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On 3 May 2018, the OECD Council invited Lithuania to become a Member. At the time of preparation, the deposit of Lithuania's instrument of accession to the OECD Convention was pending and therefore Lithuania does not appear in the list of OECD Members and is not included in the OECD zone aggregates.

On 25 May 2018, the OECD Council invited Colombia to become a Member. At the time of preparation, the deposit of Colombia's instrument of accession to the OECD Convention was pending and therefore Colombia does not appear in the list of OECD Members and is not included in the OECD zone aggregates.

ABSTRACT/RÉSUMÉ

Design of insolvency regimes across countries

This paper explores cross-country differences in the design of insolvency regimes, based on quantitative indicators constructed from countries' responses to a recent OECD policy questionnaire. The indicators – which are available for 36 countries for 2010 and 2016 – aim to better capture the key design features of insolvency which impact the timely initiation and resolution of personal and corporate insolvency proceedings. According to these metrics, the design of insolvency regimes varies significantly across countries, with important differences emerging with respect to the treatment of failed entrepreneurs, the availability of preventative and streamlining tools and ease of corporate restructuring. While a comparison of indicator values for 2010 and 2016 imply that recent reform efforts have improved policy design, there remains much scope to reform insolvency regimes in many OECD countries. This is particularly significant in light of complementary analysis which shows that the design of insolvency regimes is relevant for understanding three inter-related sources of contemporary labour productivity weakness: the survival of "zombie" firms, capital misallocation and stalling technological diffusion.

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

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

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Comparaison internationale de la conception des régimes d'insolvabilité

Ce document analyse les différences de conception des régimes d'insolvabilité entre les pays à l'aide d'indicateurs quantitatifs construits à partir des réponses nationales à un questionnaire récent de l'OCDE. Ces indicateurs – mesurés pour 36 pays et pour les années 2010 et 2016 – ont pour but de mieux rendre compte des caractéristiques essentielles qui ont un impact sur le déclenchement et le règlement rapides des procédures d'insolvabilité personnelle et de celles applicables aux entreprises. Selon ces indicateurs, les différences de conception des régimes d'insolvabilité sont très importantes d'un pays à l'autre, des disparités majeures étant observées dans le traitement des entrepreneurs en faillite, dans l'existence d'instruments de prévention et de rationalisation et dans la facilité de restructuration des entreprises. Si l'analyse comparée des valeurs des indicateurs pour 2010 et 2016 montre que les réformes récemment menées ont amélioré les modalités des régimes d'insolvabilité, il y a encore amplement matière à les réformer dans de nombreux pays de l'OCDE. La question revêt une importance particulière à la lumière d'une analyse complémentaire, qui montre que leur conception joue un rôle pour comprendre trois sources interdépendantes expliquant la faiblesse actuelle de la productivité du travail : la survie d'entreprises « zombies », la mauvaise affectation du capital et une diffusion technologique en panne.

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

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

Table of contents

Tables

Figures

Design of insolvency regimes across countries

By Müge Adalet McGowan and Dan Andrews[1]

1. Introduction

1. Policies affecting the way failing firms can exit markets or be restructured can shape aggregate productivity through a variety of channels (Adalet McGowan and Andrews, 2016). These include the strength of market selection – which increases in the economy's ability to dispose of non-viable firms and facilitate the restructuring of viable firms – and the scope and speed at which scarce resources consumed by failing firms can be reallocated to more productive uses. But market imperfections often generate obstacles to the orderly exit of failing firms, implying that well-designed insolvency regimes are crucial to realise the potential productivity gains from firm exit. Yet, the available cross-country indicators of insolvency regimes (e.g. World Bank Doing Business) have a number of drawbacks, which make it difficult to identify the contribution of insolvency regimes to productivity performance and generate country-specific proposals for reform (Adalet McGowan and Andrews, 2016).

2. To fill the gaps in the existing indicators, this paper presents new cross-country policy indicators of insolvency regimes for 36 countries, based on countries' responses to a recent OECD questionnaire. The indicators explicitly focus on features of insolvency regimes that may carry adverse consequences for productivity growth by delaying the initiation of and increasing the length of insolvency proceedings. Specifically, thirteen key features are identified based on international best practice and existing research, which include: *i)* two features that raise the personal costs to failed entrepreneurs: time to discharge and fewer exemptions; *ii)* the absence of three mechanisms that aid prevention and streamlining: early warning mechanisms, pre-insolvency regimes and special insolvency procedures for SMEs*; iii)* five features that may potentially impose barriers to restructuring: creditors' inability to initiate restructuring, an indefinite stay on assets, lack of priority given to new financing, no cram-down of restructuring plans on dissenting creditors and the dismissal of incumbent management during restructuring; and *iv)* three other factors: a high degree of court involvement, a lack of a distinction between honest and fraudulent bankruptcy and restrictions on individual and collective dismissals during proceedings. While the indicators were designed to address the insolvency-productivity nexus, they are potentially relevant for understanding other economic phenomenon,

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including the propagation of macroeconomic shocks, financial sector behaviour and a range of labour market outcomes.

3. According to these indicators, the design of insolvency regimes varies significantly across countries. The insolvency regime in the United Kingdom for example, entails relatively low personal costs to failed entrepreneurs and barriers to restructuring, while it contains a number of provisions to aid prevention and streamlining. In Estonia and Hungary, however, the reverse is true. For example, a high time to discharge in Estonia and Hungary means that failed entrepreneurs must wait five years before starting another business, compared to just one year in the United Kingdom. Similarly, an inability of creditors to initiate restructuring and a lack of priority given to new financing over unsecured creditors in both countries (plus an indefinite stay on assets in Estonia) translates into significant barriers to restructuring. Finally, a lack of early warning mechanisms, pre-insolvency regimes and special insolvency procedures for SMEs also imply that prevention and streamlining is weak.

4. A comparison of the 2010 and 2016 values suggests that recent reform efforts have been largest for prevention and streamlining, with reforms observable in 11 countries, especially European countries (e.g. Portugal). This may reflect the fact that such measures have been recently endorsed by the European Commission and the IMF, in response to the crisis (Carcea et al., 2015; Bergthaler et al., 2015). Barriers to restructuring have also declined in 10 countries, while reform activity affecting the personal costs to failed entrepreneurs has been less ambitious, with only Chile, Greece and Spain undertaking reforms since 2010.

5. The new indicators are an important tool to assess the impact of insolvency regimes on economic performance and will allow for a better integration of the exit margin in economic analysis based on policy indicators, such as Going for Growth. For example, using the new indicators, recent research shows that reforms to insolvency regimes can: i) reduce the share of capital sunk in zombie firms, which in turn spurs the reallocation of capital to more productive firms (Adalet McGowan, Andrews and Millot, 2017a); and ii) 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 (Adalet McGowan, Andrews and Millot, 2017b). The indicators will also allow for cross-country comparisons of certain design features of insolvency regimes and the monitoring of their reform over time, providing key information for OECD country reviews.

6. The next section lays out a framework for assessing insolvency regimes and describes the OECD questionnaire on insolvency regimes. Section 3 presents the new OECD indicator, displaying cross-country evidence on the design of insolvency regimes. Section 4 documents the recent empirical evidence linking insolvency regimes and productivity, based on the new indicator.

2. Design and measurement of insolvency regimes

2.1. Design of insolvency regimes

7. Market imperfections, such as coordination problems, incomplete contracts and information asymmetries, call for insolvency procedures that facilitate the exit of failing firms in an orderly fashion. For instance, when a debtor is suspected of being insolvent, creditors have an incentive to engage in a “rush to the exit”, rapidly enforcing their individual claims, even if it results in a reduction in the total value of recoverable assets.

In practice, it is also difficult for debtors and creditors to write a complete private contract that ensures an optimal outcome ex ante due to the high number of contingencies and the fact that the debtor can acquire new assets and liabilities after the initial contract (Hart, 2000). Insolvency regimes therefore contain provisions to deal in an orderly fashion with the financial distress of commercial entities (i.e. corporate insolvency regimes) and entrepreneurs who have either been trading as a sole proprietor or who are part of a closely-held private company (i.e. personal insolvency regimes).

8. While the objectives of insolvency regimes are well-established, there is less consensus on their optimal design. Given the complementarities between insolvency regimes and other institutional settings, such as enforcement quality and judicial efficiency, there is no "one size fits all" approach. Nevertheless, a number of studies have outlined international best practices (IMF, 1999; INSOL, 2000; UNCITRAL, 2004; World Bank, 2015; Bricongne et al., 2016). A general lesson is that the regimes should be designed in a way to encourage debtors to take appropriate actions sufficiently early on in their financial difficulties, thereby increasing the chances of a successful restructuring.). These include, but are not restricted to:

- A clear trigger that induces either the creditor or the debtor to initiate insolvency proceedings. This should be designed to encourage debtors to take appropriate actions sufficiently early on in their financial difficulties, thereby increasing the chances of a successful restructuring.
- The availability of an efficient liquidation option and a fair opportunity for rehabilitation, which helps to assess whether firm value is maximised by liquidation or restructuring. Specifically:
    - Supporting rehabilitation of viable firms: The regime should provide a mechanism that prevents a "hold-out" by a minority of creditors by enabling the overriding of their votes on a restructuring plan by a requisite majority of creditors. The interests of dissenting creditors should also be protected by ensuring that they are treated in the same way as similarly situated creditors.
    - Speedy liquidation of non-viable firms: The system should facilitate the sale of the business as a going concern, provide flexibility in the liquidation process, and incentivise the speedy exit of non-viable firms so as to maximize value for all parties.
- A design that discourages strategic behaviour by creditors and debtors. For example:
    - In the absence of well-designed voting rights for creditors, an individual creditor can threaten to force an inefficient result in the negotiations (Quinn, 1985).
    - In the absence of credible threats, debtors can also strategically default, i.e. declare insolvency to obtain debt relief.
    - Fraudulent entrepreneurs can strategically "tunnel" assets (i.e. transfer assets prior to insolvency) so it is important that the system can differentiate between honest and fraudulent entrepreneurs – a distinction that does not exist in many European countries in contrast to the United States.
- Given that in some countries, corporate insolvency may lead to personal insolvency once the firm fails, even where the firm is a separate legal entity, the

design of personal insolvency regimes also matter. For example, an efficient personal insolvency regime should take into account the debtors' prospects and incentives for future income generation, with a view to enabling a post-insolvency second chance for entrepreneurs.

9. Following earlier studies and with the limitations outlined in mind, the OECD questionnaire has been based on the assumption that the inefficiencies on the exit margin are likely to be more pronounced in economies where insolvency regimes impose a high personal cost to failed entrepreneurs, lack sufficient preventative and streamlining measures, lack tools to facilitate restructuring and other features – the role of courts, employee rights and the treatment of fraudulent activities – which may delay the timely resolution of financial distress.

10. One important trade-off in designing insolvency procedures concerns on the one hand, the incentives it provides investors to extend credit and to monitor firm performance, and on the other hand, the incentives it provides debtors to manage the firm efficiently and transparently. Insolvency regimes can promote efficient outcomes by providing these incentives: i) prior to insolvency when the firm is healthy (ex ante efficiency); and ii) once the firm is in distress and enters insolvency (ex post efficiency). While ex ante efficiency will be important in order to discourage risky behaviour from creditors and managers (i.e. moral hazard), the available indicators – including the new indicators presented below – tend to place more emphasis on ex post efficiency incentives, partly because it is easier to measure.

2.2. The OECD questionnaire on insolvency regimes

11. A range of recent OECD studies have connected a high cost to close a business (based on World Bank Doing Business indicators) to weak productivity outcomes, via less scope for productivity spillovers, the misallocation of labour, capital and skills and declining business dynamism (Box A1). While this research suggests that policy-induced exit barriers clearly matter, it is difficult to infer specific policy recommendations since less is known about the policy design features that influence exit costs (Adalet McGowan and Andrews, 2016). Furthermore, the available cross-country indicators of insolvency regimes (e.g. World Bank Doing Business; Carcea, et al., 2015) have a number of limitations, particularly with respect to design features that are relevant for productivity outcomes.

12. More specifically, outcome-based measures from World Bank Doing Business – i.e. time to complete and the costs of insolvency procedures – are based on a very stylised case study. The simplicity of the case study is appealing and is preferable to survey-based approaches that attempt to gauge the average time of insolvency proceedings given that survey respondents typically find it difficult to give an exact answer without details on the complexity of the case. Yet, as outlined in Adalet McGowan and Andrews (2016), the case study approach also has several limitations as it: *i)* refers only to corporate insolvency; *ii)* involves debt covered by collateral – i.e. the hotel, a tangible asset – while intangible assets are difficult to collateralise and can complicate the insolvency proceedings; *iii)* relates only to one senior secured creditor, which is a bank, and does not take into account issues of priority, which is an important element of insolvency regimes; *iv)* focuses only on formal insolvency proceedings as the respondents are not offered the option of out-of-court settlements and informal work-out options; and *v)* lacks information on design features that can provide specific policy levers for reform.

13. While the different features of corporate insolvency regimes also apply to personal insolvency regimes, personal insolvency regimes are often more relevant for entrepreneurs and small businesses. Indeed, the corporate vs non-corporate distinction in assets and liabilities is often blurred for small firms, either because lenders require personal guarantees or security – e.g. a second mortgage on the owner's home – or because prior to incorporating and obtaining limited liability protection, entrepreneurs typically use personal finances (Berkowitz and White, 2004; Cumming, 2012). However, the recent World Bank indicators on the strength of insolvency framework refer only to corporate insolvency and thus abstract from the features of personal insolvency regimes. Moreover, these indicators do not capture fully the availability and the length of the stay on assets, restrictions on dismissal of employees during insolvency proceedings, the relative power of courts, the fate of management and prevention and streamlining tools as they only focus on formal insolvency proceedings. While some of these gaps can be addressed using the data from the European Commission (Carcea et al., 2015) – including the role of courts and the fate of incumbent management – these indicators are only available for a sub-sample of European countries and refer to 2012, and hence do not reflect the extensive reforms to insolvency regimes, especially in Southern Europe.

14. To fill the gaps in the existing indicators, this paper reports the results of a questionnaire on corporate and personal insolvency regimes that was circulated to 35 OECD member and 11 non-member countries. Responses were received from 39 countries: all OECD countries (except Iceland) plus China, Costa Rica, Lithuania, Malaysia and Russia. Argentina, Brazil, Colombia, India, Indonesia and South Africa have not responded. The choice of questions and coding of the potential responses to each question is based on the main conclusions of the theoretical and empirical literature on insolvency regimes and economic growth. The questionnaire was designed to capture design features of insolvency regimes in eight key areas: the initiation of restructuring, stay on assets, possibility of new financing, fate of incumbent management, treatment of dissenting creditors, role of courts, priority order of claimants (e.g. the role of employees and government) and the availability of a fresh start. It also contained questions on the heterogeneity of insolvency proceedings according to type of firm and entrepreneur and preventative measures and pre-insolvency proceedings. For some questions, the answers were requested for two types of proceedings: *i)* liquidation; and *ii)* restructuring. In order to get a better understanding of reforms over time, countries were also asked to indicate the state of play with respect to the different features of insolvency regimes at five year intervals since 1995 (i.e. 1995, 2000, 2005, 2010 and 2016), but the final responses only allowed the construction of indicators for 2010 and 2016.

2.3. Structure of the OECD insolvency regime indicators

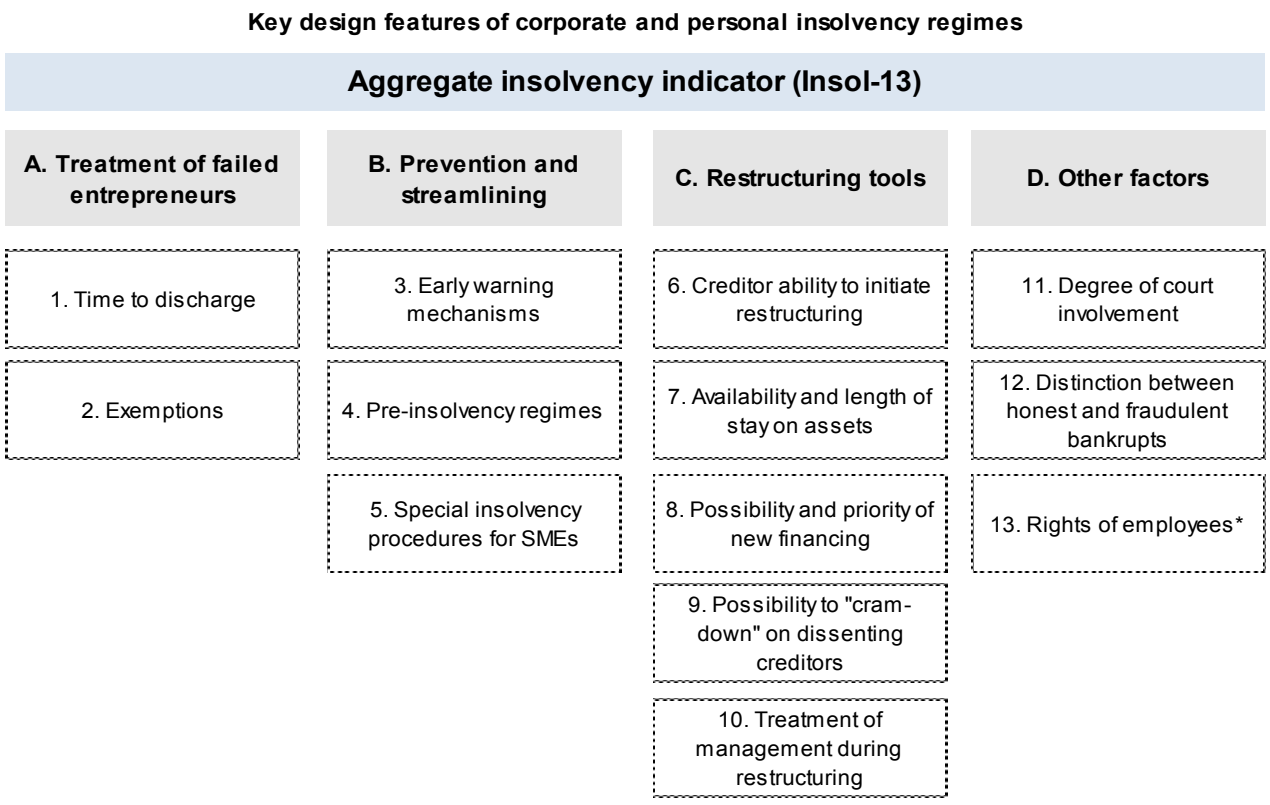
15. Well-designed insolvency regimes may affect labour productivity growth through a variety of channels. First, to the extent that insolvency regimes can distinguish ex-ante between non-viable and viable firms, they can strengthen market selection by facilitating the exit of the former and successful internal restructuring of the latter. Second, they can reduce the likelihood that scarce resources are trapped in inefficient or "zombie" firms and in turn improve the ease and speed at which such resources are reallocated to more productive uses. Third, insolvency regimes that do not unduly penalise entrepreneurial failure can spur firm creation, draw more talented individuals into entrepreneurship and incentivise radical innovation over conservative business strategies.

16. While the choice of the different aspects of the indicators are discussed in detail in the remainder of the section, our working hypothesis is that the inefficiencies on the exit

margin discussed above– i.e. weak market selection, zombie congestion and inefficient capital reallocation – are likely to be more pronounced in economies where insolvency regimes (see Figure 1):

- impose a high personal cost to failed entrepreneurs due to a high time to discharge and few exemptions covering the insolvent debtor's assets.
- lacks sufficient preventative and streamlining measures such as a lack of early warning mechanisms and pre-insolvency regimes and an absence of special procedures for SMEs; and
- lacks tools to facilitate restructuring such as the inability of creditors to initiate restructuring, an indefinite stay on assets, no priority of new financing over unsecured creditors, the existence of the rights of dissenting creditors to block a restructuring plan (lack of "cram-down"), and the dismissal of incumbent management during restructuring.

Figure 1. The structure of the OECD insolvency indicator



Note: * denotes that data on Rights of Employees are missing for Denmark and Korea.

17. The questionnaire yielded cross-country comparable information on 13 key design features for which there was a sufficient response rate and which – based on international best practice and existing research – may impact the timely initiation and resolution of insolvency proceedings. In order to facilitate cross-country comparisons with respect to the individual and composite indicators, the responses are scaled to take a

value between 0 and 1 and are increasing in the extent to which the insolvency regime delays the initiation of and increases the length of insolvency proceedings The questions utilised to construct the indicators and the exact coding of individual features is presented in detail in Table A1 in Annex A. The aggregation methodology applies equal weights to each feature in the absence of any strong prior indication of their relative importance. In order to facilitate cross-country comparisons, we construct various composite indicators through a bottom-up approach, which allows tracing indicator scores back to individual policies (Figure 1).

2.3.1. Treatment of failed entrepreneurs

18. A key dimension of personal insolvency regimes is the extent to which they "sanction" failed entrepreneurs. Following the literature, the extent to which insolvency regimes limit entrepreneurs' ability to start new businesses following a failure will typically depend on: *i)* the availability of and the time to discharge (i.e. the number of years a bankrupt must wait until they are discharged from pre-bankruptcy indebtedness); *ii)* the extent of exemptions of assets of the debtor that are not directly linked to the business (e.g. the family house or a spouse's assets); and *iii)* the restrictions imposed on civil and economic rights of the debtor.

19. Cross-country evidence suggests that lower personal costs to failed entrepreneurs can increase self-employment rates, small business owners' use of insolvency proceedings (Armour and Cumming, 2008), firm entry rates (Lee, et al., 2007; Fan and White, 2003) and attract "better" entrepreneurs (Eberhart, 2014; Fossen, 2014). In particular, a lengthy time to discharge can discourage entrepreneurship by making it costlier to start risky businesses. The availability of a "fresh start" has been found to foster productivity growth via higher incentives for entrepreneurship and experimentation by: *i*) increasing firm entry (Cumming, 2012); *ii*) providing failed entrepreneurs with a second chance to apply their experience and lessons learnt to ensure their new businesses grow (Burchell and Hughes, 2006); and *iii*) attracting better quality entrepreneurs – i.e. individuals with higher observed human capital (Eberhart, et al., 2014).

20. However, facilitating a fresh start does not come without a trade-off. The literature suggests that full debt discharge after a limited period of time should be available for debtors, but the ideal length for the time to discharge is less straightforward. On one hand, a lengthy time to discharge can discourage entrepreneurship by making it costlier to start risky businesses. On the other hand, a short time to discharge can affect the behaviour of lenders and increase the cost of credit, which can adversely affect entrepreneurship. The exemptions of debtors' assets that are not directly linked to the business (e.g. the family house or a spouse's assets) have also a similar relationship to entrepreneurship and productivity as the time to discharge. For example, there is evidence that the generosity of exemptions can positively affect entrepreneurship by lowering the cost of failure and enabling more risk-averse individuals to start a business (Gropp et al., 1997), although they can also increase credit costs and collateral requirements (Berkowitz and White, 2004; Davydenko and Franks, 2008). At the same time, forced sale of assets can decrease the value of the proceeds that goes to the creditor (Campbell et al., 2011).

21. In addressing these trade-offs, we follow previous empirical literature that links the number of years to discharge to entrepreneurship via data on self-employment and venture capital (Armour and Cumming, 2008 and 2006) and assume that a lengthier time to discharge is likely to be detrimental to productivity growth. Furthermore, since constructing indicators from continuous variables requires cut-offs, we use threshold

values of one and three years. This is in line with the 2016 proposal by the European Commission of the harmonisation of discharge periods in Europe to a maximum of three years for honest entrepreneurs. As with time to discharge, we follow Armour and Cumming (2008) and assume that more generous exemptions are less likely to delay the initiation of insolvency proceedings.

2.3.2. Prevention and streamlining features

22. Early resolution of debt distress can maximise the value recovered for creditors and minimise the cost to the economy (Garrido, 2012), but a lack of sufficient preventative and streamlining measures can be a barrier to early and swift resolution.

23. Early warning tools – such as training to firms to assess their financial position and financial and debt counselling to companies with financial difficulties – and preventative restructuring frameworks such as pre-insolvency regimes are also potentially important to the extent that they can assist the debtor in the assessment of the extent of risks involved, allow debtors and creditors to intervene early and if needed, negotiate informally before insolvency starts (Bricogne et al., 2016). The lack or limited use of such measures, particularly in Southern European countries (Costantini, 2009), can push viable firms experiencing temporary financial distress into formal insolvency proceedings. 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.

24. Small and medium enterprises (SMEs) may warrant different treatment from other firms in a debt restructuring strategy as complex, lengthy, and rigid procedures, required expertise, and high costs of insolvency can fail to adequately meet the needs of SMEs (EC, 2011; 2013). Furthermore, some SMEs are owned and operated by families who have pledged their personal assets for loans. As a result, business insolvency may lead to personal insolvency once a business fails, even where the business is a separate legal entity (Bergthaler et al., 2015). Hence, special insolvency procedures for SMEs – such as simplified or pre-packaged in-court proceedings targeting SMEs or the possibility to have instalments in the payment of administrative expenses related to the insolvency proceedings – could ensure that non-viable ones exit and viable ones in temporary distress are restructured without delay.

2.3.3. Restructuring tools

25. Design features of corporate insolvency regimes should support the rehabilitation of viable firms (Djankov et al, 2008) by lowering the barriers to restructuring. The timely initiation of restructuring and the continuity of firm operations during the restructuring process, which increases the chances of a successful restructuring, can be enabled by a number of design features.

26. The possibility of starting restructuring procedures early is a key element of an effective insolvency regime as delays can increase costs and make it less likely that viable firms are successfully restructured, which could lead to valuable resources being trapped in marginal firms. Hence, it is important that both debtors and creditors have the opportunity and the right incentives to initiate such procedures.

27. Continuity of firm operations during the restructuring process increases the chances of a successful restructuring. For example, a stay on assets stops actions by

creditors, with certain exceptions, to collect debts from a debtor. Indeed, having a stay on assets provides room for parties to negotiate without the interruption of enforcement actions, while the absence of a stay on assets can lead to premature liquidations, even when the value of keeping the firm in operation is higher than its liquidation value (Wruck, 1990). This could not only result in a higher probability of viable firms being liquidated, but also discourage entrepreneurs from starting a new business and affect the innovation strategy adopted by entrants. On the other hand, if creditors have limited ability to recuperate their loan, this can increase the cost of credit, which can adversely affect entrepreneurship (Armour and Cumming, 2008; Lee et al., 2011; Broadie et al., 2007). Hence, safeguards are necessary to ensure that the stay is time-limited and be used strictly to facilitate a restructuring plan.

28. Priority rules refer to the order in which various stakeholders get paid in the event of liquidation. While these are specified ex ante in the debt contract in accordance with general insolvency laws, there might be ex post deviations from absolute priority rules. Typically, senior creditors are paid in full prior to any payment being made to junior creditors. In particular, securitised creditors have the highest priority, and all creditors have seniority to equity holders or shareholders, who tend to take on riskier investments. However, there can be other stakeholders – including employees, suppliers and tax authorities – whose priority rights vary across countries.

29. In general, retaining the (ex ante) priority order increases the efficiency of the system by making it more predictable and fair. At times, however, deviations from absolute priority may be warranted (e.g. priority for new financing), when it might lead to a successful restructuring and a higher final recovery value for all creditors (EC 2014a and 2014b; Bergthaler et al., 2015). However, the extent and the exact design of the priority is less clear cut. International best practice suggests that such new financing should be granted priority ahead of unsecured creditors. At the same time, it is important to ensure that existing creditors do not exploit the priority of new financing to move on to the top of the queue, by injecting new capital to the firm. Unless it is agreed by the secured creditors, post-commencement financing should normally not have priority over existing secured creditors since this would adversely affect the availability of credit and legal certainty.

30. Requiring a unanimous vote by all creditors on a restructuring plan can delay proceedings. Thus, allowing the approval of such a plan by only a requisite majority of creditors (the so-called "cram-down") can strengthen market selection by promoting the timely restructuring of viable firms that encounter temporary financial difficulties, and deliver higher future within-firm productivity gains (Bricongne et al., 2016). At the same time, in order to prevent the potential adverse effects on credit supply, it is important that the interests of dissenting creditors are protected by ensuring that they are treated equally to other creditors within the same class and would receive under the plan at least as much as they would receive under liquidation.

31. Allowing incumbent managers to stay in charge of the day-to-day operations of a firm in distress rather than forcing them out during restructuring proceedings can affect productivity in conflicting ways. Insolvency regimes that do not provide sufficient cover for incumbent management increase the private incentives of management to hide the true financial state of the firm and gamble on resurrection (Marinč and Vlahu, 2012). This would likely weaken market selection and, by delaying the process, reduce the chance that restructuring is successful in delivering higher future productivity gains. These channels will also operate if the retention of incumbent management increases the

incentives for management to make firm-specific productivity-enhancing investments in the event that new financing is available (von Thadden et al., 2010; Ayotte, 2007). Against this, retaining incumbent management could weaken market selection if it incentivises secured creditors to liquidate, rather than restructure, viable firms (Kaiser, 1996). Despite these trade-offs, we assume that dismissal of management during restructuring can have largely adverse effect on the timely initiation of insolvency.

2.3.4. Other design features

32. There are other features – related to the role of courts, employee rights and the treatment of fraudulent activities – which may delay the timely resolution of financial distress.

33. Court involvement – directly or through court-appointed insolvency practitioners – is important in guaranteeing the rights of different parties involved and can increase ex post efficiency by acting as a coordination tool. However, court involvement can come at a cost – particularly for smaller firms that lack scale to cover the associated fixed costs (Bergthaler et al., 2015) – so it is essential to: *i*) limit court involvement to only those cases where it is absolutely necessary; and *ii*) improve the expertise of the courts to deal with complex insolvency cases where their intervention is required.

34. Although some stages of a restructuring process require court involvement, most procedural steps – in principle – can be dealt with out-of-court. Doing so could reduce the workload of the courts, enabling them to focus on a more timely resolution of those difficult cases where court involvement is necessary (Franks and Sussman, 2001; Betker, 1997). Limiting the involvement of courts to where it is only necessary can raise aggregate productivity by facilitating the exit of non-viable firms (i.e. strengthening market selection) and to the extent this is achieved in a more timely manner, release scarce resources to be re-deployed to more productive uses. With this in mind, we construct an indicator based on the number of different stages of insolvency proceedings where courts are involved. It should be noted that this is just a proxy as there are large complementarities between this feature and judicial efficiency (Ponticelli, 2015).

35. If honest bankrupt entrepreneurs are treated the same way as fraudulent entrepreneurs, they may run the risk of being marked with the social stigma that is related to insolvency, face legal and administrative barriers for restarting and have problems with accessing finance for their next project. Since, the stigma of business failure can inhibit bankrupt entrepreneurs to restart (Burchell and Hughes, 2006), a differentiation in the treatment of honest and fraudulent entrepreneurs is crucial for an effective second chance.

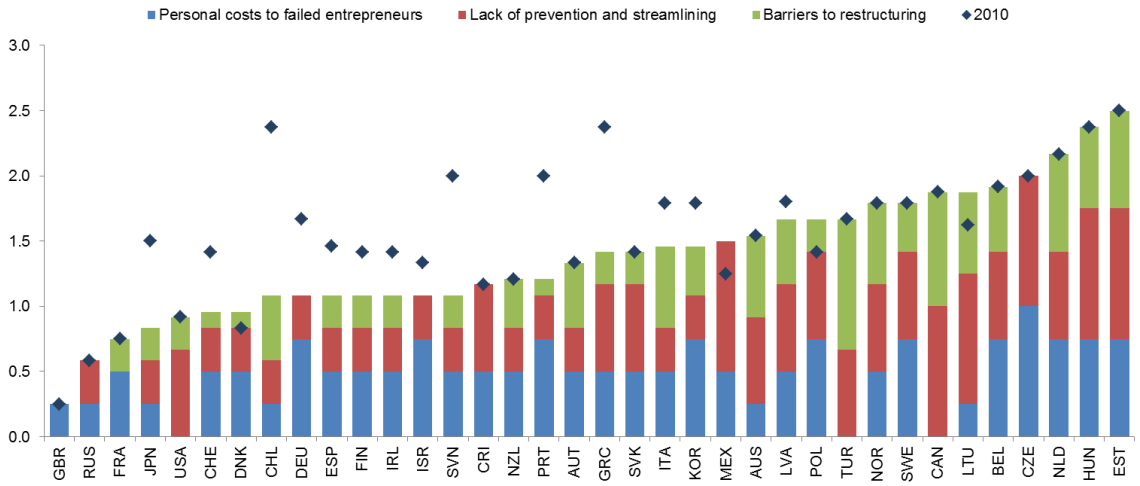
36. Stringent restrictions on worker dismissals and collective dismissals that cannot be negotiated during proceedings may delay the exit or downsizing of weak firms. For example, such restrictions can create a bias away from liquidation of non-viable firms, which can adversely affect productivity by: *i*) weakening market selection in the event that non-viable firms are kept on life support; *ii*) stifling productivity-enhancing reallocation across firms; and *iii*) choosing an internal restructuring strategy that is less likely to deliver future within-firm productivity gains. This raises the question of whether there are more efficient tools – such as well-designed active labour market policies – to support workers displaced by firm exit (Andrews and Saia, 2016).

3. Cross-country differences in insolvency regimes

3.1. The OECD insolvency regime indicators

37. Figure 2 presents the combination of three sub-indicators (see below for detailed discussion) – personal cost to failed entrepreneurs, lack of prevention and streamlining and barriers to restructuring. According to these metrics, cross-country differences in the design of insolvency regimes are significant. For example, the United Kingdom's low value reflects the fact that the personal costs associated with entrepreneurial failure and barriers to restructuring are low, while there is also a number of provisions to aid prevention and streamlining. In Estonia and Hungary, however, the reverse is true and a closer inspection of Table 1 – where darker shades denote the specific design features that are likely to delay the initiation of and increase the length of insolvency proceedings – provides more specific insights into why this is so. In this regard, the personal costs associated with entrepreneurial failure are high in Estonia and Hungary due to a high time to discharge, which means that failed entrepreneurs must wait five years before starting another business in Estonia and Hungary, compared to just one year in the United Kingdom. Moreover, an inability of creditors to initiate restructuring and a lack of priority given to new financing over unsecured creditors in both countries (plus an indefinite stay on assets in Estonia) translates into significant barriers to restructuring. Finally, a lack of early warning mechanisms, pre-insolvency regimes and special insolvency procedures for SMEs imply that prevention and streamlining is weak in Estonia and Hungary.

Figure 2. OECD indicator of insolvency regimes

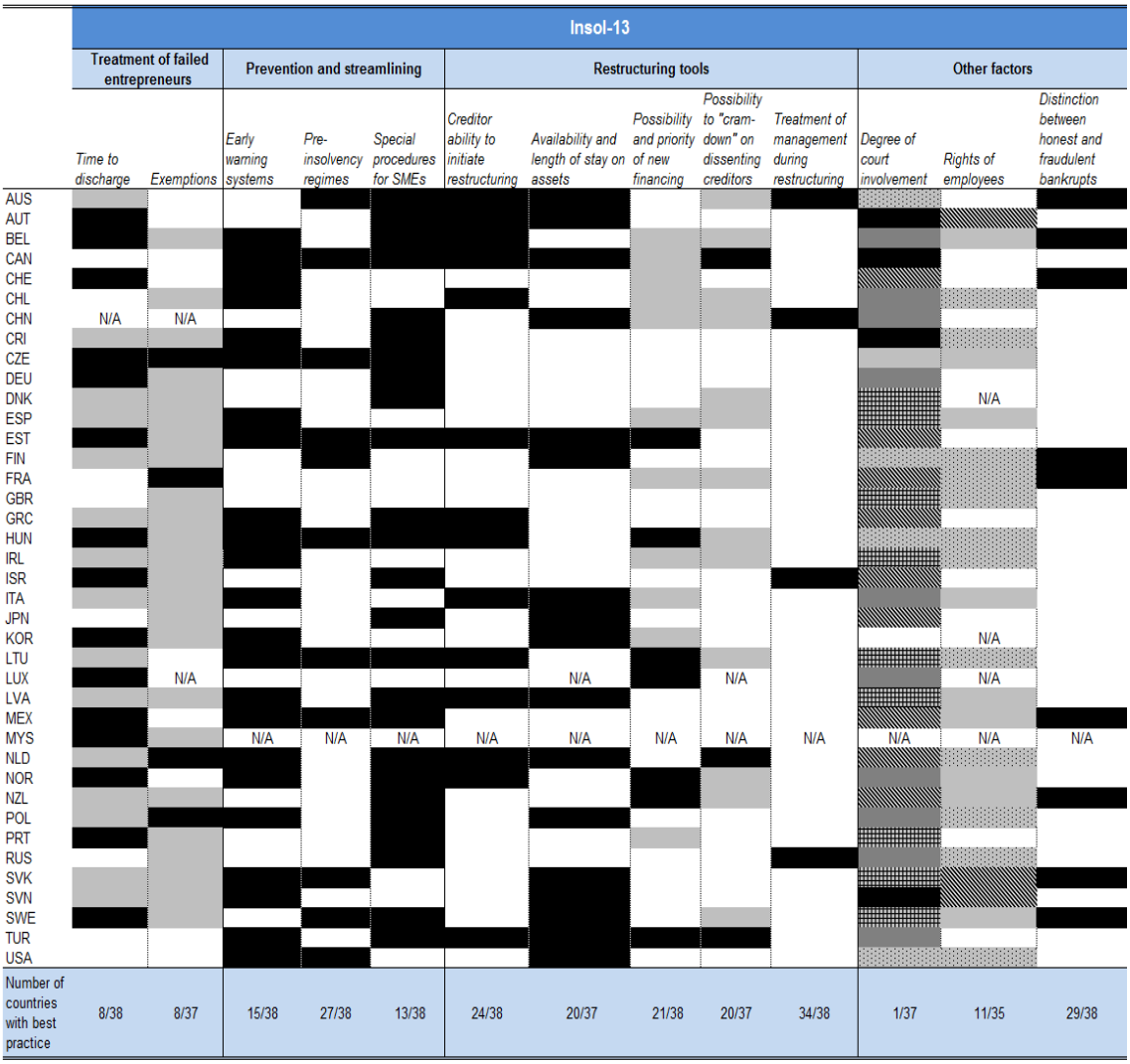


Note: The stacked bars correspond to three subcomponents of the insolvency indicator in 2016. The diamond corresponds to the value of the aggregate insolvency indicator based on these three subcomponents in 2010. Only countries for which data are available for the three sub-components in 2016 are included.
Source Calculations based on the OECD questionnaire on insolvency regimes.

38. At the same time, some countries perform well only in certain aspects of insolvency regimes. For example, Canada, Turkey and (to a lesser extent) Australia combine very low personal costs to entrepreneurial failure with very high barriers to restructuring, while the reverse is true in the Czech Republic, Israel, Germany and (to a lesser extent) Portugal. In the United States, personal costs to failed entrepreneurs and

barriers to restructuring are relatively low, but prevention and streamlining measures are generally lacking. The latter is not too surprising, given that such features emerged as a policy response to the financial crisis (see below) and as such are generally lacking outside of non-European OECD countries (e.g. Canada and Mexico).

Table 1. Cross-country variation in specific features of insolvency regimes



Note: Darker shades denote the specific design features that are likely to delay the initiation of and increase the length of insolvency proceedings. Specifically, a white cell refers to the best practice and cells are ordered such that a black cell refers to features that are most likely to delay the initiation of and increase the length of insolvency proceedings.
Source: Calculations based on the OECD questionnaire on insolvency regimes.

39. Digging deeper into the individual features in Table 1, the time to discharge – and thus the personal costs associated with entrepreneurial failure – remains high in many countries. Concerning prevention and streamlining, while pre-insolvency regimes are present in almost three-quarters of countries, early warning systems and special insolvency procedures for SMEs are only available in about one-third of countries analysed. Turning to barriers to restructuring, creditors lack the ability to initiate

restructuring and the stay on assets is indefinite in over one-third of countries analysed. Meanwhile, incumbent management is retained during restructuring in all but four countries, while "cram-down" on dissenting creditors – which allows the approval of a restructuring plan by only a requisite majority of creditors – is only absent in three countries. That said, even in those countries that allow cram-down, cross-country differences emerge in the specific design features. For instance, the provision that dissenting creditors should receive at least as much under the restructuring plan as they would receive under liquidation is not present in 14 out of the 34 countries that allow cram-down (i.e. the grey shading).

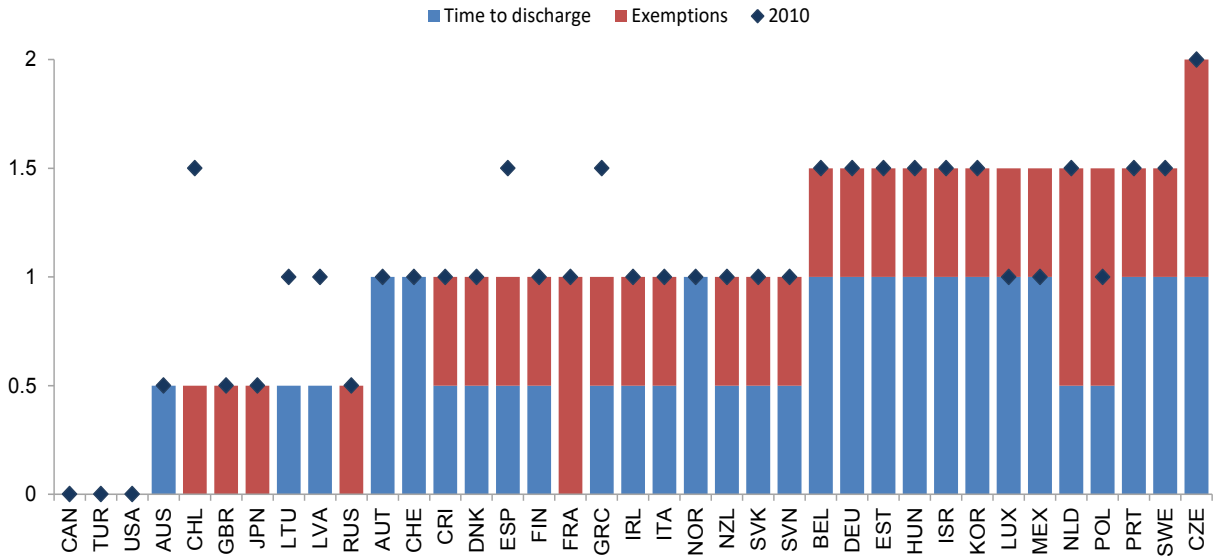
40. A comparison of the 2010 and 2016 values for the three sub-indicators shows that 14 countries have reformed their insolvency regimes recently. The countries with the biggest reform in this area are Chile, Germany, Greece, Japan, Portugal and Slovenia (Figure 2). Interestingly, a high level of a respective indicator in 2010 is a poor predictor of subsequent reform activity. This stands in contrast to recent studies of product market regulations, which find that reforms are more likely in countries where the initial stance of market regulations is stricter (Bouis, Duval and Eugster, 2016). The rest of the section provides detailed information on the individual features that were used to calculate the main sub-indicators.

3.2. Personal costs to failed entrepreneurs

41. The OECD indicator assumes that a lengthier time to discharge is detrimental to productivity growth – and hence is given a higher ("worse") value. Threshold values of one and three years are adopted for scoring, with the worst score given to a time to discharge above 3 years – in line with the 2016 proposal by the European Commission of the harmonisation of discharge periods in Europe to a maximum of three years for honest entrepreneurs. More generous exemptions are assumed less likely to delay the initiation of insolvency proceedings – hence are given a lower score in the indicator (see Annex A for further details).

42. Figure A.1 in the Annex shows that there are significant cross-country differences in discharge possibilities. The underlying data shows that discharge is not available in Mexico, Norway and Switzerland, but also is higher than three years in international comparison in 12 other countries in the sample. The time to discharge is equal to 3 years in 12 countries which allow debt discharge. Figure A.2 shows that exemptions are most stringent in the Czech Republic, France, the Netherlands and Poland, where exemptions are less generous than modest personal items and working equipment. The majority of countries in the sample limit exemptions to modest personal items and working equipment, while 9 countries have more generous exemptions (Figure A.2). The sub-indicator combining these two features in Figure 3 shows that personal costs to entrepreneurship are lowest in Canada, Turkey and the United States, while they are the highest in the Czech Republic. Reform activity has been lowest in personal costs to failed entrepreneurs, with only Chile, Greece and Spain undertaking reforms in this area since 2010.

Figure 3. Personal costs to failed entrepreneurs



Note: See Figure 1 for details on the composition of the various indicators and Annex A for the coding of individual features.
Source: Calculations based on the OECD questionnaire on insolvency regimes.

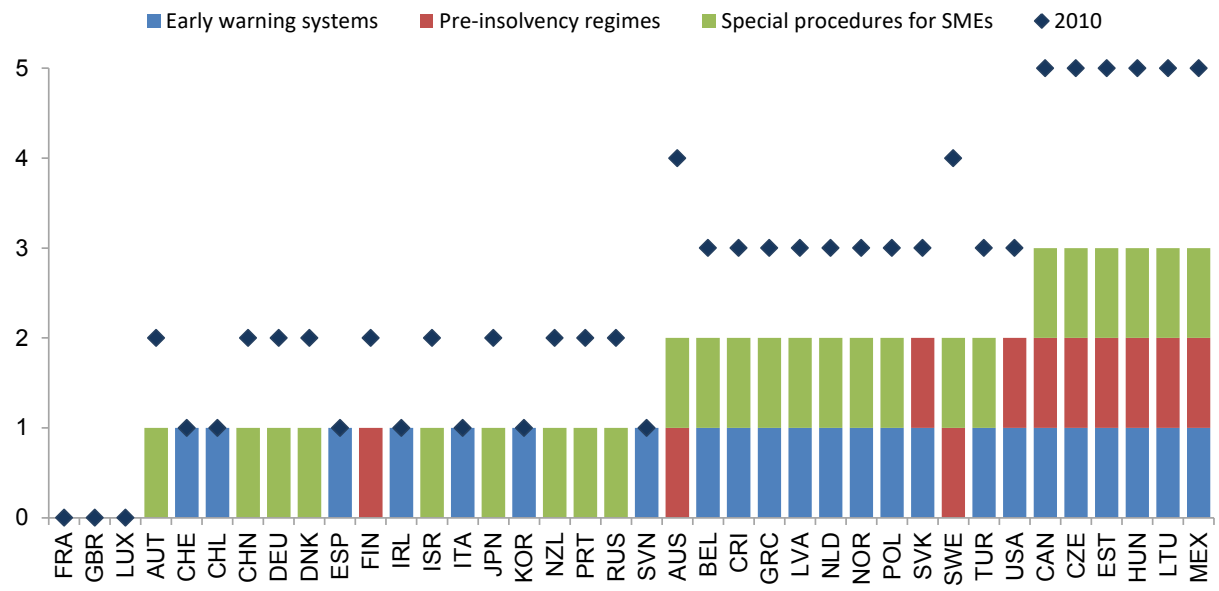
3.3. Prevention and streamlining

43. Lack of prevention and streamlining combines three features of insolvency regimes: early warning mechanisms, pre-insolvency regimes and special insolvency procedures for SMEs The indicator counts the existence of these three features, with a score of zero translating into full prevalence of prevention and streamlining features across the three fields, i.e. the country has at least one procedure in place in all of them.

44. Figure 4 shows that France, Luxembourg and the United Kingdom have a number of tools to aid prevention and streamlining. Recent insolvency reform efforts have been largest in the area of prevention and streamlining, especially in European countries, with reforms observable in 11 countries. This may reflect the fact that such measures have been recently endorsed by the European Commission and the IMF, in response to the crisis (Carcea et al., 2015; Bergthaler et al., 2015; Laryea, 2010).

45. Early-warning mechanisms are present only in one-third of the countries analysed, suggesting that there is room for reform in this area (Figure A.3, Panel A). Pre-insolvency regimes tend to be in place in many European countries, but they are notably lacking in the Czech Republic, Estonia, Finland, Hungary, Lithuania, the Slovak Republic and Sweden. Moreover, they are not widespread in non-European OECD countries such as Australia, Canada, Mexico and the United States (Figure A.3, Panel B). Figure A.4 shows that 25 countries do not have special insolvency procedures, which could lead to many inefficient small firms continuing to operate because they lack scale to cover the fixed costs associated with formal insolvency proceedings.

Figure 4. Lack of prevention and streamlining



Note: See Figure 1 for details on the composition of the various indicators and Annex A for the coding of individual features.
Source: Calculations based on the OECD questionnaire on insolvency regimes.

3.4. Barriers to restructuring

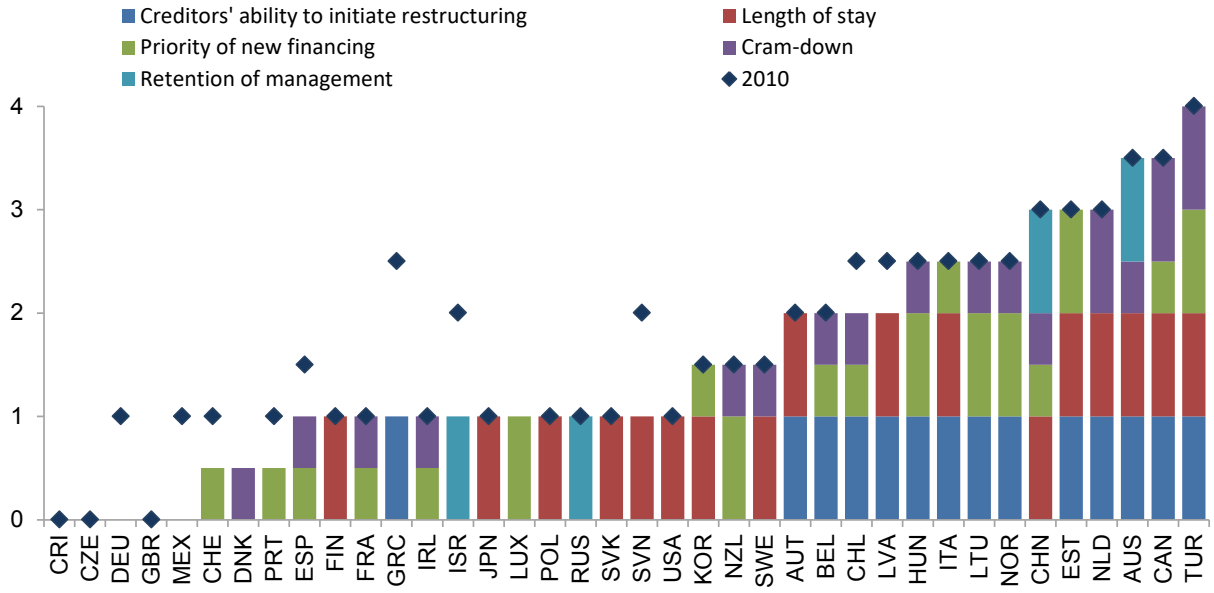
46. Five features that may potentially impose barriers to restructuring include creditors' inability to initiate restructuring, an indefinite stay on assets, lack of priority given to new financing, no cram-down of restructuring plans on dissenting creditors and the dismissal of incumbent management during restructuring. For each of the aforementioned areas, the indicator takes the value of zero for no impediments to restructuring (i.e. creditors are able to initiate restructuring, a limited stay on assets is possible, cram-down with certain conditions is possible new financing has seniority over unsecured creditors, management is not automatically fired). Figure 5 shows that barriers to restructuring have declined in 10 countries, which can potentially contribute to improving resource allocation and productivity.

47. In 14 countries (Figure A.5), only debtors can initiate restructuring, but providing creditors with the ability to initiate restructuring would help ensure the timely initiation of restructuring (World Bank, 2015; Bricongne et al., 2016). While a stay on assets during restructuring is available in all countries, the length of the stay varies and around half of the countries analysed has an indefinite length of stay on assets during restructuring (Figure A.6). There are significant cross-country differences both in terms of the availability and the priority of new financing to distressed or restructuring firms (Figure A.7). Of the 38 countries analysed, there is no priority for new financing in 20 countries, new financing has priority over both secured and unsecured creditors in 11 countries, while the remaining 7 countries grant priority over unsecured creditors only, which the theoretical literature suggests is most desirable.

48. The possibility of cram-down on dissenting creditors is absent in only in three countries – Canada, the Netherlands and Turkey (Figure A.8). Among the remaining 34 countries in the sample, 20 of them have the provision that dissenting creditors should

receive at least as much under the restructuring plan as they would receive under liquidation. Thus, there is room to reform the existing framework in the remaining 14 countries which already have the possibility to cram-down on dissenting creditors to best practice. Figure A.9 shows that management does not get dismissed in all but four countries, namely Australia, China, Israel and the Russian Federation.

Figure 5. Barriers to restructuring



Note: See Figure 1 for details on the composition of the various indicators and Annex A for the coding of individual features.
Source: Calculations based on the OECD questionnaire on insolvency regimes.

3.4. Other factors

49. We also consider three other factors: a high degree of court involvement, a lack of a distinction between honest and fraudulent bankruptcy and restrictions on individual and collective dismissals during proceedings (Figure 6).

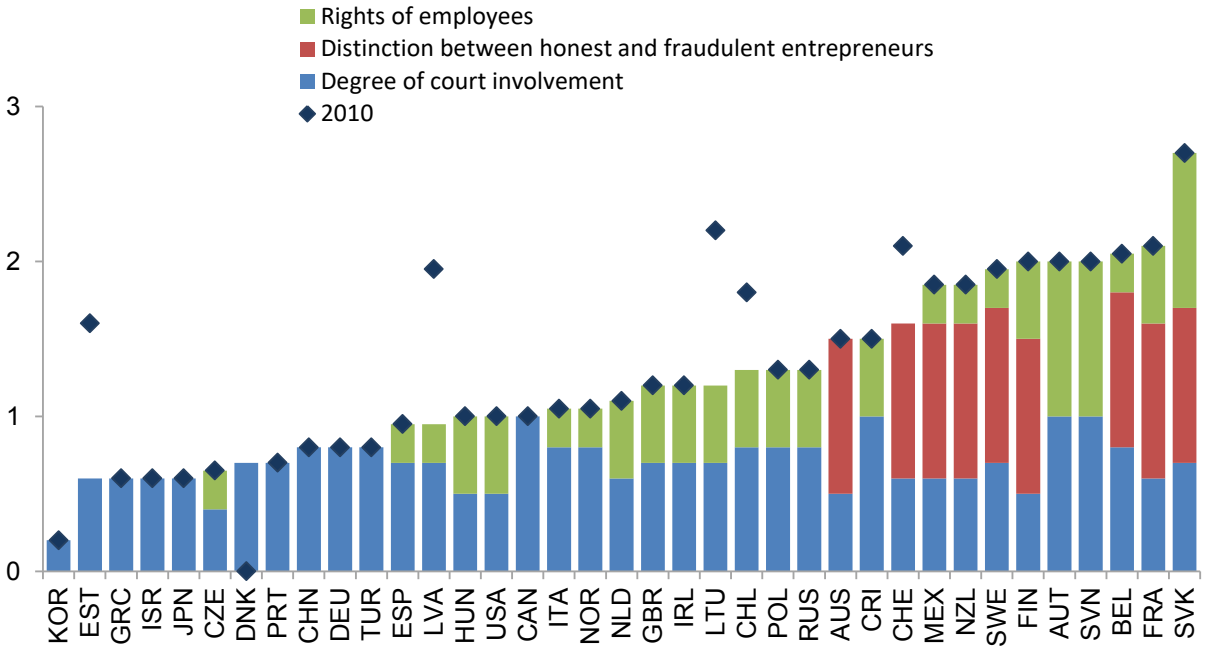
50. The indicator for the degree of court involvement in liquidation and restructuring is based on the number of different stages of insolvency proceedings (for both restructuring and liquidation) where courts are involved (up to 5, rescaled to be between 0 and 1). The degree of court involvement in liquidation and restructuring is lowest in Korea and highest in Canada, Costa Rica and Slovenia (Figure A.10).

51. A differentiation in the treatment of honest and fraudulent entrepreneurs is crucial for an effective second chance. This 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. Such a distinction is available in 29 countries analysed (Figure A.11).

52. The indicator for employee rights during liquidation and restructuring takes a value of 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. It takes the value of 0.5 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 1 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. Figure A.12 shows that there are significant cross-country differences in terms of, with the most stringent restrictions in Austria, Slovenia and the Slovak Republic.

Figure 6. Other features of insolvency regimes



Note: See Figure 1 for details on the composition of the various indicators and Annex A for the coding of individual features. Missing data for Denmark and Korea on rights of employees.
Source: Calculations based on the OECD questionnaire on insolvency regimes.

4. Insolvency regimes and productivity: evidence based on the new indicator

53. The new indicators are an important tool to assess the impact of insolvency regimes on economic performance and will allow for a better integration of the exit margin in economic analysis based on policy indicators. For example, using the new OECD policy indicators, OECD research (Adalet McGowan et al., 2017a and 2017b; Andrews et al., 2018) suggests that reforms to insolvency regimes can:

- Reduce the share of capital sunk in zombie firms – defined as those 10 years or older and with an interest coverage ratio less than one over three consecutive years – which in turn spurs the reallocation of capital to more productive firms.
- Revive weak firms by raising the likelihood that zombie firms subsequently return to better financial health and the weakest non-zombie firms avoid turning into

zombies. This implies lower costs to job churn than if insolvency reforms only raised aggregate productivity via the exit of weak firms.

- 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.

54. Finally, OECD and ECB research uses the new indicator to document synergies between financial and insolvency reforms as regards their impact on zombie congestion and its implications for capital reallocation and productivity. Specifically, improvements in bank health are more likely to be associated with a decline in zombie congestion in countries where insolvency regimes do not unduly inhibit corporate restructuring (Andrews and Petroulakis, 2017).

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Annex A. Additional information

Box A.1. Empirical evidence on insolvency regimes and productivity

This box reviews recent OECD studies examining the links between insolvency regimes and productivity, using the World Bank Doing Business indicators.

Misallocation of labour, capital and skills

- Insolvency regimes that do not excessively penalise failure – as measured by a lower cost to close a business – can promote the flow of capital to more innovative firms (Andrews, Criscuolo and Menon, 2014), by reducing the expectation of entrepreneurs that they will be heavily penalised in case of failure.
- Across OECD countries, less stringent insolvency regimes are to some extent associated with higher allocative efficiency and this effect is particularly strong in sectors with naturally higher firm turnover rates where regulations affecting exit costs are most likely to bind (Andrews and Cingano, 2014).
- Insolvency regimes that does not excessively penalise business failure can reduce the likelihood that valuable skills are trapped in inefficient firms, i.e. skill mismatch (Adalet McGowan and Andrews, 2015).

Productivity spillovers

- Debtor-friendly insolvency regimes are associated with more rapid technological diffusion, which enables laggard countries to catch-up with the technological frontier (Westmore, 2013).
- Insolvency laws that do not excessively penalise failure help firms at the national frontier to achieve a sufficient scale, enter global markets and benefit from innovations at the global frontier (Saia et al., 2015).

Business dynamism

- Public policies (e.g. in the area of insolvency regimes, contract enforcement, and civil justice efficiency) can help unleash the growth potential of young, innovative firms by enabling them to experiment with new business models and by fostering the reallocation of resources towards the most productive firms. Within the same country, industry, and time period, inefficient insolvency regimes have a much larger impact on the growth dynamics of entrants than of incumbents (Calvino, Criscuolo and Menon, 2016). This suggests that delaying reforms in these areas may be particularly detrimental for start-ups employing innovative business models and technologies, rather than for established incumbents.

If the cost of winding-down a business is particularly high, risky entrepreneurial ventures might not be brought to the market to avoid incurring high exit costs in case of failure. Indeed, insolvency regimes that more heavily penalise failure are negatively associated with MFP growth and the share of high growth firms in capital intensive industries (Bravo Biosca et al., 2012).

Table A.1. The OECD questionnaire and the scoring of the responses

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

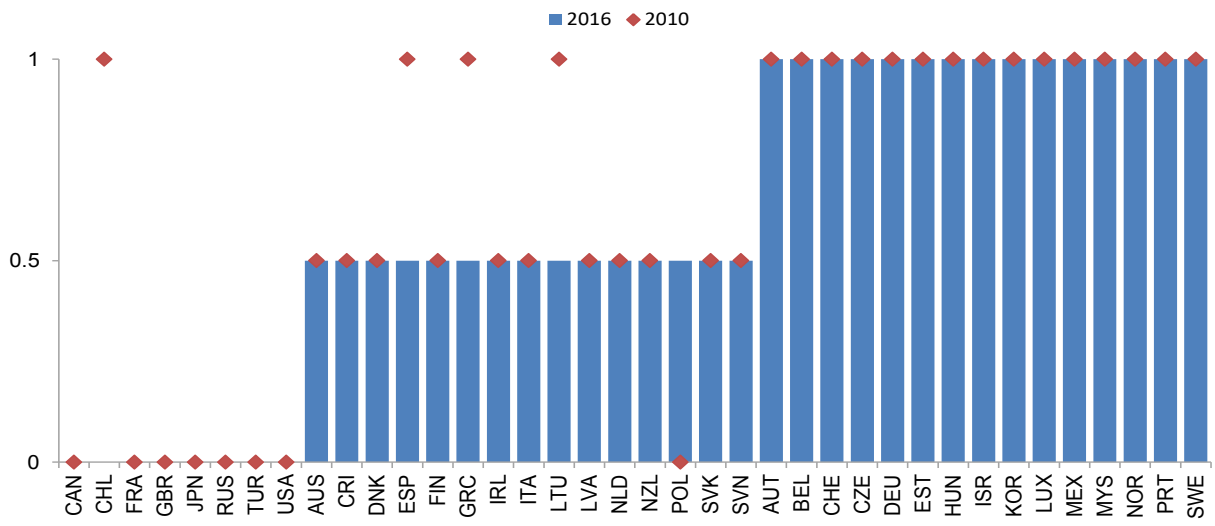
1. The following section provides detailed information on the thirteen features of insolvency regimes. In order to ease cross-country comparisons of the indicators, the responses are scaled to take a value between 0 and 1 and are increasing in the extent to which the insolvency regime feature may delay the initiation and resolution of proceedings. All individual features are assigned equal weights to construct the composite indicators. All data refer to 2016.

Treatment of failed entrepreneurs

Time to discharge

2. If discharge is not available, 40 years are allocated as a proxy for the working life of a typical worker following Armour and Cumming (2008). If discharge is available, based on the number of years to discharge, a composite index is created using thresholds, which takes the value 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.

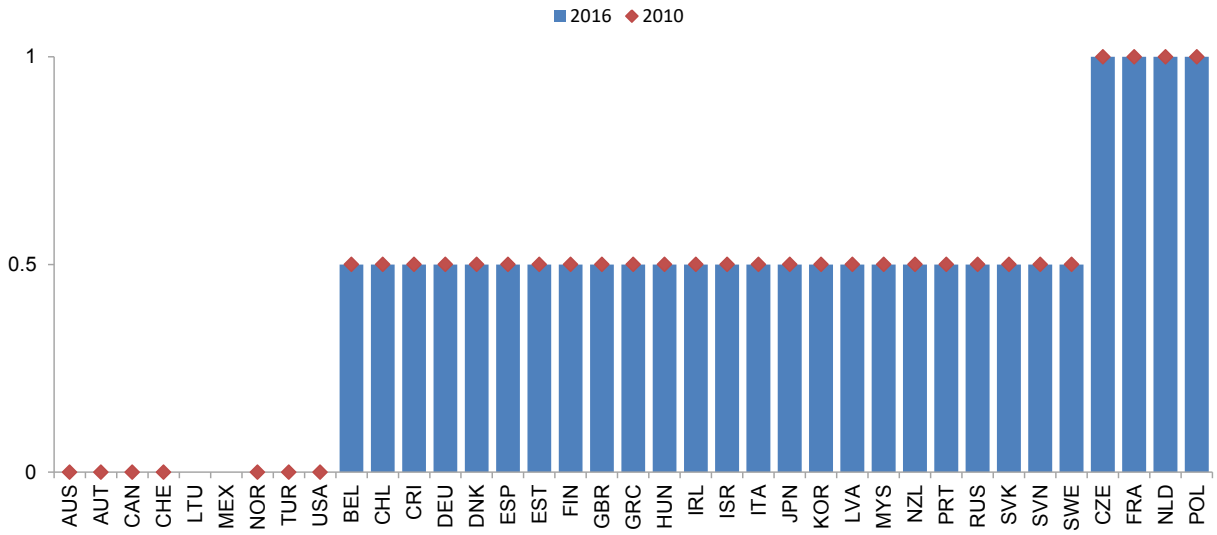
Figure A.1. Time to discharge



Exemptions

3. The indicator takes the value 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 A.2. Exemption of assets



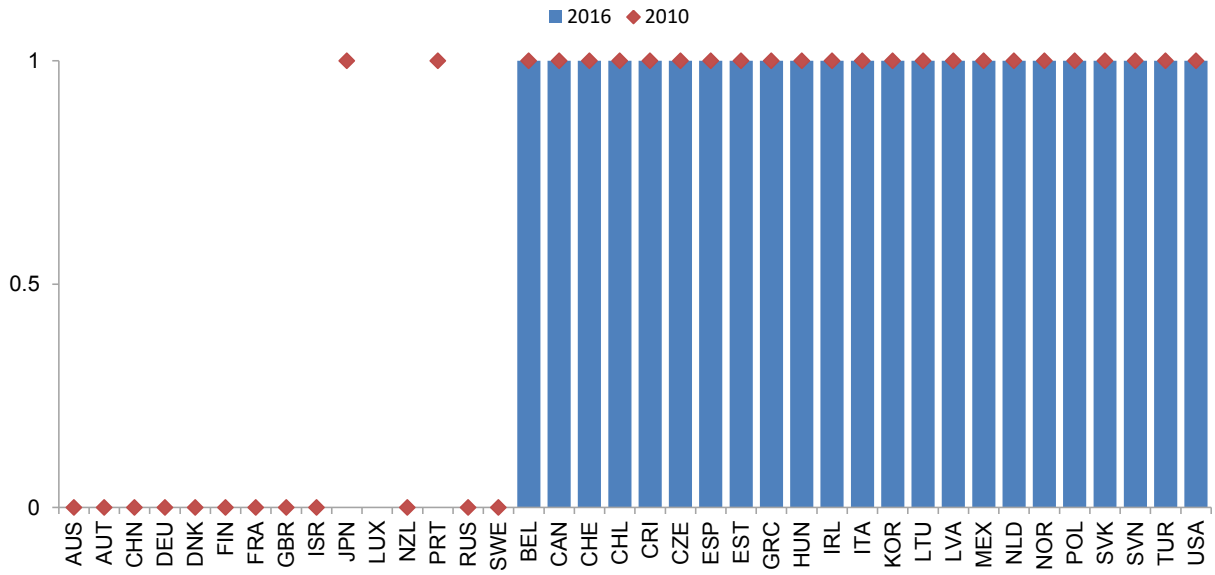
Prevention and streamlining

Early warning mechanisms and pre-insolvency regimes

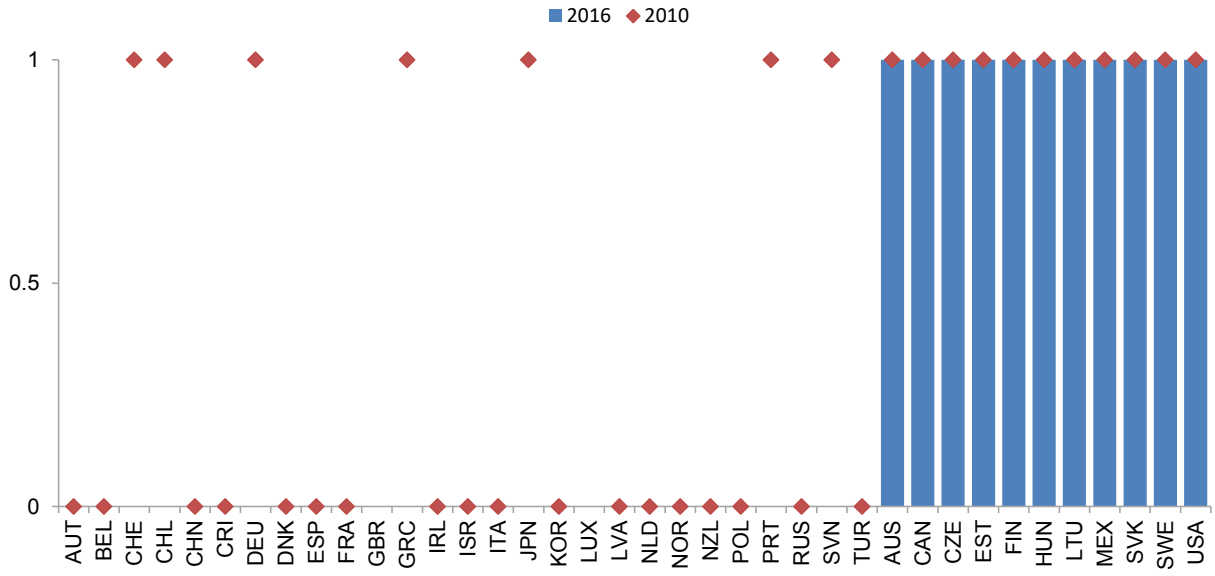
4. The indicator, early warning mechanisms, is a dummy variable equal to 0 if countries have early warning mechanisms (e.g. on-line self-test, training) in place and 1 otherwise. The indicator, pre-insolvency regimes, is a dummy variable equal to 0 if pre-insolvency regimes exist and 1 otherwise.

Figure A.3. Preventative measures

A: Early warning systems.



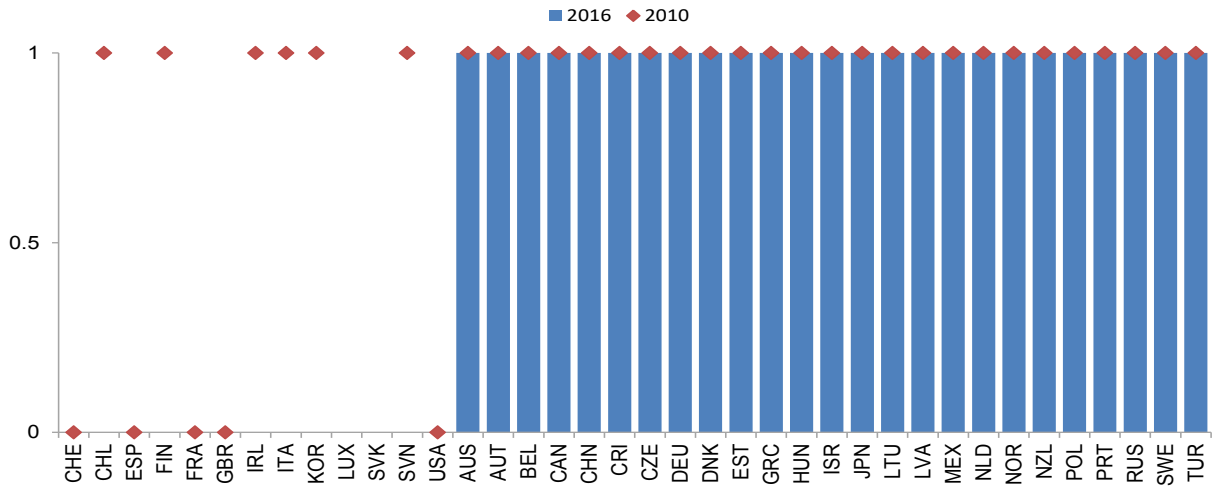
B: Pre-insolvency regimes



Special insolvency procedures for SMEs

5. This indicator is a dummy variable, which takes the value 0 if special insolvency procedures exist for SMEs and 1 otherwise.

Figure A.4. Special procedures for SMEs

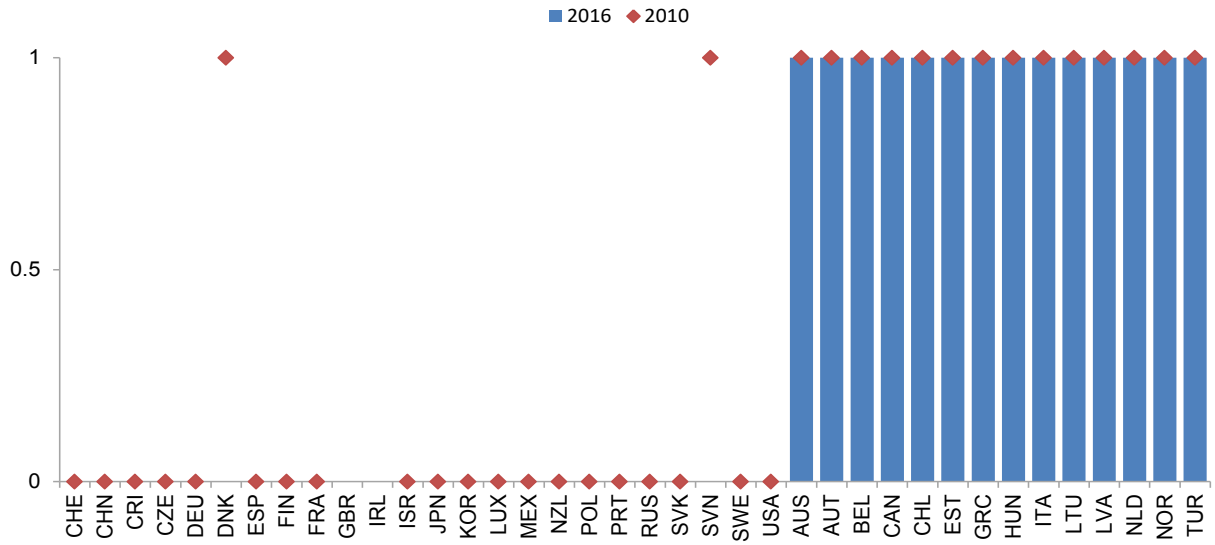


Restructuring tools

Creditors' ability to initiate restructuring

6. This indicator is a dummy variable equal to 0 if creditors can initiate both liquidation and restructuring and 1 if creditors can initiate only liquidation.

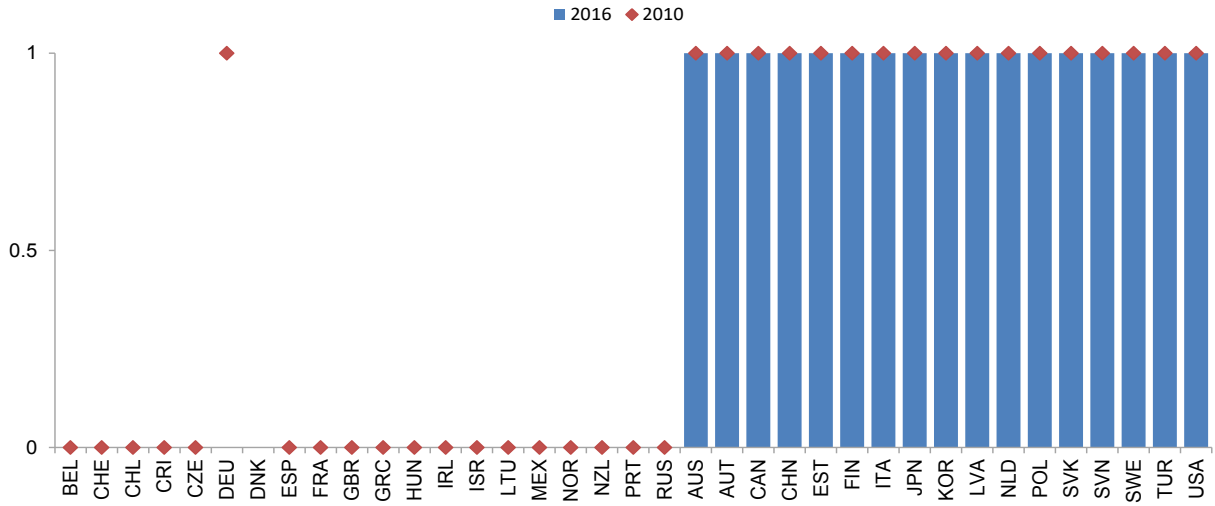
Figure A.5. Initiation of restructuring by creditors



Availability and length of stay on assets in restructuring

7. All countries in the sample have the option of a stay on assets in restructuring. This indicator is a dummy variable equal to 0 if the length of stay has a limit and 1 if the length of stay is indefinite.

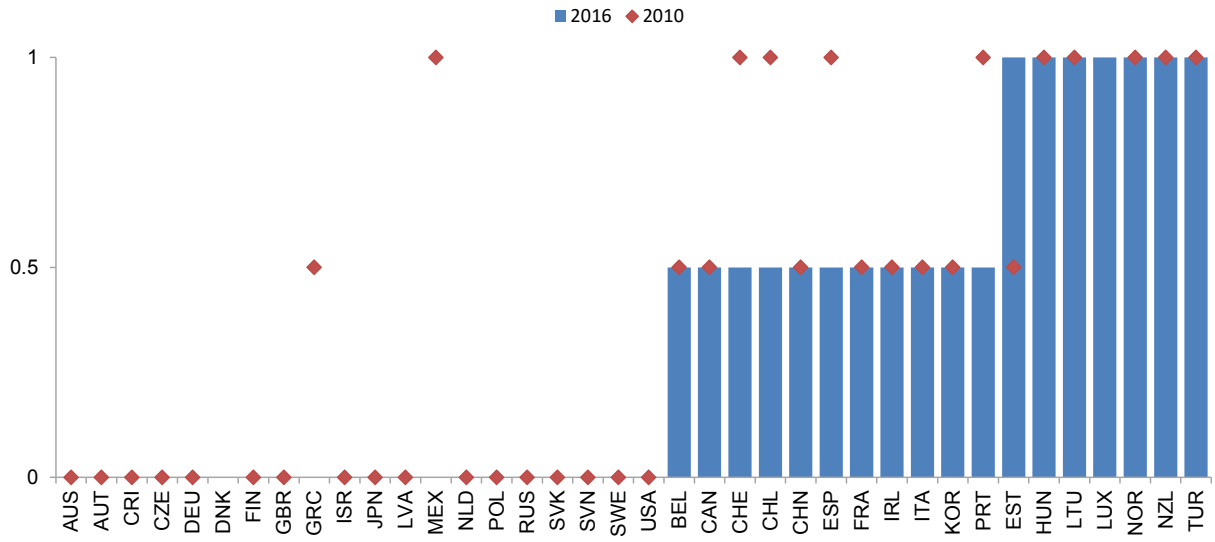
Figure A.6. Length of stay on assets in restructuring



Possibility and priority of new financing

8. This indicator is equal to 0 if the new financing has priority over only unsecured creditors; 0.5 if the priority of new financing has priority over both secured and unsecured creditors; and 1 if new financing has no priority.

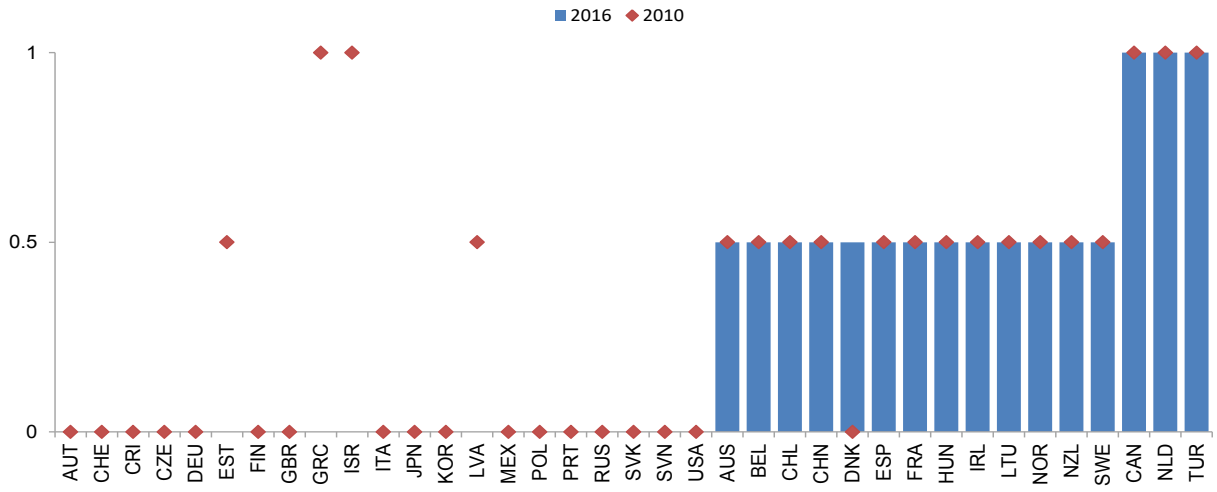
Figure A.7. Possibility and priority of new financing



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.

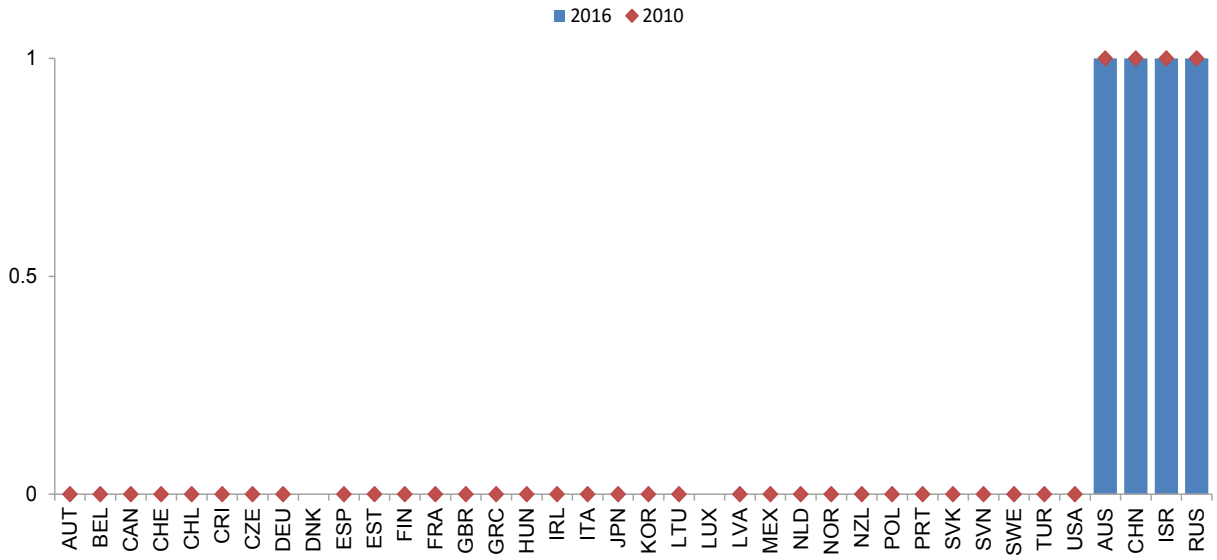
Figure A.8. Possibility to cram-down on dissenting creditors



Treatment of management during restructuring

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

Figure A.9. Dismissal of management during restructuring

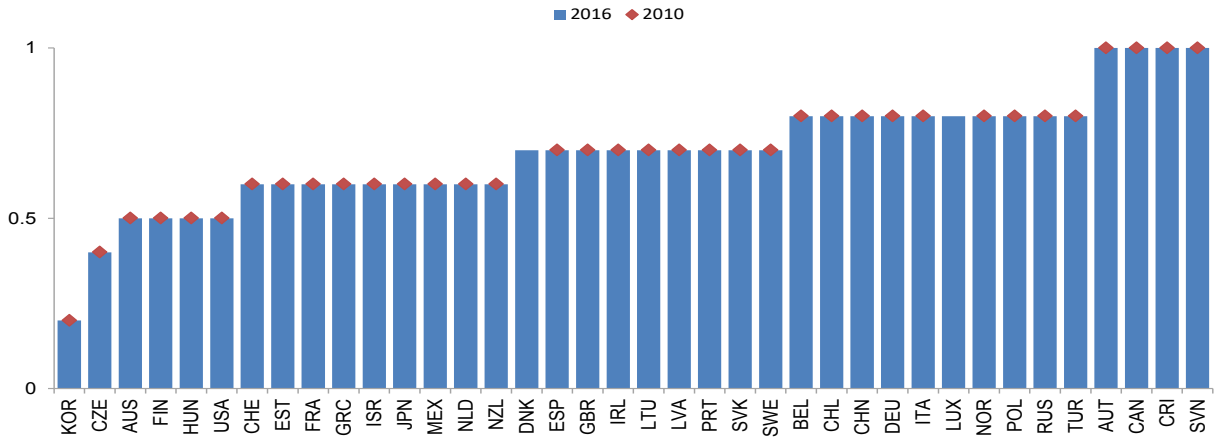


Other factors

Degree of court involvement

11. 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 be between 0 and 1.

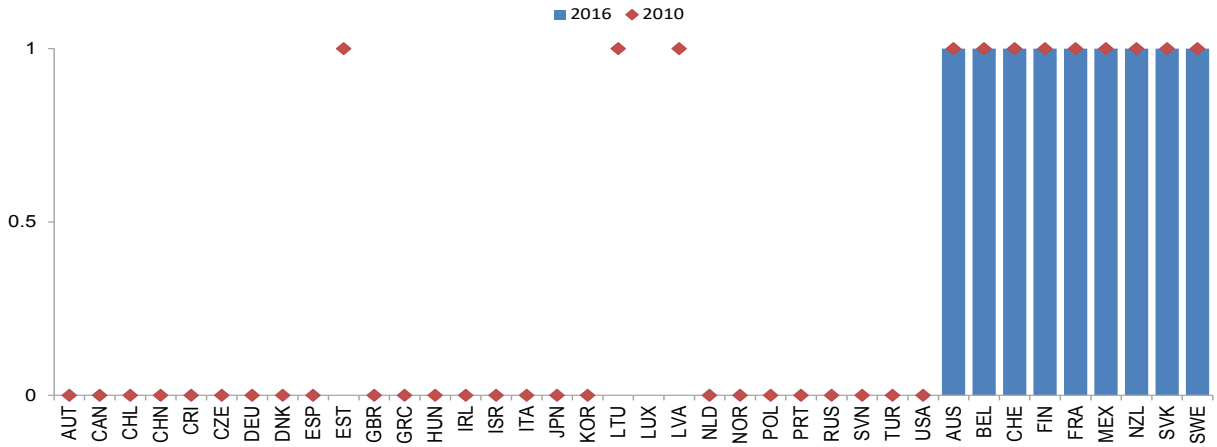
Figure A.10. Degree of court involvement



Distinction between honest and fraudulent bankrupts

12. 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 A.11. The distinction between honest and fraudulent bankrupts



Rights of employees

13. 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 be between 0 and 1.

Figure A.12. Rights of employees