have improved between 2016 and 2022 in most of the countries covered by the Survey in both years (Figure 3).[5] Progress has been particularly strong in most Central and Eastern

[5] The 2022 and the 2016 OECD indicators are based on the same questions, which in principle makes them comparable. Nevertheless, it is necessary to bear in mind that the answers to some questions depend on expert judgements and not purely on legal and regulatory changes, despite efforts to limit borderline cases in the questionnaire. For example, deciding whether a set of tools helping to assess the situation of debtors qualifies as an early warning system is likely to imply some judgement in most cases.

Europe countries and Greece, but also in Canada and some Northern Europe countries. A few countries score less well in 2022 than in 2016, but the changes are relatively small. The maximum deterioration in the aggregate indicator is 0.13, which given a weight of 1/13 on each sub-component of the indicator, requires that less than two sub-components move from 0 to 1. Furthermore, changes leading to a deterioration in insolvency scores are often related to a change in interpretation rather than in an amendment to the legislation.

Figure 3. Many countries have moved closer to best practice since 2016

OECD insolvency indicator main sub-components



Note: All indicators are scaled from zero to one, with lower scores indicating more favourable frameworks. The aggregate insolvency indicator includes 13 components. For Denmark and Korea, the 2016 indicator is based on 12 components.

Source: OECD 2022 and 2016 questionnaire on insolvency frameworks.

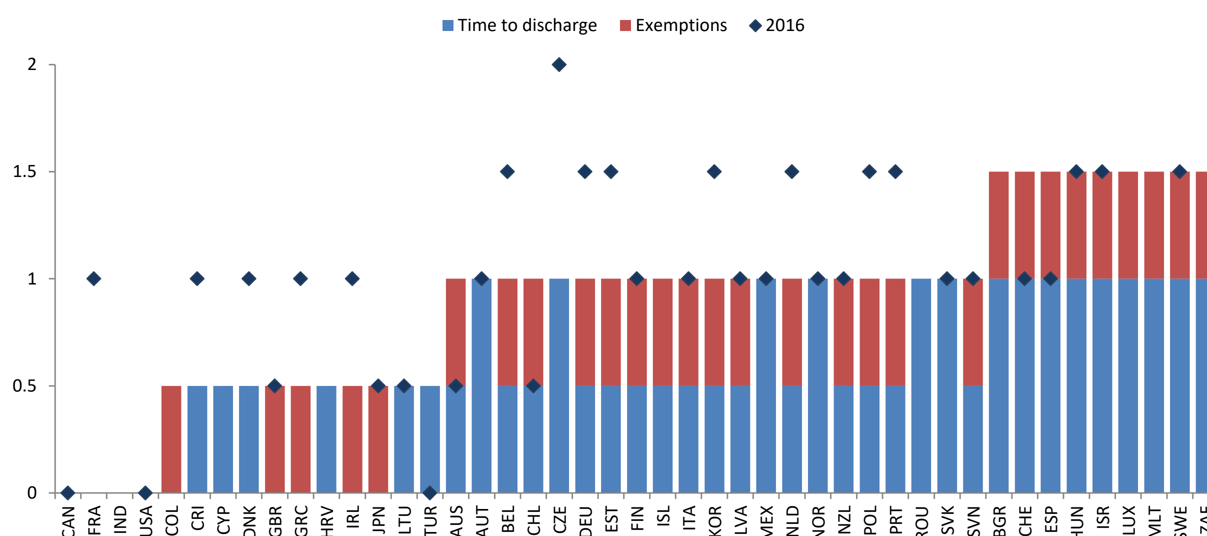
2.2.2. Personal costs to failed entrepreneurs

13. The personal costs to failed entrepreneurs have fallen in ten countries since 2016 (Figure 4). No country reports exemptions that are less generous than modest personal items and working equipment in 2022.[6] In the majority of countries, exemptions are restricted to only modest personal items (e.g. assets or income required to cover the debtor's subsistence) and working equipment. However, 12 OECD and four non-member countries offer more generous exemptions (e.g. the debtor's primary residence is exempted).

[6] See Annex B for details on the 13 low-level indicators.

Even though seven OECD countries have reduced the time to discharge of debt, it remains over three years in 11 OECD and four non-member countries.

Figure 4. Personal costs to failed entrepreneurs



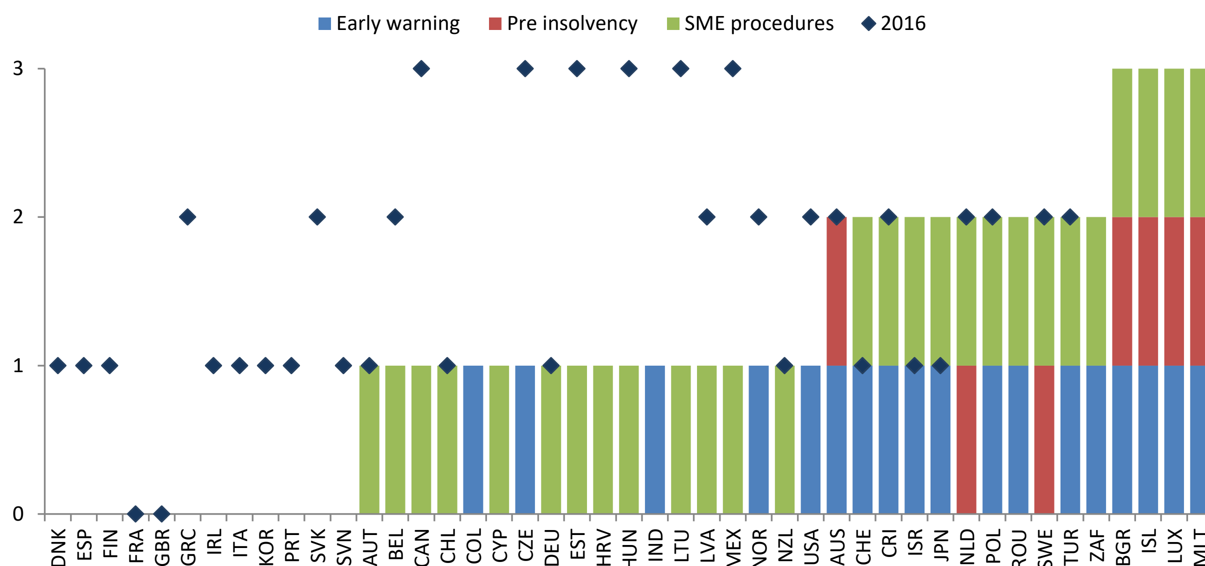
Note: The indicator ranges from 0 to 2, with lower scores indicating more favourable frameworks.

Source: OECD 2022 questionnaire on insolvency frameworks.

2.2.3. Prevention and streamlining

14. The policy debate has focussed on enhancing bankruptcy prevention and developing pre-insolvency and simplified insolvency procedures for MSMEs over recent years. Sixteen OECD countries have added early warning systems since 2016 and nine have added pre-insolvency regimes. Nevertheless, 13 OECD and five non-OECD countries still lack early warning systems (Figure 5). Meanwhile, pre-insolvency regimes now exist in all but five OECD countries and two non-member. Progress on simplified insolvency frameworks for MSMEs appears more limited so far. While six OECD countries have introduced such frameworks since 2016, those are still missing in 21 OECD countries and six non-members. However, many countries report plans for reform in this area (see Section 3).

Figure 5. Prevention and streamlining



Note: The indicator ranges from 0 to 3, with lower scores indicating more favourable frameworks.

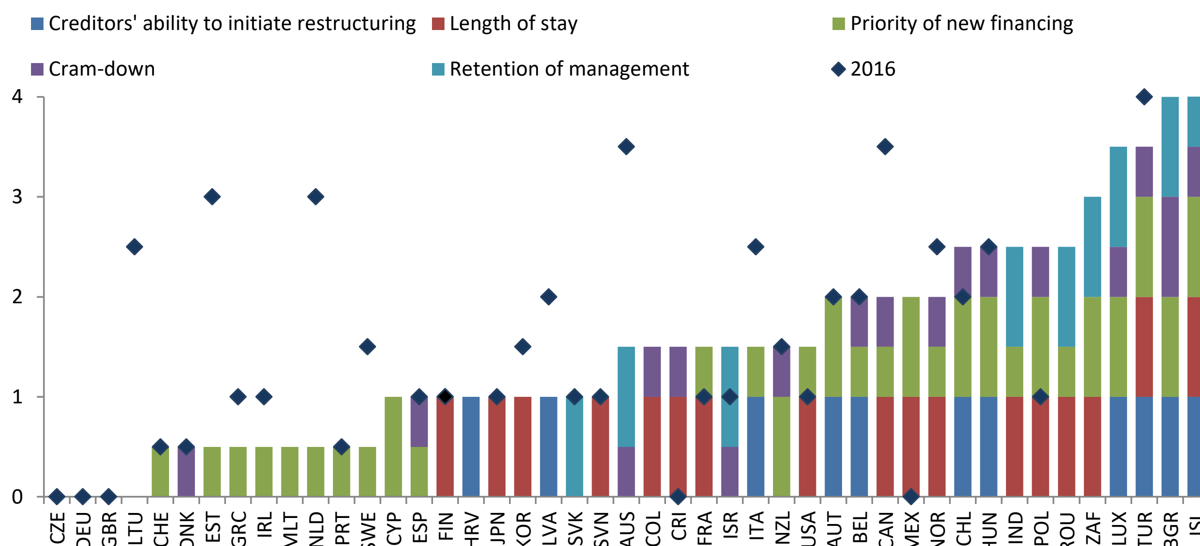
Source: OECD 2022 questionnaire on insolvency frameworks.

2.2.4. Barriers to restructuring

15. Obstacles to restructuring have been lowered in 13 OECD countries since 2016 (Figure 6). As in 2016, the vast majority of OECD countries generally allows the management to stay in control of the firm during restructuring, which is essential to incentivise early filing. However, this is seldom the case in non-member countries. All countries in the sample have a stay on assets. In 17 of them, its duration is indefinite, which may delay restructuring. Nevertheless, eight OECD countries have set a time limit on the stay on assets since 2016. Seven additional countries allow creditors to initiate restructuring, bringing the OECD total to 29. Cramming down on dissenting creditors is possible in all countries, except Bulgaria. In the majority of countries, a provision ensures that dissenting creditors receive as much under restructuring as in liquidation. However, such a provision protecting creditors is absent in 16 OECD countries. Changes in cram-down rules since 2016 have been limited. New financing has no priority over earlier creditors in nine OECD and three non-member countries. In about half of the remaining countries, new financing has priority over both secured and unsecured creditors, which could adversely affect the long-term availability of credit and legal certainty (Adalet McGowan and Andrews, 2018).

Figure 6. Barriers to restructuring

OECD insolvency indicator



Note: The indicator ranges from 0 to 4, with lower scores indicating more favourable frameworks.

Source: OECD 2022 questionnaire on insolvency frameworks.

2.2.5. Summing up

16. The update of the OECD Insolvency indicator suggests that countries are better prepared than a few years ago to address potential challenges. However, there is room for reforms, which are all the more important as the recovery appears to be losing momentum with heightened economic uncertainty. Against this background, countries should particularly focus their actions on five broad areas which seem critical to facilitate corporate restructuring and resources reallocation (Demmou et al., 2021):

- Simplified procedures for MSMEs. Specific procedures for MSMEs are still only available in less than half of OECD countries and one of the non-member countries covered in the survey. However, many countries report planned reforms in this area (see below).
- Efficient liquidation process and fresh start. While personal costs for failed entrepreneurs have been reduced in many countries since 2016, time to debt discharge remains long in many places.
- Incentives for investors to provide new financing to financially distressed firms. While the OECD sub-indicator shows that in the majority of countries new financing enjoys priority over earlier creditors, in many places, new financing has priority over both secured and unsecured creditors, which may adversely affect the long-term availability of credit.
- Specific out-of-court procedures.[7] Despite progress, our findings suggest scope to further explore the prospects for a wide range of workout methods, as outlined by the Financial Stability Board and the World Bank (World Bank, 2017; Financial Stability Board, 2022a).

[7] Corporate restructuring can take various forms, ranging from pure out-of-court workouts to restructuring in which the full process is subject to court supervision. Out-of-court workouts are generally the least costly and most flexible reorganisation tools. They can speed up the restructuring process, especially in times of crisis, when courts may lack the ability to process cases in a timely manner. However, as voluntary agreements between private entities, they require agreement among all parties involved. Standards introduced by an administrative authority, such as a central

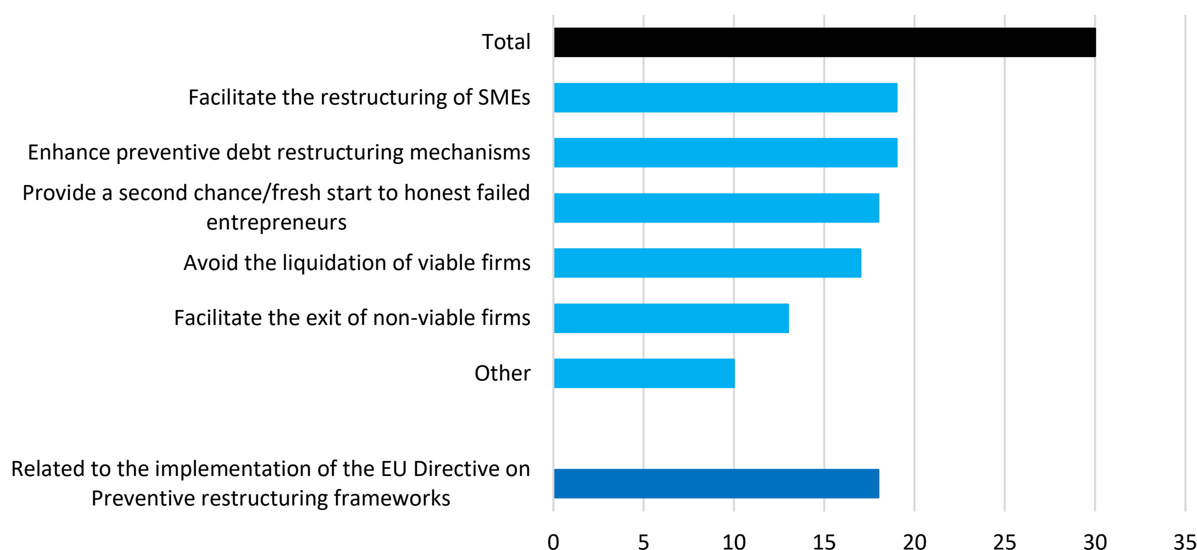
- Favouring pre-insolvency procedures. This is one of the areas where progress has been most spectacular since 2016 and pre-insolvency procedures are now available in most of the countries covered in the survey.

3. Many countries are planning further reforms

17. The answers to the OECD Insolvency questionnaire were collected during the second quarter of 2022. The indicator presented above reflects insolvency frameworks at that point in time. However, since insolvency legislation is moving fast, the questionnaire also asked if countries were planning further reforms and if so, in which particular areas. The answers provide some insights into future trends in insolvency reform. Thirty countries reported planned or in progress insolvency reforms, particularly to facilitate the restructuring of SMEs, enhance preventive debt restructuring and provide a second chance to honest failed entrepreneurs (Figure 7). This high number partly reflects the ongoing implementation of the EU Directive on Preventive Restructuring frameworks, to which 18 of the reform plans relate. Nevertheless, several non-EU countries also plan reforms and some EU countries plan reforms unrelated to the Directive. The rest of this section describes good practice examples in the two main areas identified as priorities for reforms: simplified restructuring procedures for SMEs and pre-insolvency frameworks.

Figure 7. Many countries report plans for further insolvency reforms

Number of countries reporting ongoing or planned reforms



Source: OECD 2022 questionnaire on insolvency frameworks.

bank, can buttress such agreements (enhanced workouts). However, court involvement may be necessary to guarantee that all parties abide by the agreement and to allow cramming down on dissenting creditors. Hybrid insolvency procedures involve courts, but to a limited extent, generally confirming or approving reorganisation plans and ensuring that they are binding for all creditors. More complicated cases require deeper court involvement.

3.1. Introducing simpler and less costly insolvency procedures for MSMEs

18. Facilitating the restructuring of MSMEs is the area with the largest number of countries reporting reform plans. This is consistent with the growing focus on the issue in policy circles, especially since the COVID-19 crisis, and the still relatively low prevalence of simplified insolvency procedures in the countries covered in the questionnaire. MSMEs constitute the vast majority of firms and a large share of employment in all OECD countries (OECD, 2022). Even though each enterprise is small, on aggregate a prosperous MSME sector is crucial for macroeconomic stability and inclusive growth. Furthermore, the share of zombie firms in assets, capital and debt may be much higher among SMEs than among large companies: in a sample of 14 advanced economies, around 6-7% of assets, capital and debt of all listed firms are sunk in zombie firms, but this proportion could reach about 40% for listed SMEs (Banerjee and Hofmann 2020). Hence, insolvency procedures are essential for an efficient reallocation of resources across the economy. In addition, start-ups and young firms play a key role in innovation and productivity growth. Timely bankruptcy procedures are key to establishing a dynamic start-up environment (Calvino et al., 2016).

19. Notwithstanding, insolvency frameworks are generally inadequate for MSMEs, as they are costly, complex and designed for corporations, whereas MSMEs are often sole traders (Uttamchandani et al., 2021; World Bank, 2021b; Financial Stability Board, 2022b).[8] Interesting reforms have recently been implemented in the United States, which facilitated the restructuring of MSMEs through the introduction of the Small Business Reorganisation Act in February 2020 (Box 1) and Colombia, which put in place a new insolvency framework for MSMEs as emergency legislation during the pandemic (Box 2).

20. MSMEs face in particular the following obstacles in insolvency proceedings:

- Business and personal finances are often intertwined. This requires strong coordination between corporate and personal insolvency procedures. The absence of debt discharge or a long time to discharge can hinder a fresh start for honest failed entrepreneurs. Liabilities on personal assets may prevent timely filing for insolvency and reduce prospects for restructuring.
- Poor record keeping and lack of financial sophistication are often a problem for restructuring MSMEs. This issue can be partly addressed by enhancing access to counselling, notably in the context of simplified restructuring procedures.
- Creditor passivity and low value of assets often hamper a quick restructuring of MSMEs. Hence, the possibility of cramming down on dissenting creditors, while safeguarding legitimate interests, is essential. For example, the US Small Business Reorganisation Act gives extensive cram-down powers to courts and limits time for creditors to object to plans proposed by the bankruptcy judge. Similarly, the EU directive on preventive restructuring frameworks facilitates the cram-down on dissenting creditors.
- High costs. Simplified insolvency procedures can reduce costs for MSMEs, which often have limited financial resources.

21. The main difficulty in insolvency processes is finding the right balance between implementing fast and low-cost procedures and protecting the rights of all stakeholders. Some solutions are relatively straightforward, like introducing standardised forms, electronic information packages, mediation or subsidised advice. Some are more controversial, like imposing short timelines and “scream or die” rules[9] for creditors. The following elements are likely to greatly contribute to the success of a simplified restructuring procedure for MSMEs:

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[8] Note that many MSMEs firms exit the market without going through a judicial liquidation procedure, notably when the amount of assets or the number of creditors is limited.

[9] Rules that imply that an action notified to creditors will be automatically adopted unless a dissenting party raises an objection within a defined period.

- Adopting a debtor-in-possession model, which allows the debtor to stay in control of the company, is crucial for incentivising timely filing for restructuring.
- Informal workouts can be facilitated by the introduction of a business recovery mediator in out-of-court or hybrid procedures, as in Portugal (Eurofound, 2021).
- Coordinated business and personal insolvency procedures can limit stigma. For example, the Superintendent of insolvency and re-entrepreneurship in Chile has among its missions to promote re-entrepreneurship by resolving insolvencies and over-indebtedness of people and companies.
- Digitalisation is increasingly used to facilitate filing, information exchange and asset sales.
- The cost of insolvency procedures for MSMEs can be lowered through government support, as in Singapore, or through subsidies for restructuring, as in Japan.
- A modular approach could be a way to introduce more flexibility in insolvency procedures. Simplified procedures could be complemented by additional modules, which would be triggered only if needed (e.g. mediation, insolvency practitioner involvement). Such an approach could help tailor insolvency procedures to fit the wide heterogeneity among MSMEs (Mokal et al., 2018).

Box 1. The US Small Business Reorganisation Act

The United States introduced a new restructuring procedure for small businesses in February 2020 to reduce complexity and costs and address the lack of attention from creditors in ordinary SME procedures. The Act introduces a new sub-chapter V to Chapter 11 of the Bankruptcy Code. The debtor generally remains in possession and control of the company, which encourages the use of the procedure. Eligibility is essentially determined by the level of debt. The original debt ceiling was set at about USD 2.7 million, but was temporarily raised to USD 7.5 million during the pandemic. The higher ceiling was extended for another two years in June 2022.

The new procedure is innovative in that it deviates from standard creditor-controlled procedures, in which the reorganisation plan has to be approved by a majority of participating creditors (Kilborn, 2022). A key feature of sub-chapter V is that it gives the court extensive power to cram down on dissenting creditors, which encourages creditors and debtors to try to reach voluntary agreements. Indeed, during the first seven months of the new procedure, 80% of restructuring plans were approved by all classes of creditors (White, 2021). The nomination of a trustee, who is an experienced business professional and acts as a neutral adviser, also helps build consensual restructuring plans.

The new procedure also aims at speeding up restructuring and lowering costs. The restructuring plan has to be presented within 90 days of the case initiation. Reduced information requirements, compared to ordinary Chapter 11 procedures, reduce the need for external expertise, which lowers costs.

Box 2. Colombia's simplified insolvency framework for small businesses

Colombia introduced new insolvency rules for MSMEs as part of temporary emergency legislation during the pandemic. The crisis hit MSMEs particularly severely, which called for simple, flexible, fast and low cost insolvency mechanisms. Companies with assets worth less than 5 000 monthly minimum wages (about USD 1.15 million in 2022) can, from June 2020 to end-2022, access simplified restructuring and liquidation procedures. These procedures have been widely used, accounting for more than half of all insolvency filings during their first year of existence. They are based on the United Nations Commission on International Trade Law (UNCITRAL) and World Bank principles, but also include a number of specific innovations. Even though the simplified procedures are temporary, some of their features could find their way into permanent legislation.

The simplified restructuring procedure (proceso de reorganización abreviado)

The new procedure gives a central role to mediation. A key step is the mediation meeting (reunión de conciliación de objeciones), which has to take place within three months of the inception of the insolvency process. Stakeholders present the unresolved objections to the claims and voting rights schedule. The judge participates in the meeting, but only as a mediator (Isaza Upegui, 2021). This process has proved very successful, with about 90% of the objections settled during this meeting. The reorganisation plan is then finalised and submitted to the court audience that decides on the pending objections, checks the conformity of the restructuring plan with the law, accepts it or initiates a simplified liquidation process. The legislation does not specify the timing of the audience, but its date has to be set at the beginning of the insolvency process, which may create challenges if the case proves more complex than anticipated (Rodríguez Espitia, 2021). In that case, the judge may reschedule the hearing.

The simplified restructuring procedure has reduced the average duration of the restructuring process to about 5½ months, from around 24 months under the ordinary reorganisation process (Superintendencia de Sociedades, 2021).

The simplified liquidation procedure (proceso de liquidación simplificado)

The new procedure aims at speeding up the liquidation of non-viable companies. Beside tighter time limits, new features facilitate the liquidation process. In particular, the net liquidation value is determined by the market value of the company's assets, net of the costs associated with their sale, while the ordinary liquidation procedure requires an expert appraisal. The simplified procedure also amends some rules that can delay the sale of assets in the ordinary liquidation procedure, for example regarding the determination of voting rights or the burden of proof for objections about valuations (for details, see Isaza Upegui, 2021 and Rodríguez Espitia, 2021).

The simplified liquidation procedure has reduced the average duration of liquidation to about 6 months, from around 22 months under the ordinary liquidation process (Superintendencia de Sociedades, 2021).

The use of artificial intelligence (AI) in insolvency processes

The Superintendence of Companies, which oversees insolvency processes, has recently integrated artificial intelligence to its Insolvency Module, which is accessible from its website and is used for insolvency filings. The system facilitates communication between the different parties. It also checks that submissions are complete by comparing the documents filed to public databases in real time (DLA Piper, 2022). AI increases efficiency, notably by helping the users to provide the requested information and by alleviating the work burden on the courts.

3.2. Strengthening early-warning mechanisms and pre-insolvency frameworks

22. Many countries plan reforms to enhance preventive debt restructuring mechanisms. In times of high uncertainty, where sorting out viable from non-viable firms is particularly challenging (Demmou et al., 2021), well-designed pre-insolvency mechanisms are essential. Restructuring success is largely dependent on early intervention. For example, all else equal, the French preventive restructuring procedure introduced in 2006 significantly increases the probability of firms' survival, compared to the restructuring procedure for insolvent companies (Box 3).[10] Two features of the insolvency framework are essential to promote early restructuring. First, management must be able to remain in control of the company (debtor-in-possession model). If filing for insolvency implies the automatic dismissal of the incumbent management, incentives for early filing are weak. Second, pre-insolvency procedures must be in place.

23. The EU Directive on Preventive restructuring frameworks, approved by the EU Council in June 2019 (Official Journal of the European Union, 2019), offers an important opportunity to address longstanding deficiencies in insolvency frameworks in many EU countries (Box 4). The current economic uncertainties make its implementation all the more urgent. As of 12 September 2022, 18 countries had provided an official implementation text (INSOL, 2022).[11]

Box 3. France's preventive restructuring procedure

France introduced in 2006 a procedure to help restructure otherwise solvent businesses experiencing serious financial trouble. This safeguard ("Sauvegarde") procedure complements the reorganisation procedure for insolvent businesses, called "Réglement judiciaire" (RJ). Both procedures contain roughly the same procedural steps, including a stay on assets, a twice-renewable six-month observation period to evaluate the financial condition of the company, and the negotiation of a restructuring plan between the insolvency administrator, the debtor and the creditors. These procedures are quite similar to Chapter 11 of the US Bankruptcy Code.

The main difference between the safeguard and RJ procedures is the financial state of the company. Firms facing financial difficulties that cannot be resolved without debt restructuring can file for safeguard. Insolvent companies have to file for RJ (or insolvency if they are not viable). The court can subsequently convert safeguard cases to RJ, especially if the firm's solvency is in doubt.

Epaulard and Zapha (2022) use heterogeneity in commercial courts' propensity to convert safeguard cases into RJ to identify the causal effect of the conversion on firm survival, for filings over the period 2010-2016. They find that the conversion to RJ, controlling for the firm's financial condition and characteristics, reduces the probability of firm survival by 50 percentage points, which corresponds to indirect bankruptcy costs of around 20% of the firm assets. Their results are robust to a wide range of robustness checks.

[10] Denmark has also an efficient early warning system, which provides impartial and confidential free assistance to businesses heading towards insolvency and was a model for other countries, especially in Southern Europe (Møller and Mukherjee, 2019).

[11] Austria, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden.

Furthermore, there is evidence supporting the hypothesis that the safeguard procedure, by sending the signal that the company is viable to stakeholders, especially clients, improves restructuring prospects relative to RJ, whose low success rate (less than 30% for filings over 2010-16, compared to more than 60% for safeguard cases) is likely to alarm stakeholders, further reducing the chances of restructuring. Hence, the French experience suggests there is clear merit in having a specific pre-insolvency procedure, especially when the ordinary restructuring procedure has a low success rate.

Box 4. The EU directive on preventive restructuring frameworks

In June 2019, EU members agreed on modern and streamlined rules to facilitate restructuring, give entrepreneurs a second chance and improve the efficiency of restructuring, insolvency and debt discharge procedures. Implementation of the Directive is expected to increase recovery rates, provide more legal certainty for cross-border investors, and prevent the accumulation of non-performing loans. Its main features can be summarised as follows:

- Debtors will have access to early warning tools to facilitate restructuring at an early stage and a new culture of preventive restructurings will emerge.
- All viable firms will have access to early restructuring.
- Debtors will benefit from a time-limited ''breathing space'' from enforcement action in order to facilitate negotiations and restructuring.
- Dissenting minority creditors and shareholders can be outvoted under strict conditions to facilitate restructuring, while safeguarding legitimate interests.
- New financing for restructuring companies will be specifically protected.
- Flexible preventive restructuring frameworks will shorten court proceedings. Specialised practitioners and courts, as well as purpose-built technology, can be used to improve the efficiency of insolvency procedures and reduce their cost and length.
- Honest insolvent entrepreneurs will have access to full discharge of their debt after a maximum period of three years without further conditions.

4. Economic challenges reinforce the need for efficient insolvency frameworks

24. The series of partly interrelated shocks and challenges that the global economy has faced in the past few years (COVID-19 pandemic, disruptions of global value chains, economic consequences of the war in Ukraine, oil and commodities, inflation) has made insolvency regimes even more relevant, in both the short and medium term. Massive public intervention during the COVID-19 pandemic has mitigated insolvency risks, particularly in hard-hit sectors most affected by restrictions on mobility and activity. One consequence is that bankruptcy filings have declined in most OECD countries during the pandemic (Djankov and Zhang, 2021; OECD, 2021a). Furthermore, the digital and green transitions could impose wide-scale restructuring and high corporate debt increases risks of insolvency and resource misallocation.

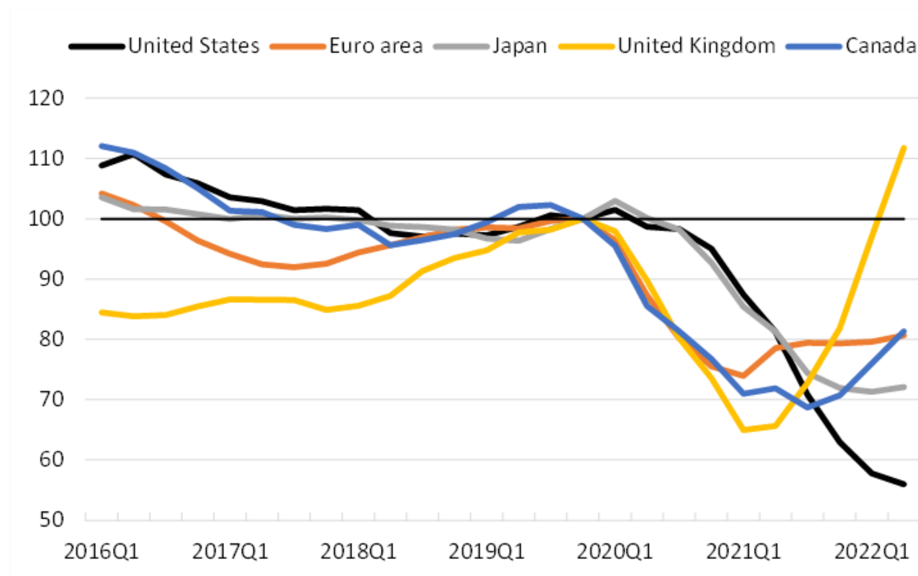
25. Bankruptcies could be expected to rebound, at least to pre-crisis levels, reflecting a catch-up after a partial freeze due to temporary insolvency measures (Box 5) and government support, a durable weakening of companies' financial positions due to lower sales during the pandemic and further debt accumulation (Cros et al., 2020). However, even though the gradual withdrawal of support measures started in mid-2021 in most countries, insolvency rates still show little sign of returning to pre-crisis levels, raising concerns about resource misallocation. As of the second quarter of 2022, the number of

bankruptcies in major OECD economies remained at least about 20% below their end-2019-level, with the exception of the United Kingdom (Figure 8).[12]

26. In the event of a wave of insolvencies, restructuring could be delayed by bottlenecks in insolvency systems. Previous crises have shown that when the caseload of courts increases, insolvency frameworks tend to become less efficient (Iverson, 2018), which can lead to the liquidation of viable firms, with an adverse effect on the recovery. During the Global Financial Crisis (GFC), insolvency peaks resulted in backlogs and excess liquidations (Araujo et al., 2022). The ability of the insolvency system to deal with a significant increase in bankruptcies partly depends on the resources of the courts. However, streamlined procedures - especially for MSMEs - are also essential.

Figure 8. Numbers of bankruptcies generally remain below pre-pandemic levels

Index, 2019Q4=100, Four-quarter moving average



Source: Datastream, Eurostat, UK Insolvency service and Statistics Canada.

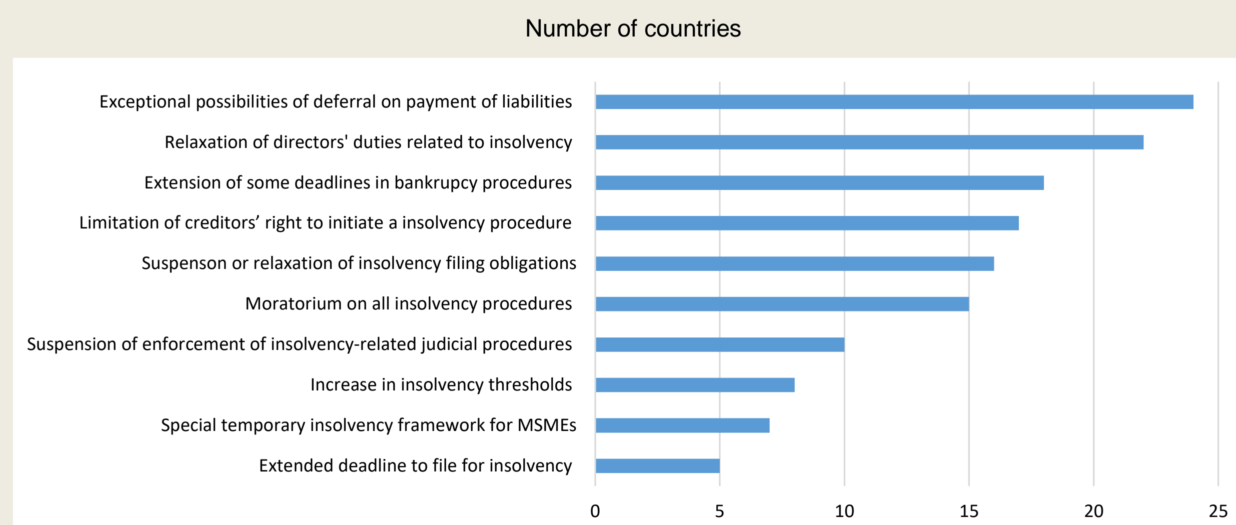
[12] Bankruptcies also rebounded in Bulgaria and Denmark, where they were slightly above pre-pandemic levels, and Spain, where they were about 40% higher in 2022Q2. See Annex Figure C.1 for data on individual EU countries.

Box 5. Temporary amendments to insolvency rules during the COVID-19 pandemic

Most OECD countries temporarily modified insolvency processes during the pandemic to avoid a wave of bankruptcies as cash flows evaporated. These measures complemented more general support to firms and the broader economy, which also helped avoid bankruptcies. The two most widely adopted insolvency measures were exceptional possibilities of deferral on payments of liabilities and a relaxation of directors' duties (in many countries, directors normally face liability if they fail to take appropriate action when their company faces a high probability of insolvency). Many countries extended deadlines in insolvency procedures (e.g. time to provide a restructuring plan, duration of restructuring period, deadlines to provide information, duration of pre-insolvency conciliation proceedings) and suspended or relaxed insolvency filing obligations. Moratoria on all insolvency procedures were also frequent. Other measures were adopted by fewer countries (Figure 9). Six countries introduced special insolvency frameworks for MSMEs, which in addition to addressing the impact of the pandemic, could constitute a basis for permanent simplified insolvency procedures for MSMEs.

Figure 9. Temporary amendments to insolvency rules during the pandemic

Number of countries



Source: OECD Insolvency questionnaire 2022.

4.1. High corporate debt increases risks of insolvency and resource misallocation

27. The COVID-19 pandemic has pushed up corporate debt further, as many businesses needed to make up for a drop in cash flows, while governments and monetary authorities adopted a wide range of measures to alleviate credit constraints – e.g. debt moratoria, special lending schemes, government guarantees, security purchases (IMF, 2022). Non-financial corporate debt reached 90% on average in OECD countries in 2021, up nearly six percentage points from 2019 and about ten percentage points since the GFC. While corporate debt increased in all major OECD economies during the pandemic, developments since the GFC have varied across countries, with deleveraging in Italy and the United Kingdom and substantial increases in indebtedness in France and Canada (Figure 10, panel A). The corporate debt service ratio has generally risen during the pandemic. However, very low interest rates have kept it below its 2009 level in most countries (Figure 10, panel B).

28. Stress tests show that, as high-yield corporate and leveraged loans have grown substantially over the past decade, the proportion of leveraged corporate debt exposed to downside risks has become a concern, with a sharp deterioration in credit quality, particularly in the United States and emerging market economies. Risks look less acute in the European Union and Japan (Roulet, 2020).

29. Historically, business credit booms have typically not been followed by weaker growth and investment and have not even affected economic tail risks (Jordà et al., 2020; Boone et al., 2022). However, insolvency regimes matter. Ineffective insolvency frameworks are associated with a much more protracted contraction in business investment following a crisis (IMF, 2022). Following the GFC, countries where inefficient insolvency regimes have hampered prompt debt restructuring have experienced lower growth and a rising share of zombie firms in the wake of credit booms, with a negative impact on productivity growth (Adalet McGowan et al., 2018; Banerjee and Hofmann, 2020). The medium-term consequences of the COVID-19 pandemic remain highly uncertain (Box 6).

30. Low interest rates (Banerjee and Hofmann 2018, 2020) and evergreening of non-performing loans (NPL) by banks, which is facilitated by very accommodative monetary policy (White, 2012) have contributed to contain insolvencies in recent years.[13] High levels of NPLs have weighed on economic activity in the European Union following the GFC (Bricongne et al., 2016). European zombie firms are likely to be connected to weak banks, suggesting an effect from bank forbearance on productivity growth (Andrews and Petroulakis, 2017), even though Schivardi et al. (2022) found no evidence that weak banks held back healthy firms' growth during the GFC in Italy and argue that the impact of capital misallocation on aggregate GDP was negligible, notably because credit to the weakest firms mitigated supply chain disruptions and adverse local demand externalities. The empirical literature suggests that insolvency regime reforms can be a powerful tool to reduce the frequency and value of NPLs and speed up their resolution (World Bank, 2021a).

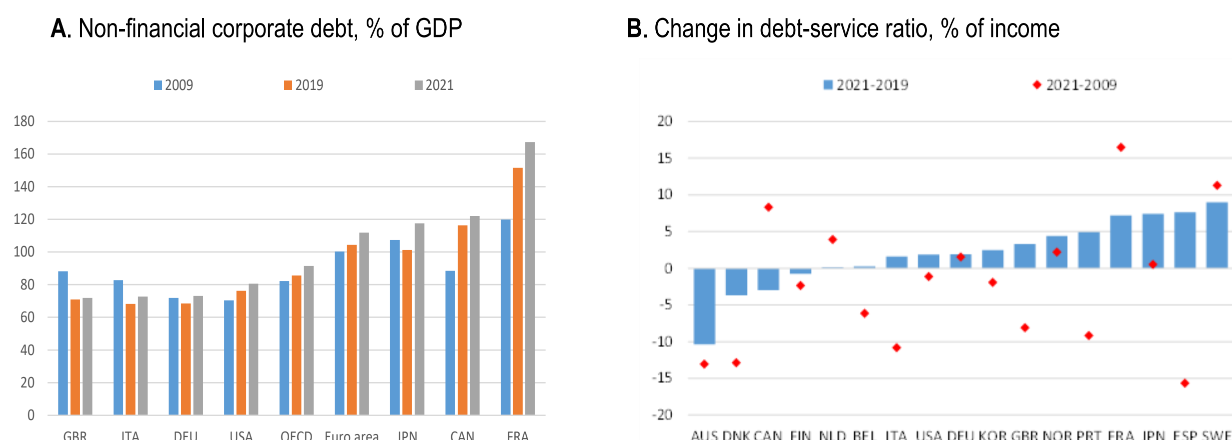
Box 6. Has COVID-19 caused resource misallocation and zombification?

Prolonged policy support risks generating misallocation of resources and zombie firms. A critical question for policy makers is to determine whether the shock has had permanent or transitory effects. Evidence from the United-States suggests that the "reallocation shock" across sectors has been essentially transitory at the sectoral level. Most of the employment reallocation in the early stage of the pandemic affected the leisure and hospitality sector. If the latter is excluded, the COVID-19 recession displays the lowest degree of net reallocation through ten months among post-1945 recessions. Furthermore, the impact on the leisure and hospitality sector was short-lived (David, 2021). Overall, there is still little evidence that COVID-19 triggered a sectoral reallocation wave in the United States (Consolo and Petroulakis, 2022). Nevertheless, reallocation across firms within sectors may be more widespread and persistent (Barrero et al, 2020, 2021). Furthermore, the pandemic has accelerated the digitalisation and green transitions, which is bound to durably affect business structures.

[13] The role of evergreening in preventing an effective restructuring of the Japanese economy in the wake of the early-1990s asset price bubble burst is also well known (Peek and Rosengren, 2005; Caballero et al., 2008).

Support measures in OECD countries during the pandemic have generally been efficient in preventing the failure of viable businesses, without providing disproportionate support to zombie firms. Harasztosi et al. (2021) find no evidence of misallocation to zombie firms in European Union countries. Furthermore, policy support seems to have enabled recapitalisation and promoted digital investment. No evidence of disproportionate support to zombie firms is found in France (Cros et al, 2020; Coeuré, 2021), Italy (Pelosi et al., 2022), Croatia, Finland, the Slovak Republic and Slovenia (Bighelli et al., 2021). Zombie firms are few in the United States and did not benefit disproportionally from the improvement in credit market conditions during the pandemic (Favara et al., 2021). Conversely, government support seems to have saved a disproportionate number of low-productivity firms in the Netherlands (Freeman et al., 2021). However, the medium-term impact of the COVID-19 pandemic remains uncertain.

Figure 10. Corporate debt has risen but low interest rates have contained the interest burden



Source: Bank for International Settlements.
Note: DSRs are derived from aggregated data based on a unified methodology, which captures the dynamics of DSRs over time and takes account of different institutional and behavioural factors affecting average remaining maturities.
Source: Bank for International Settlements.

31. The rise in interest rates against the backdrop of persistent global inflation could affect many businesses and increase bankruptcy risks. Jacobsen and Kloster (2005) find that a one percentage point increase in the real interest rate raised bankruptcies by close to 3.5% in the long-term in Norway over the period 1991-2004. This direct effect may be compounded by indirect effects through activity and asset prices. Liu and Wilson (2002) find that a one percentage point increase in the bank base rate raised the UK bankruptcy rate by about 1.5 percentage points in the long-term over the period 1966Q1-1998Q2. Banerjee and Hofmann (2020) argue that market exit seems to be driven more by leverage and the interest paid on the debt than by firm performance.

32. Assessing insolvency risks requires looking beyond aggregate debt numbers and examining the distribution of debt and vulnerabilities across companies. For many companies, the COVID-19 crisis depleted equity through reduced earnings, while raising leverage through injections of liquidity, often backed by government guarantees. The impact of the shock varied widely across sectors and types of firms (Demmou et al., 2021). Companies in accommodation and food services, transport, as well as arts and recreation see their ability to service their debt most reduced by the COVID-19 crisis, even before the

recent rise in interest rates. Some sectors are both vulnerable to changes in preferences induced by the COVID-19 crisis and sensitive to interest rates, like commercial real estate. For example, 81 UK property investment companies became insolvent in the first three months of 2022, the highest quarterly figure in more than a decade.[14] The war in Ukraine also affects different economic sectors to a varying degree and in different ways from the COVID-19 crisis.

4.2. The digital and green transitions are reshaping the economy

33. The impact of the recent and ongoing economic developments on resource reallocation across economic sectors and firms is compounded by megatrends. The COVID-19 pandemic has generated or accelerated economic transformations, with permanent shifts in demand and increased pressure to adapt business models, in particular through digitalisation (Pisu et al., 2021). The green transition, which has gathered momentum, will imply the restructuring of polluting firms and the closure of those that prove unsuccessful in making production environmentally sustainable (OECD, 2021b).

34. The digital transition and the shift of some economic activity towards online platforms, especially in the aftermath of the COVID-19 pandemic, are likely to have persistent effects on firm dynamics, consumption and work patterns. They create winners and losers and increases restructuring needs. Furthermore, the rising role of intangible assets needs to be taken into account in insolvency procedures (Box 7). Using near-real-time data for Australia, New Zealand and the United Kingdom, Andrews et al. (2021) show that the COVID-19 pandemic favoured high productivity and tech-savvy firms, resulting in a reallocation of labour to such firms. The emergency move towards telework imposed by the pandemic is likely to give way to permanent hybrid models (Ramani and Bloom, 2021), which will require adaptation by firms and modify economic geography.

35. Recovery plans also favour the green transition, with energy self-sufficiency issues related to the war in Ukraine adding to concerns about climate change. While the green transition carries great opportunities for those businesses that are able to adapt swiftly, it will require major efforts from the corporate sector. High-emission sectors, which generate about 20 percent of global GDP, will face substantial effects on demand, production costs, and employment. The estimated global increase in capital spending on physical assets for energy and land-use systems to achieve the net-zero transition by 2050 is around USD 3.5 trillion per year, which is approximately equivalent to half of 2020 global corporate profits (McKinsey Global Institute, 2022). Many companies, notably SMEs, may face serious difficulties in financing their green transition, despite government support.

36. The green transition will have a broader impact on firm dynamics, including through high energy prices. In OECD countries, a 10% increase in energy prices is estimated to lead to a 7.5% increase in the number of firms exiting the market (Dechezleprêtre et al., 2020). At the same time, there is evidence that surviving firms increase their gross output in response to higher energy prices, which points to the importance of efficient reallocation. Similarly, environmental regulations increase firm exit (Greenstone et al., 2012). A tightening of environmental policies only raises productivity growth in the technologically most advanced firms, while a third of firms, the less productive ones, experience a productivity slowdown. However, at the aggregate economy level, an initial negative impact on productivity growth is offset within three years of implementation of environmental measures, which again points to the crucial role of reallocation (Albrizio et al., 2014).

[14] Financial times, 19 June 2022, based on numbers from tax and advisory firm Mazars.

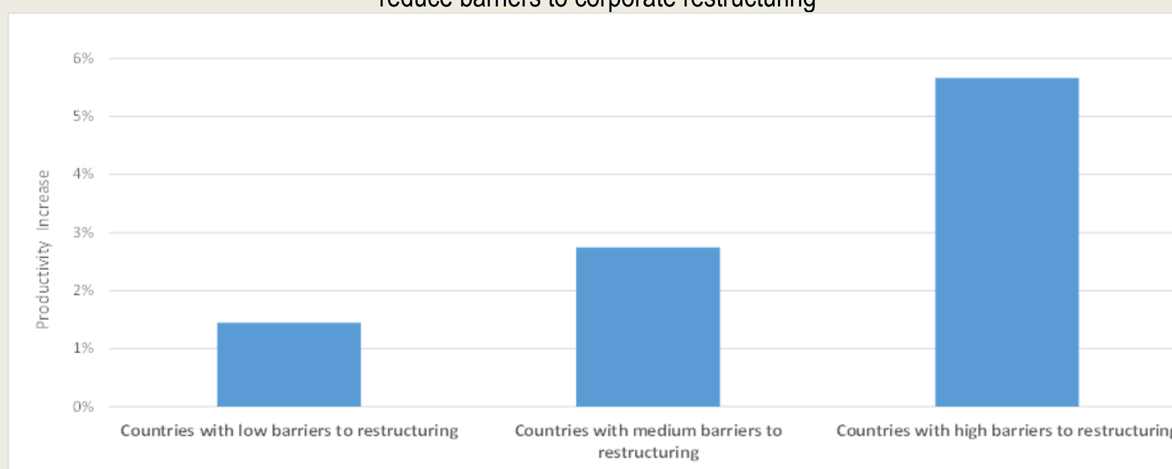
Box 7. Intangible assets and insolvency regimes

Intangible capital, including intellectual property, data, design, trademarks and organisational capital, plays a decisive role in increasingly knowledge-based economies. Recent research on Japan suggests that patenting reduces bankruptcy risk and increases the odds of exit via merger and voluntary liquidation (Kato et al., 2021). In the case of liquidation, a rapid reallocation of transferable intangibles, such as intellectual property and data, supports the diffusion of technology and productivity growth. A timely reallocation of assets also benefits creditors, as intangible assets are prone to rapid and significant value erosion. A better preservation of intangibles' value in insolvency may increase the willingness of creditors, notably banks, to finance intangible investments.

The design of insolvency regimes is likely to have a greater impact on productivity in intangible-intensive industries, as innovative projects imply a higher risk of failure. Indeed, recent OECD analysis shows that productivity gains from lowering barriers to efficient corporate restructuring increase with a sector's intangible asset intensity (Figure 11).

Figure 11. Intangible-intensive sectors benefit most from sound insolvency regimes

Productivity gains (in high relative to low intangible-intensive sectors) from moving to the regime best suited to reduce barriers to corporate restructuring



Note: The figure shows the differential productivity increase in intangible-intensive sectors compared to traditional sectors following an increase in insolvency regime soundness to the highest level according to the World Bank index latest year (2019). The estimation is carried over the 2007-2015 period due to data availability and covers up to 28 countries.

Intangibles require special treatment in insolvency procedures. Their valuation is a challenge, both because of their intrinsic nature and because they are often not fully recorded in financial statements. Professional valuation of intangible assets can be crucial for the outcome of an insolvency procedure (American Bankruptcy Institute Journal, 2006). In many cases, complementarities between various types of assets call for the liquidation of assets in bundles, to avoid the reduction in value associated with lost synergies. For example, a company may sell some of its business lines along with related patents. Proceeds from the sale of intangibles can sometimes yield substantial revenue to finance a company's reorganisation. However, deals on intangibles tend to be complex (Dietderich and Mousavi, 2014) and the cost of dispute resolution mechanisms can be high, particularly for SMEs. The use of informal out-of-court procedures, which typically avoid the procedural complexities and timelines of court proceedings, can reduce costs and speed up processes (Demmou and Franco, 2021a).

References

Adalet McGowan, M. and D. Andrews (2018), "Design of insolvency regimes across countries", *OECD Economics Department Working Papers*, No. 1504, OECD Publishing, Paris.

Adalet McGowan, M., D. Andrews and V. Millot (2018), "The walking dead? Zombie firms and productivity performance in OECD countries", *Economic Policy*, 33(96), 685-736.

Adalet McGowan, M., D. Andrews and V. Millot (2017a), "Insolvency Regimes, Technology Diffusion and Productivity Growth: Evidence from Firms in OECD Countries", *OECD Economics Department Working Papers*, No. 1425, OECD Publishing, Paris.

Adalet McGowan, M., D. Andrews and V. Millot (2017b), "Insolvency regimes, zombie firms and capital reallocation", *OECD Economics Department Working Papers*, No. 1399, OECD Publishing, Paris.

Albrizio, S., T. Koźluk and V. Zipperer (2014), "Empirical Evidence on the Effects of Environmental Policy Stringency on Productivity Growth", *OECD Economics Department Working Papers*, No. 1179, OECD Publishing, Paris.

American Bankruptcy Institute Journal (2006), "The Role of Intangibles in Bankruptcy", October.

Andrews, D., M. Adalet McGowan and V. Millot (2017), "Confronting the zombies: Policies for productivity revival", *OECD Economic Policy Papers*, No. 21, OECD Publishing, Paris.

Andrews, D., A. Charlton and A. Moore (2021), "COVID-19, productivity and reallocation: Timely evidence from three OECD countries", *OECD Economics Department Working Papers*, No. 1676, OECD Publishing, Paris.

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.

Araujo, J., J. Garrido, E. Kopp, R. Varghese and W. Yao (2022), "Policy Options for Supporting and Restructuring Firms Hit by the COVID-19 Crisis", *IMF Departmental Paper* 2022/002, International Monetary Fund, Washington, DC.

Banerjee, R.N. and B. Hofmann (2018), "The rise of zombie firms: causes and consequences", *BIS Quarterly Review*, September, Bank for International Settlements, Basel.

Banerjee, R.N. and B. Hofmann (2020), "Corporate zombies: Anatomy and life cycle", *BIS Working Papers 882*, Bank for International Settlements, Basel.

Barrero, J.M., N. Bloom, S.J. Davis and B.H. Meyer (2021), "COVID-19 Is a Persistent Reallocation Shock", *AEA Papers and Proceedings*, 111: 287-91.

Barrero, J.M., N. Bloom and S.J. Davis (2020), "COVID-19 is also a reallocation shock", *Brookings Papers on Economic Activity*, Summer, 329-371.

Bighelli, T., T. Lalinsky, F. di Mauro (2021), "Covid-19 government support may have not been as unproductively distributed as feared", VOX EU, 19 August.

Boone, L., J. Fels, Ò. Jordà, M. Schularick and A.M. Taylor (2022), Debt: the eye of the storm, Geneva Reports on the World Economy 24, International Center for Monetary and Banking Studies, Geneva; Centre for Economic Policy Research, London.

Bricongne, J-C., M. Demertzis, P. Pontuch and A. Turrini (2016), "Macroeconomic Relevance of Insolvency Frameworks in a High-debt Context: An EU Perspective", *European Economy - Discussion Papers* 2015 - 032, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

Caballero, R.J., T. Hoshi and A.K. Kashyap (2008), "Zombie lending and depressed restructuring in Japan", *American Economic Review*, 98(5), 1943-77.

Calvino, F., C. Criscuolo and C. Menon (2016), "No Country for Young Firms?: Start-up Dynamics and National Policies", *OECD Science, Technology and Industry Policy Papers*, No. 29, OECD Publishing, Paris.

Coeuré, B. (2021), "What 3.5 million French firms can tell us about the efficiency of Covid-19 support measures", VOX EU, 8 September.

Consolo, A. and F. Petroulakis (2022), "*Did COVID-19 induce a reallocation wave?", Bank of Greece Working Papers*, No. 295, Athens.

Cros, M., A. Épaulard and P. Martin (2020), "Les défaillances d'entreprises dans la crise Covid-19 : zombification ou mise en hibernation?", *Focus* N° 051-2020, Conseil d'analyse économique, Paris.

David, J.M. (2021), "Has Covid-19 been a "reallocation recession?", *Chicago Fed Letter*, Federal Reserve Bank of Chicago, issue 452, pages 1-8, March.

Dechezleprêtre, A., D. Nachtigall and B. Stadler (2020), "The effect of energy prices and environmental policy stringency on manufacturing employment in OECD countries: Sector- and firm-level evidence", *OECD Economics Department Working Papers*, No. 1625, OECD Publishing, Paris.

Demmou, L. and G. Franco (2021a), "Mind the financing gap: Enhancing the contribution of intangible assets to productivity", *OECD Economics Department Working Papers*, No. 1681, OECD Publishing, Paris.

Demmou, L. and G. Franco (2021b), "From hibernation to reallocation: Loan guarantees and their implications for post-COVID-19 productivity", *OECD Economics Department Working Papers*, No. 1687, OECD Publishing, Paris.

Demmou, L., et al. (2021), "Insolvency and debt overhang following the COVID-19 outbreak: Assessment of risks and policy responses", *OECD Economics Department Working Papers*, No. 1651, OECD Publishing, Paris.

Dietderich, A. and N. Mousavi (2014), "IP deals meet bankruptcy: what every IP professional needs to know", *Intellectual Asset Management,* May/June.

Djankov, S. and K. Koch-Saldarriaga (2020), "Data on trends in insolvency reform", *World Bank Blogs*, 17 March.

Djankov, S. and E. Zhang (2021), "As COVID rages, bankruptcy cases fall", VoxEU.org, 4 February.

DLA Piper (2022), "Colombia is using AI to improve insolvency proceedings", *Panorama*, 22 April.

Doucinet, V., D. Ly and G. Torre (2021), "The differentiated impact of the crisis on companies' financial situation", *Eco Notepad*, Post n°219, 15 June, Banque De France, Paris.

Epaulard, A. and C. Zapha (2022), "Bankruptcy costs and the design of preventive restructuring procedures", *Journal of Economic Behavior & Organization*, 196, 229-250.

Eurofound (2021), "Portugal: Rescue procedures in insolvency", Dublin.

European Commission (2019), "Early restructuring and a second chance for entrepreneurs. A modern and streamlined approach to business insolvency", Fact sheet, Brussels.

Financial Stability Board (2022a), *Thematic Review on Out-of-Court Corporate Debt Workouts*, Peer Review Report.

Financial Stability Board (2022b), "Approaches to Debt Overhang Issues of Non-financial Corporates", Discussion paper.

Freeman, D., L. Bettendorf, Y. Adema, "Covid-19 support distorted the process of creative destruction in the Netherlands", VOX EU, 03 November 2021.

Greenstone, M., J.A. List and C. Syverson (2012), "The Effects of Environmental Regulation on the Competitiveness of U.S. Manufacturing", *NBER Working Paper*, No. 18392, National Bureau of Economic Research, Cambridge, MA.

Harasztosi, P, L Maurin, R Pál, D Revoltella and W van der Wielen (2021), "Policy support during the crisis: So far, so good?", *EIB Working Paper* 2022/01, European Investment Bank, Luxembourg.

IMF (2022), "Private Sector Debt and the Global Recovery", *World Economic Outlook*, April, International Monetary Fund, Washington DC.

INSOL (2022), *Tracker on the implementation of the EU directive on restructuring and insolvency* ('DRI') (as of 12 September).

Isaza Upegui, A. (2021), El derecho concursal de emergencia y el COVID-19, Legis Editores, Bogotá.

Iverson, B., (2018), "*Get in line: Chapter 11 restructuring in crowded bankruptcy courts", Management Science*, Vol. 64 (11): 5370-5394.

Jacobsen, D.H. and T. B. Kloster (2005), "What Influences the Number of Bankruptcies?", *Norges Bank Economic Bulletin*, 4/05, 191-211.

Jordà, Ò., M. Kornejew, M. Schularick and A.M. Taylor (2020), "Zombies at large? Corporate debt overhang and the macroeconomy", *NBER Working Paper*, No. 28197, Cambridge, MA.

Kato, M., K. Onishi and Y. Honjo (2021), "Does patenting always help new firm survival? Understanding heterogeneity among exit routes", *Small Business Economics*.

Kilborn, J.J. (2022), "United States Exceptionalism in SME Restructuring: The Small Business Reorganization Act of 2019", in: Insolvency and Restructuring in Germany – Yearbook 2022, pp. 10-17, Schultze & Braun GmbH & Co, Achern.

Liu, J. and N. Wilson (2002), "Corporate failure rates and the impact of the 1986 insolvency act: an econometric analysis", *Managerial Finance*, 28(6), 61-71.

McKinsey Global Institute (2022), *The net-zero transition: What it would cost, what it could bring*.

Mokal, R., R. Davis, A. Mazzoni, I. Mevorach, B. Romaine, J. Sarra, I. Tirado and S. Madaus (2018), *Micro, Small, and Medium Enterprise Insolvency: A Modular Approach*, Oxford Scholarship Online.

Møller, M. and P. Mukherjee (2019), "Early warning systems in Denmark and Europe", Eurofenix, Insol Europe.

OECD (2022), *Financing SMEs and Entrepreneurs 2022: An OECD Scoreboard*, OECD Publishing, Paris.

OECD (2021a), *OECD SME and Entrepreneurship Outlook 2021*, OECD Publishing, Paris.

OECD (2021b), *Economic Policy Reforms 2021: Going for Growth: Shaping a Vibrant Recovery*, OECD Publishing, Paris.

Official Journal of the European Union (2019), Directive (EU) 2019/1023 of the european parliament and of the council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on restructuring and insolvency).

Peek, J. and E.S. Rosengren (2005), "Unnatural Selection: Perverse Incentives and the Misallocation of Credit in Japan", *American Economic Review*, 95 (4), 1144-1166.

Pelosi, M, G Rodano, and E Sette (2022), "Zombie firms and the take-up of support measures during Covid-19", *Bank of Italy Occasional Paper* 650.

Ramani, A. and Bloom, N. (2021), "The Donut Effect of Covid-19 on Cities", *NBER Working Papers*, No. 28876, National Bureau of Economic Research, Cambridge, MA.

Rodríguez Espitia, J.J. (2021), *Insolvencia empresarial, derecho concursal y pandemia*, Universidad Externado de Colombia, Bogotá.

Schivardi, F., E. Sette and G. Tabellini (2022), "Credit Misallocation During the European Financial Crisis", *The Economic Journal*, 132(January), 391-423.

Superintendencia de Sociedades (2021), "Prorrogadas hasta diciembre de 2022 las herramientas para facilitar la recuperación empresarial (Decretos Ley 560 y 772 de 2020)", Bogotá.

Uttamchandani, M., S. Atkins and A.F. Martínez (2021), "2021 World Bank & INSOL International's Legislative & Regulatory Group: COVID-19 response and the challenges ahead", *World Bank Blogs*, July 27.

White, C.J. III (2021), "Small Business Reorganization Act: Implementation and Trends", *American Bankruptcy Institute Journal*, January.

White, W. (2012), "Ultra Easy Monetary Policy and the Law of Unintended Consequences", *Federal Reserve Bank of Dallas Globalization and Monetary Policy Institute Working Paper*, No. 126.

World Bank (2021a), "How Insolvency and Creditor-Debtor Regimes Can Help Address Nonperforming Loans", World Bank Group, Washington, DC.

World Bank (2021b), "Principles for Effective Insolvency and Creditor and Debtor Regimes", World Bank Group, Washington, DC.

World Bank (2017), *A Toolkit for Out-of-Court Workouts*, World Bank Group, Washington, DC.

Annex A. Scoring of answers to the OECD questionnaire

Question	Score
Treatment of failed entrepreneurs	
What is the time to discharge (in years)? [Q1.1.2]	time to discharge<=1: 0 1<time to discharge<3: 0.5 time to discharge>3 : 1
Are pre-bankruptcy assets which are exempted from the bankrupt estate and so retained by the debtor [Q1.2.1]	
□ restricted to only modest personal items (e.g. assets or income required to cover the debtor's subsistence) and working equipment?	0.5
□ less generous than modest personal items and working equipment (e.g. can the assets or property of the spouse of the debtor be included in the bankrupt estate)?	1
□ more generous than modest personal items and working equipment (e.g. the debtor's house is exempted)	0
Prevention and streamlining	
Are there any early warning tools available to debtors (e.g., on-line self-test, training)? [Q2.10.1]	Yes=0; No=1
Does a pre-insolvency regime to enable an early rehabilitation of distressed firm exist? [Q2.10.2]	Yes=0; No=1
Are there specific fast-track or less expensive insolvency procedures for small and medium-sized enterprises (SMEs), which may not have the necessary resources to cope with high restructuring costs? [Q2.9.3]	Yes=0; No=1
Restructuring tools	
Creditors can only initiate liquidation (i.e.not restructuring) [Q2.1.1]	Yes=1; No=0
Is there a stay on assets to allow the firm to continue to operate during restructuring? [Q2.2.1b]	Yes= length of stay on assets
Is there a time limit to the stay on assets? Please specify in number of months.[Q2.2.3b]	Yes=0; No=1
Does the credit obtained by the debtor after the commencement of insolvency proceedings (new financing) to finance its ongoing needs during the proceedings have [Q2.3.1]	
□ no priority?	1
□ priority over only unsecured creditors?	0
□ priority over both secured and unsecured creditors?	0.5
Is it possible to impose a restructuring plan on dissenting creditors by a majority of creditors? [Q2.5.1]	No=1, Yes=see next question
Does the insolvency framework require that dissenting creditors in restructuring receive at least as much as what they would obtain in a liquidation? [Q2.5.6]	Yes=0; No=0.5
Is the incumbent management automatically dismissed during insolvency proceedings? [Q2.4.1b]	Yes=0; No=1
Other factors	
Please specify which stages of **liquidation** are courts involved in, by checking all the boxes that apply [Q2.6.1a] □ Launch of the insolvency procedure □ Appointment of an insolvency practitioner □ Voting on a restructuring plan by creditors □ Confirmation and declaration of the restructuring plan as binding or enforceable □ Other.	Value can take a minimum of 0 and a maximum of 5
Please specify which stages of **restructuring** are courts involved in, by checking all the boxes that apply [Q2.6.1b] □ Launch of the insolvency procedure □ Appointment of an insolvency practitioner □ Voting on a restructuring plan by creditors □ Confirmation and declaration of the restructuring plan as binding or enforceable □ Other.	Value can take a minimum of 0 and a maximum of 5
Is a differentiation made in the treatment of honest and fraudulent entrepreneurs in the insolvency process (e.g. a fraudulent entrepreneur may be ineligible for debt write-off or discharge from debt)? [Q2.9.2]	Yes=0; No=1
Are there restrictions on the insolvent debtor's ability to dismiss employees upon the initiation of **liquidation**? [Q2.8.1a]	Yes=1, No=0
Is it possible to renegotiate collective dismissal agreements with employees during **liquidation**? [Q2.8.2a]	Yes=0; No=1
Are there restrictions on the insolvent debtor's ability to dismiss employees upon the initiation of **restructuring** [Q2.8.1b]	Yes=1, No=0
Is it possible to renegotiate collective dismissal agreements with employees during **restructuring** [Q2.8.2b]	Yes=0; No=1

Annex B. OECD Insolvency indicator sub-components

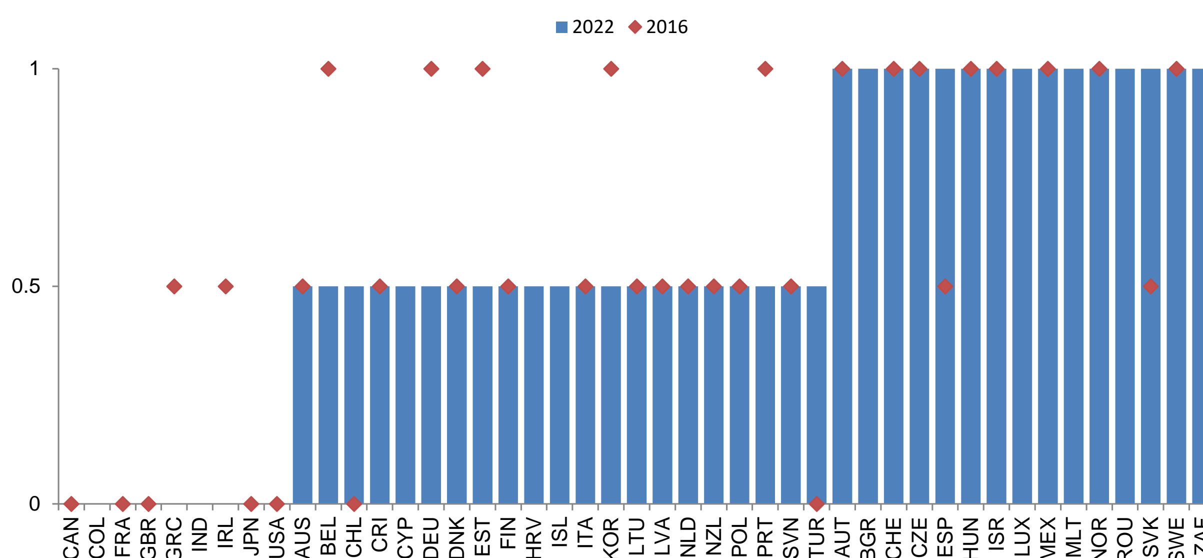
1. This annex displays the 13 sub-indicators that form the OECD Insolvency regime indicator. In order to ease cross-country comparisons of the indicators, the responses are scaled to take a value between 0 and 1 and are increasing in the extent to which the insolvency regime feature may delay the initiation and resolution of proceedings. All individual features are assigned equal weights to construct the composite indicator.

Treatment of failed entrepreneurs

Time to discharge

2. If discharge is not available, the indicator takes the value 1. If discharge is available, the indicator takes the value of 0 if the time to discharge is less than or equal to one year, 0.5 if the time to discharge is between one and three years and 1 if the time to discharge is greater than three years.

Figure B.1. Time to discharge



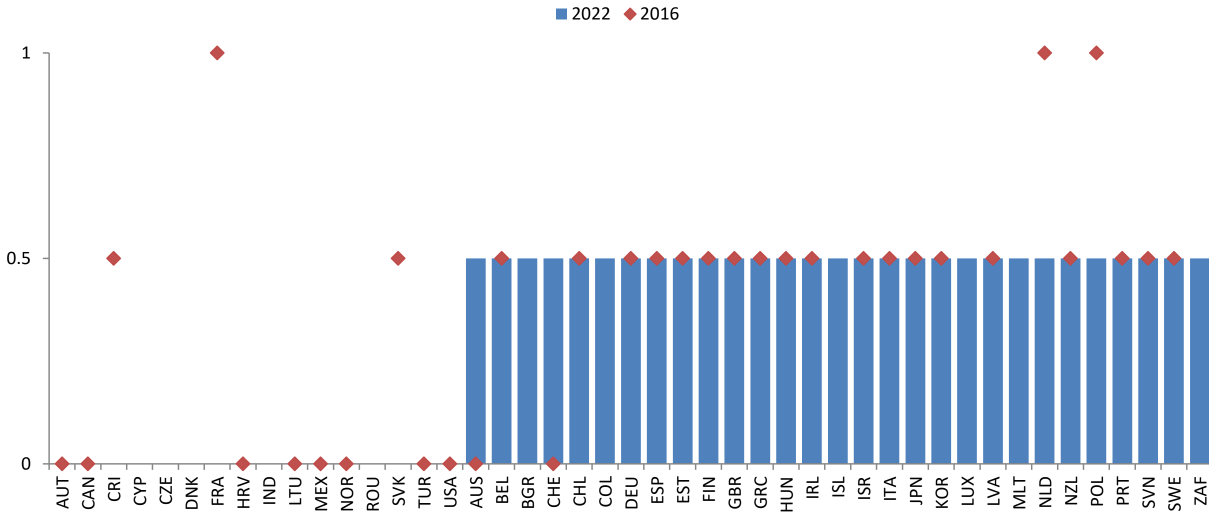
Source: OECD 2022 questionnaire on insolvency frameworks.

Exemptions

3. The indicator equals 0 if exemptions (pre-bankruptcy assets which are exempted from the bankrupt estate) are more generous than modest personal items and working equipment (e.g. the debtor's

house is exempted), 0.5 if exemptions are restricted to only modest personal items (e.g. assets or income required to cover the debtor's subsistence) and working equipment and 1 if exemptions are less generous than modest personal items and working equipment (e.g. the assets or property of the spouse of the debtor can be included in the bankrupt estate).

Figure B.2. Exemption of assets



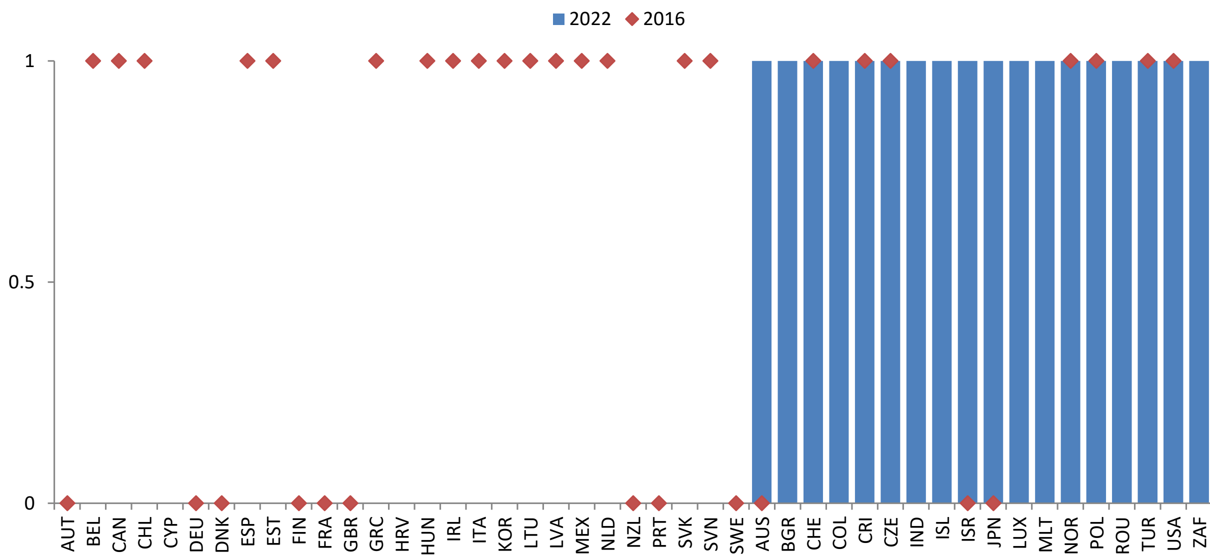
Source: OECD 2022 questionnaire on insolvency frameworks.

Prevention and streamlining

Early warning mechanisms

4. The indicator equals 0 if countries have early warning mechanisms (e.g. on-line self-test, training) in place and 1 otherwise.

Figure B.3. Early warning mechanisms

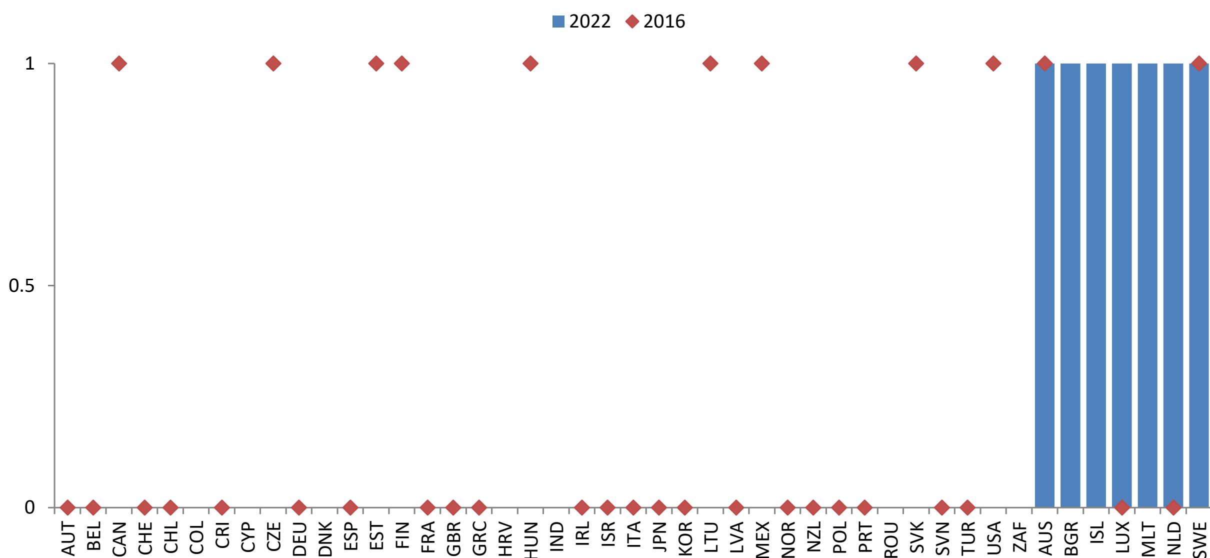


Source: OECD 2022 questionnaire on insolvency frameworks.

Pre-insolvency regimes

5. The indicator equals 0 if pre-insolvency regimes exist and 1 otherwise.

Figure B.4. Pre-insolvency regimes

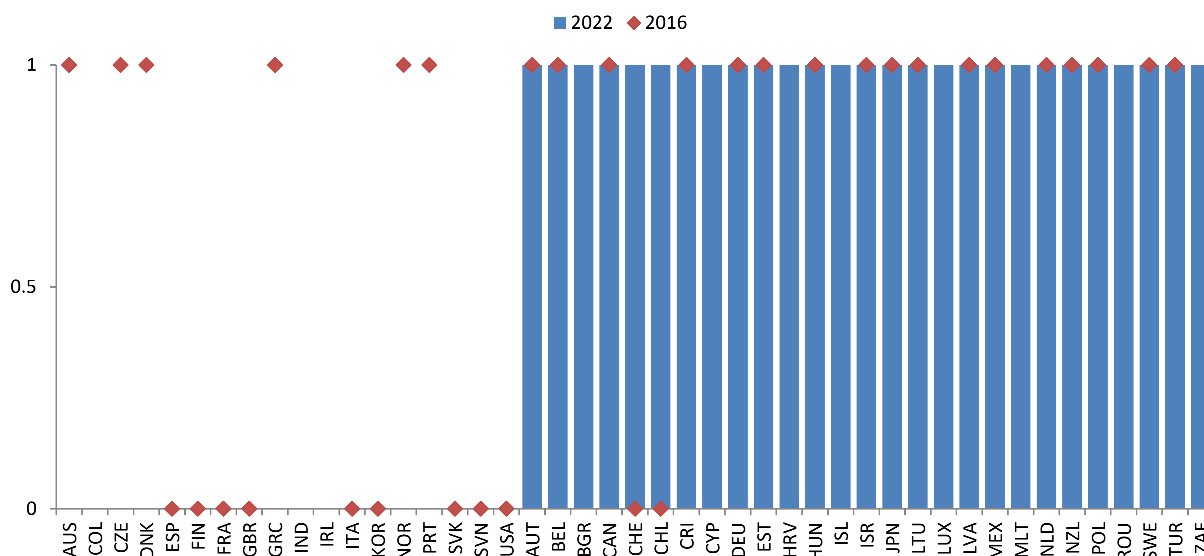


Source: OECD 2022 questionnaire on insolvency frameworks.

Special insolvency procedures for SMEs

6. This indicator takes the value 0 if special insolvency procedures exist for SMEs and 1 otherwise.

Figure B.5. Special insolvency procedures for SMEs



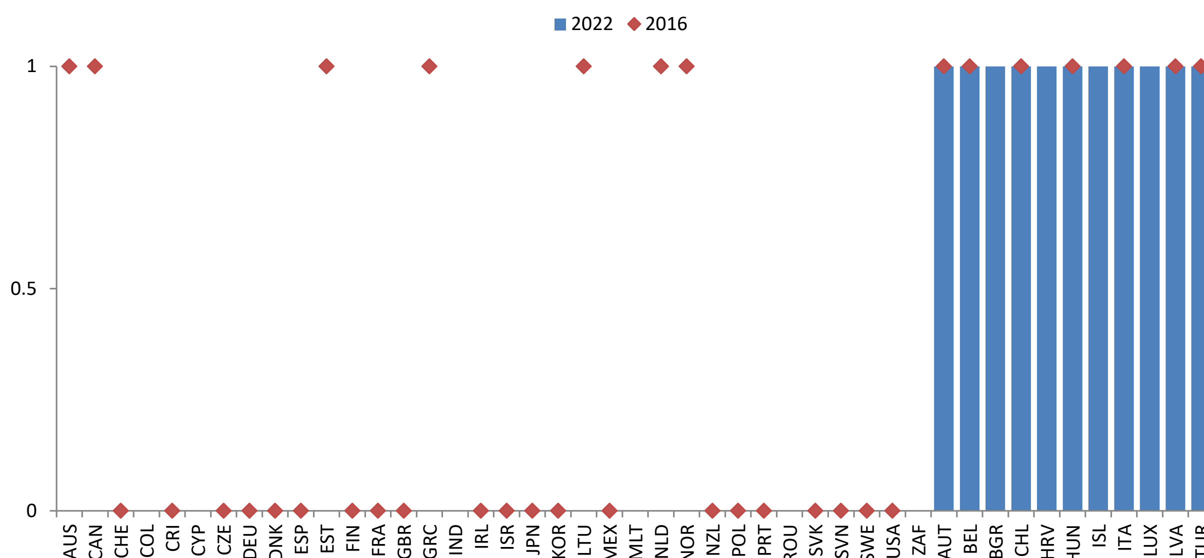
Source: OECD 2022 questionnaire on insolvency frameworks.

Restructuring tools

Creditors' ability to initiate restructuring

7. This indicator equals 0 if creditors can initiate both liquidation and restructuring and 1 if creditors can initiate only liquidation.

Figure B.6. Initiation of restructuring by creditors

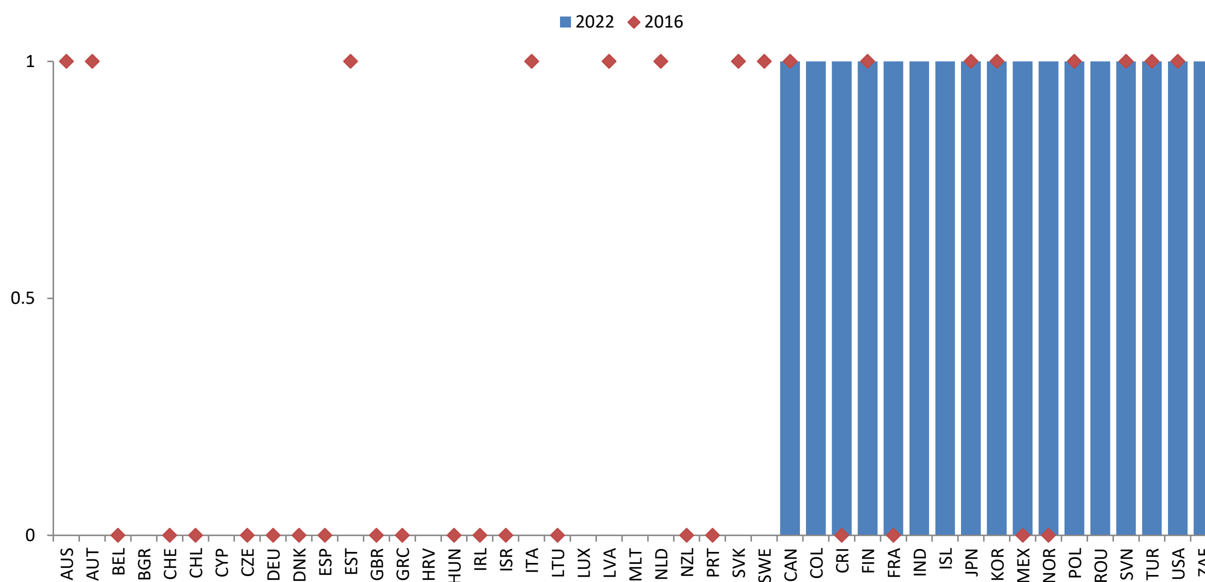


Source: OECD 2022 questionnaire on insolvency frameworks.

Availability and length of stay on assets in restructuring

8. All countries in the sample have the option of a stay on assets in restructuring. This indicator equals 0 if the length of stay has a limit and 1 if the length of stay is indefinite.

Figure B.7. Length of stay on assets in restructuring

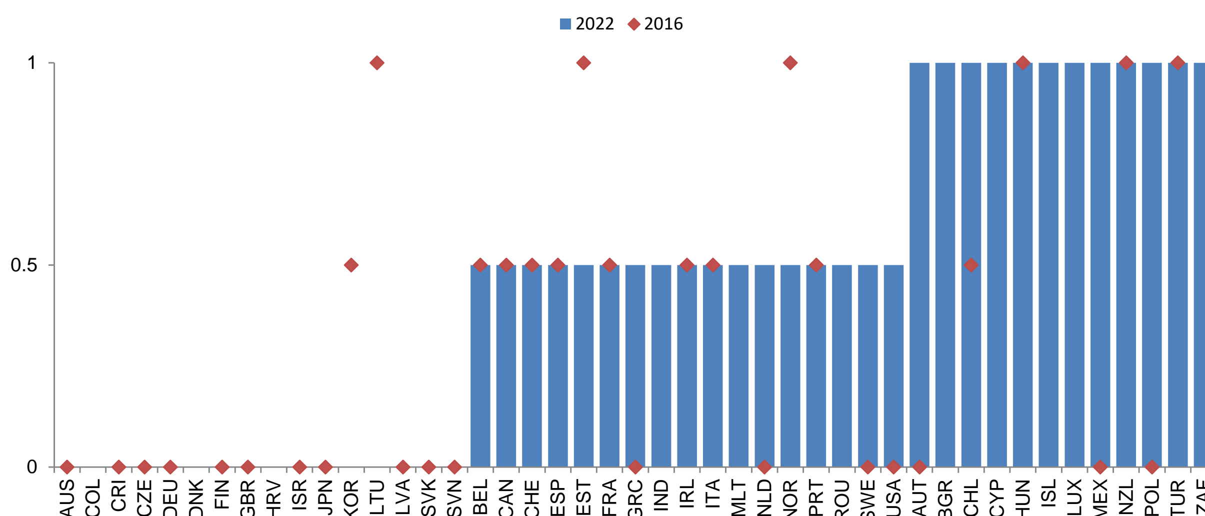


Source: OECD 2022 questionnaire on insolvency frameworks.

Possibility to "cram-down" on dissenting creditors

9. This indicator takes the value 0 if there is cram-down, with the provision that dissenting creditors receive as much under restructuring as in liquidation; 0.5 if cram-down exists in the absence of this provision; and 1 if there is no cram-down.

Figure B.8. Possibility to cram-down on dissenting creditors



Source: OECD 2022 questionnaire on insolvency frameworks.

Possibility to "cram-down" on dissenting creditors

10. This indicator takes the value 0 if there is cram-down, with the provision that dissenting creditors receive as much under restructuring as in liquidation; 0.5 if cram-down exists in the absence of this provision; and 1 if there is no cram-down.

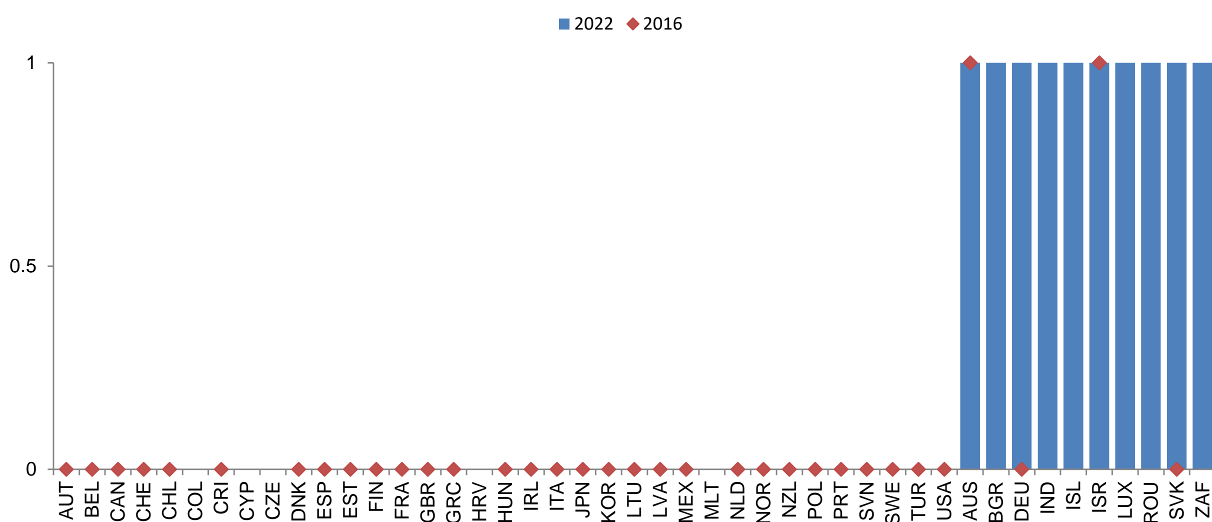
Figure B.9. Possibility to cram-down on dissenting creditors

Source: OECD 2022 questionnaire on insolvency frameworks.

Treatment of management during restructuring

11. This indicator takes the value 0 if management is not dismissed during the restructuring process and 1 if management is dismissed.

Figure B.10. Dismissal of management during restructuring



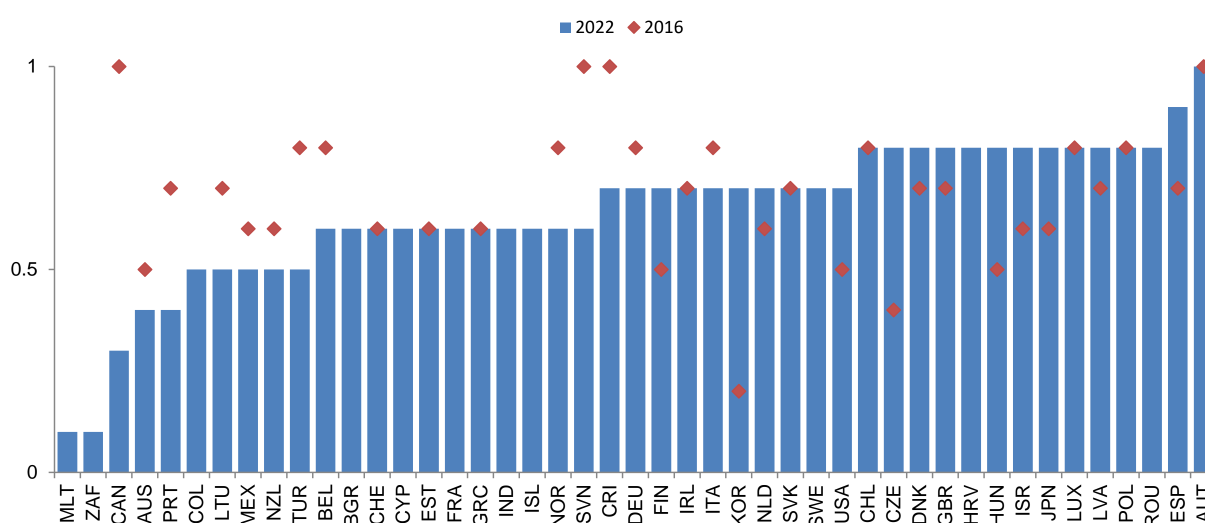
Source: OECD 2022 questionnaire on insolvency frameworks.

Other factors

Degree of court involvement

12. The questionnaire asks if courts are involved in the different stages of both liquidation and restructuring processes (i.e. the launch of the insolvency procedure, appointment of an insolvency practitioner, voting on a restructuring plan by creditors, confirmation and declaration of the restructuring plan as binding or enforceable and other stages). The indicator adds the number of stages for restructuring (ranging from 0 to 5) and number of stages for liquidation (ranging from 0 to 5), and then rescales the values to 0-1.

Figure B.11. Degree of court involvement

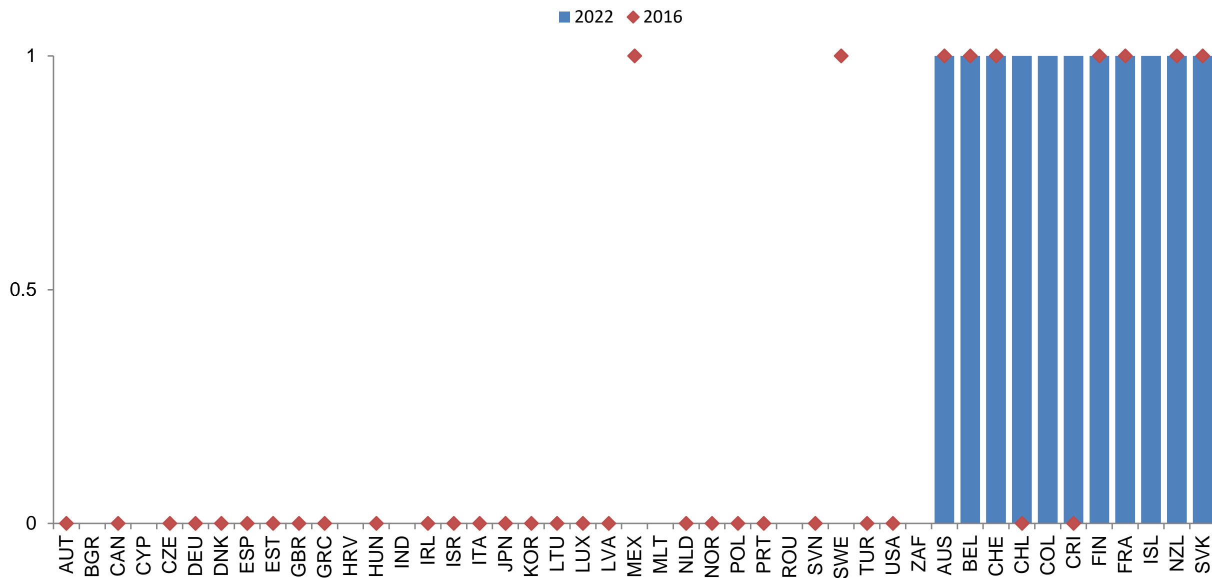


Source: OECD 2022 questionnaire on insolvency frameworks.

Distinction between honest and fraudulent bankrupts

13. The indicator takes the value 0 if there is a distinction between the treatment of honest and fraudulent entrepreneurs in the insolvency process (e.g. a fraudulent entrepreneur may be ineligible for debt write-off or discharge from debt) and 1 otherwise.

Figure B.12. Distinction between honest and fraudulent bankrupts

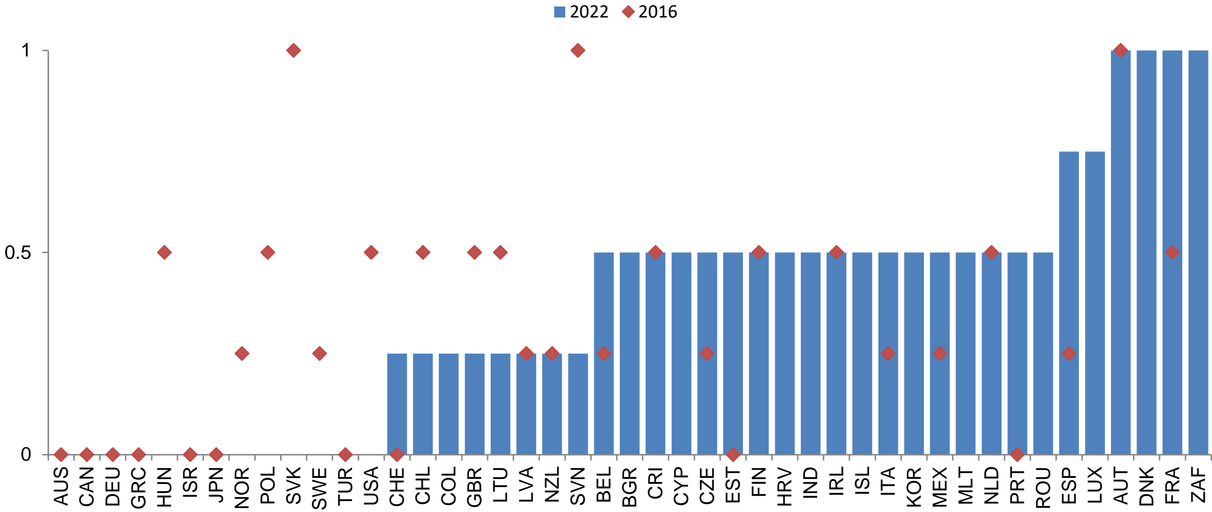


Source: OECD 2022 questionnaire on insolvency frameworks.

Rights of employees

14. First, a combined employee rights indicator is defined as equal to 0 if there are no restrictions on the ability to dismiss employees upon the initiation of insolvency proceedings and it is possible to renegotiate collective dismissal agreements with employees; 1 if there are no restrictions on the ability to dismiss employees upon the initiation of insolvency proceedings but it is not possible to renegotiate collective dismissal agreements with employees or if there are restrictions on the ability to dismiss employees upon the initiation of insolvency proceedings but it is possible to renegotiate collective dismissal agreements with employees; and 2 if there are restrictions on the ability to dismiss employees upon the initiation of insolvency proceedings and it is not possible to renegotiate collective dismissal agreements with employees. This indicator is constructed separately for liquidation and restructuring. Finally, the two are summed and rescaled to 0-1.

Figure B.13. Rights of employees

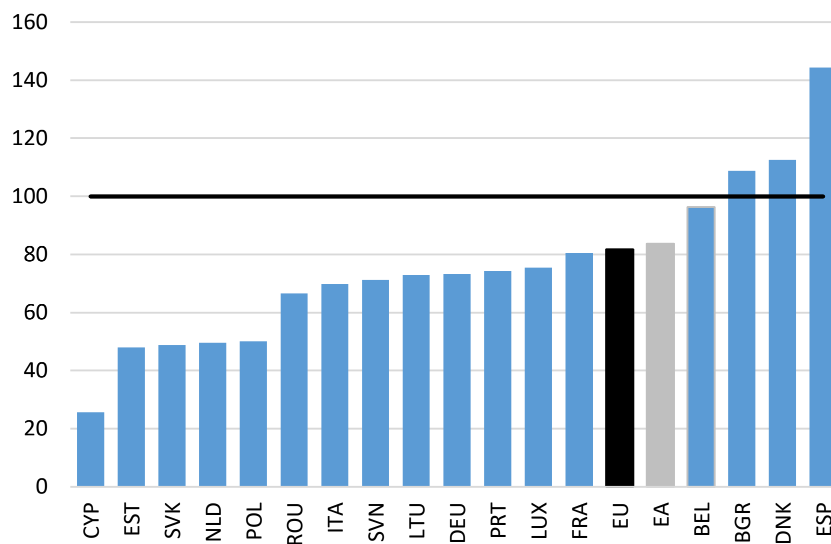


Source: OECD 2022 questionnaire on insolvency frameworks.

Annex C. Bankruptcies and corporate debt: additional data

Figure C.1. Bankruptcies in EU countries, 2022Q2

Index, 2019Q4=100



Note: 2022Q1 for Germany.
Source: Eurostat.

Table C.1. Non-financial corporate debt has increased

Per cent of GDP

	2009	2019	2021
Mexico	16.8	25.1	24.8
Colombia	27.7	31.6	32.6
South Africa	34.9	37.5	32.9
Poland	38.0	44.1	43.4
Czech Republic	52.6	54.6	51.6
India	72.5	54.5	54.7
Australia	75.7	72.2	65.7
Greece	63.6	54.7	66.2
United Kingdom	88.2	71.0	71.9
Israel	85.6	68.4	72.0
New Zealand	102.2	78.6	72.5
Italy	82.7	68.2	72.7
Germany	71.9	68.5	73.1
Hungary	91.0	63.8	74.8
Türkiye	35.0	65.1	75.1
United States	70.4	76.2	80.6
Austria	91.8	93.1	101.0
Chile	76.0	105.6	102.0
Spain	137.8	92.4	102.7
Portugal	123.2	97.4	104.0
Euro area	100.3	104.4	111.8
Korea	98.0	101.3	114.5
Finland	106.2	117.9	115.6
Japan	107.3	101.2	117.6
Canada	88.5	116.3	122.1
Denmark	121.8	136.6	126.3
Norway	143.6	143.8	139.5
Switzerland	102.9	132.5	140.2
Netherlands	132.7	151.4	147.2
Belgium	152.1	151.1	150.2
France	119.9	151.6	167.3
Ireland	185.4	197.5	168.2
Sweden	156.6	162.2	178.2
Luxembourg	307.4	333.1	319.9

Source: Bank for International Settlements.