

Chapter 3. Policies for productivity: the design of insolvency regimes across countries

This Chapter presents the new OECD indicators of the design of insolvency regimes in light of their relevance for productivity growth and Going for Growth more generally. It shows significant cross-country differences in the extent to which insolvency regimes promote orderly exit of non-viable firms, indicating that some countries have scope to improve resource allocation and productivity through reforms of bankruptcy laws and procedures..

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Main findings

- Poorly performing insolvency regimes can be linked to three inter-related sources of labour productivity weakness: the survival of so-called “zombie” firms – that should otherwise exit the market, and capital misallocation, i.e. the trapping of resources in low productivity uses and stalling technological diffusion
- A new set of OECD indicators on insolvency regimes gathers information on the design of insolvency regimes that are relevant for ensuring the smooth exit or effective restructuring of failing firms, such as: the availability of a fresh start; mechanisms to prevent and streamline insolvency proceedings; the availability of tools related to restructuring; and additional information on the role of courts, provisions distinguishing between honest and fraudulent bankruptcies and the rights of employees.
- The indicators show significant cross-country differences, with the insolvency regime in the United Kingdom entailing relatively low personal costs to failed entrepreneurs and low barriers to restructuring, while containing a number of provisions to aid prevention and streamlining.
- On the other hand, the insolvency regimes in Estonia and Hungary create the highest impediments to a smooth and timely exit or restructuring. The regimes could benefit from lowering costs to failed entrepreneurs, improving the availability of tools for restructuring and improving prevention and streamlining.
- The OECD indicators of insolvency regimes complement the existing World Bank Doing Business indicators of insolvency, through a more complete coverage of the underlying provisions. Moreover, by linking weaknesses more directly to policies they can serve directly to identify country recommendations within the *Going for Growth* framework.
- In *Going for Growth 2017*, six countries - Australia, Estonia, Italy, Poland, Portugal and South Africa - had a priority recommendation to reform bankruptcy laws. In 2017, reforms were undertaken only in Italy. In the future, such recommendations can be fine-tuned using the new OECD indicators.

3.1. Introduction

Recent OECD research on productivity growth has provided renewed evidence on the importance of open and competitive product markets in fostering efficiency gains, innovation and economic growth. It has underscored the importance of promoting the entry of new firms and the redeployment of resources from poorly performing firms to high-productivity ones. Poorly performing firms that are unable to improve should exit the market or restructure so as to free the resources that can be used more productively in better-managed, more innovative firms. Strong competitive pressures and market selection are key mechanisms to make this happen. However, the effectiveness of these mechanisms can be weakened - or strengthened - by various regulations through their influence on firm entry and exit, as well as on the ease of reallocations of capital and labour resources across firms and business sectors.

For many years, the OECD has developed and up-dated an economy-wide indicator of regulatory barriers to firm entry and competition, measuring the stance of product market regulation in an internationally comparable way (Koske et al., 2015). However, a similar indicator of regulatory barriers to firm exit has been lacking. Filling the gap, this chapter presents the new cross-country policy indicators of insolvency regimes for 36 countries, based on countries' responses to a recent OECD questionnaire (Adalet McGowan and Andrews, 2018).¹³

The new OECD indicators cover policies which – based on international experience and research – may carry adverse consequences for productivity growth by delaying the initiation and increasing the length of insolvency proceedings. They have been constructed 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 or lack sufficient preventative and streamlining measures and tools to facilitate restructuring. They also cover other features that may delay the timely resolution of financial distress, such as the role of courts, employee rights and the treatment of fraudulent activities.

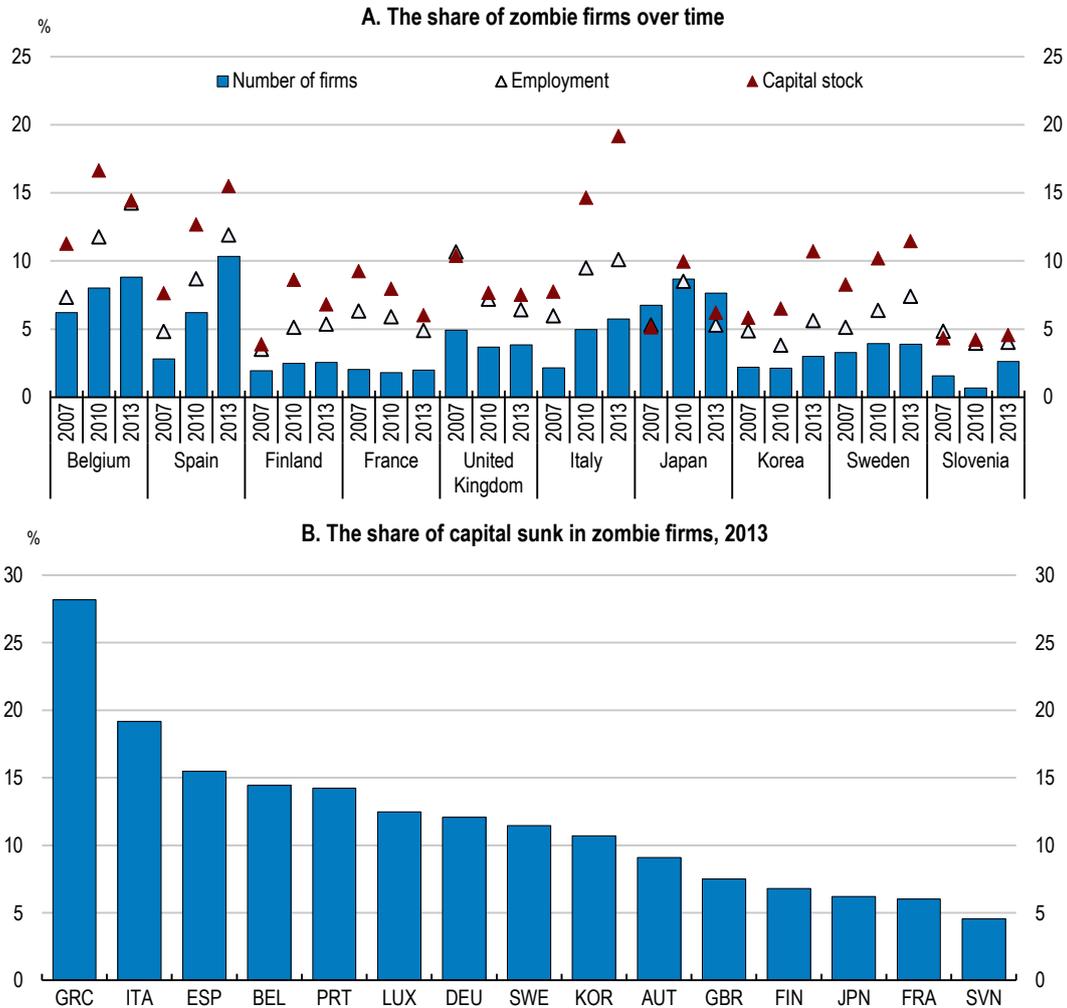
The next section provides a brief reminder of why insolvency regimes matter for productivity growth. Section 3.3 presents the characteristics of an effective insolvency regime. Section 3.4 discusses the measurement of key design aspects, and the respective country performance based on the information collected through the OECD questionnaire. Section 3.4 summarises the new cross-country evidence on the basis of the composite OECD indicator of insolvency regimes.

3.2. Why do insolvency regimes matter for productivity growth?

Creative destruction is a key feature of well-functioning economies. Over the long-run, productivity growth is sustained by firms' experimentation with new ideas, the broad diffusion of advanced technologies and business practices among firms and the reallocation of scarce resources to their most productive uses. There is growing recognition, however, that the labour productivity slowdown experienced over the past two decades is partly rooted in a rise of adjustment frictions that rein in the creative destruction process (Andrews et al., 2016; Gopinath, et al., 2015; Decker et al., 2016). One important dimension of this phenomenon is the growing share of firms that would typically exit or be forced to restructure in a competitive market (often referred to as “zombie firms”) but manage to survive, to the detriment of aggregate productivity (Figure

3.1; Andrews et al. 2016). In this view, reviving productivity growth will, in part, depend on policies that effectively facilitate the exit or restructuring of weak firms.

Figure 3.1. The rise of zombie congestion¹



1. “Zombies” are defined as firms aged of 10 years and over, with an interest coverage ratio below 1 over three consecutive years.

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

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3.3. The characteristics of effective insolvency regimes and how they can be assessed

The range of policies that affect exit and restructuring is broad. For instance, high barriers to entry can themselves constitute an obstacle to exit insofar as they allow low-performing firms to survive more easily, protecting them from stronger competition. Hence, regulations of product, labour and financial markets, as well as macroeconomic policies, government subsidies and guarantees, judicial efficiency and intellectual

property regimes, taxation and vintage differentiated environmental regulation can all affect the strength of market selection and the scope and speed at which scarce resources employed by failing firms can be reallocated to more productive uses. Still, since market imperfections often generate obstacles to the orderly exit of failing firms, the efficiency of insolvency regimes emerges as particularly crucial among the many policies affecting the exit margin. One question is what are the basic characteristics of a well-functioning insolvency regime? This section discusses some of the features and briefly mentions existing measures.

3.3.1. General objectives of insolvency regimes

Market imperfections, such as coordination problems, incomplete contracts and information asymmetries, make it difficult in practice for the private market to facilitate the exit of failing firms in an orderly fashion. 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 or the chances of restructuring viable parts of the activity. 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). For these reasons, insolvency regimes that 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) are required.

Insolvency regimes need to balance an important trade-off: on the one hand, the incentives provided for investors to extend credit and to monitor firm performance, and on the other hand, the incentives provided to 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 excessively risky behaviour from debtors and managers, currently 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. Moreover, while existing indicators focus on those design features that may impact the timely initiation and resolution of insolvency proceedings, the quality of resolution – which is very difficult to measure – will also matter.

Finally, 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, 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.

3.3.2. Existing measures of insolvency regimes

One set of indicators of insolvency regimes available across countries is the World Bank Doing Business Indicators, which focuses on the cost in time and resources involved to go through insolvency procedures (Box 3.1). In doing so they cover both *de facto* and *de*

jure aspects but put little direct emphasis on the numerous policy dimensions of insolvency regimes, making it difficult to identify their contribution to productivity performance and to generate country-specific proposals for policy reform – the task of *Going for Growth* (Adalet McGowan and Andrews, 2016).

In particular, the World Bank indicators focus primarily on corporate restructuring, whereas 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 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).¹⁴

Box 3.1. World Bank Doing Business Indicators – Resolving Insolvency

The World Bank Doing Business indicators include a Resolving Insolvency component with global coverage. The data for the resolving insolvency indicators are derived from questionnaire responses by local insolvency practitioners and the study of laws and regulations as well as public information on insolvency systems. The country rankings are based on performance with respect to two equally weighted sub-indicators:

- Outcome-based indicators: the recovery rate, based on the time, cost and outcome of insolvency proceedings based on a stylised case study.
- Strength of Insolvency Framework Index (introduced in 2015), based on four other indices: commencement of proceedings index, management of debtor’s assets index, reorganization proceedings index and creditor participation index.

The use of a case study to derive the outcome based (*de facto*) indicators has both advantages and disadvantages. On the plus side, it is a direct attempt to gauge the average time and cost of insolvency proceedings given survey respondents typically find it difficult to give an exact answer to a general questionnaire without details on the complexity of the individual case. Moreover, being a *de facto* measure, it can capture the actual burdens of the insolvency regime, originating in institutions beyond the pure insolvency regime itself, such as an inefficient judicial system.

Yet, the case study comes at the cost of a loss of generality: referring only to corporate insolvency; involving only debt covered by collateral – i.e. the hotel, a tangible asset – while intangible assets are difficult to collateralise and can complicate the insolvency proceedings; relating only to one senior secured creditor, which is a bank, and not taking into account issues of priority, which is an important element of insolvency regimes; focusing only on formal insolvency proceedings as the respondents are not offered the option of out-of-court settlements and informal work-out options; and lacking the possibility of linking the outcomes directly to policies.

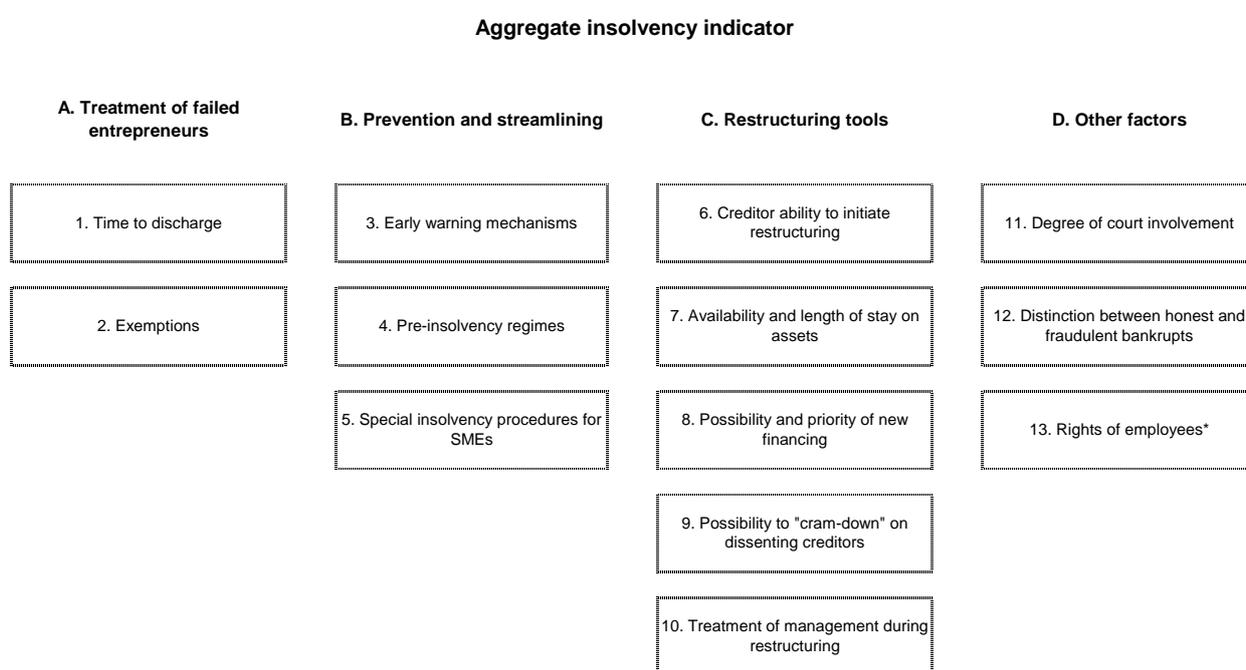
Source: <http://www.doingbusiness.org/Methodology/Resolving-Insolvency>

3.4. The new OECD indicators of insolvency regimes

To fill a gap and provide complementary insights,- in particular as regards to the identification of detailed policy-level reform needs, the OECD has designed and constructed a new set of indicators of insolvency regimes. The regulatory information used to compile the composite indicators has been collected through a questionnaire on corporate and personal insolvency regimes. The choice of questions and quantitative coding of the potential responses to each question are based on the main conclusions of the theoretical and empirical literature on the links between insolvency regimes and economic growth. The questionnaire was designed to capture design features of insolvency regimes in the following areas (Figure 3.2):

- *The treatment of failed entrepreneurs* – measuring the availability of a *fresh start* for failed entrepreneurs with respect to the time to discharge and exemptions of their personal assets from insolvency proceedings.
- *Prevention and streamlining* – summarising information on early warning mechanisms, pre-insolvency regimes and special simplified procedures for SMEs.
- *Tools related to actual restructuring*: the ability of creditors to initiate restructuring, the availability and length of stay on assets, the priority order of claimants (such as government or employees), the treatment (“cram-down”) of dissenting creditors and the incumbent management.
- *Additional data* was collected on the role of courts, provisions distinguishing between honest and fraudulent bankruptcies and the rights of employees.

Figure 3.2. The structure of the OECD insolvency indicator¹



1. Data on Rights of Employees are missing for Denmark and Korea.

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

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3.4.1. Treatment of failed entrepreneurs

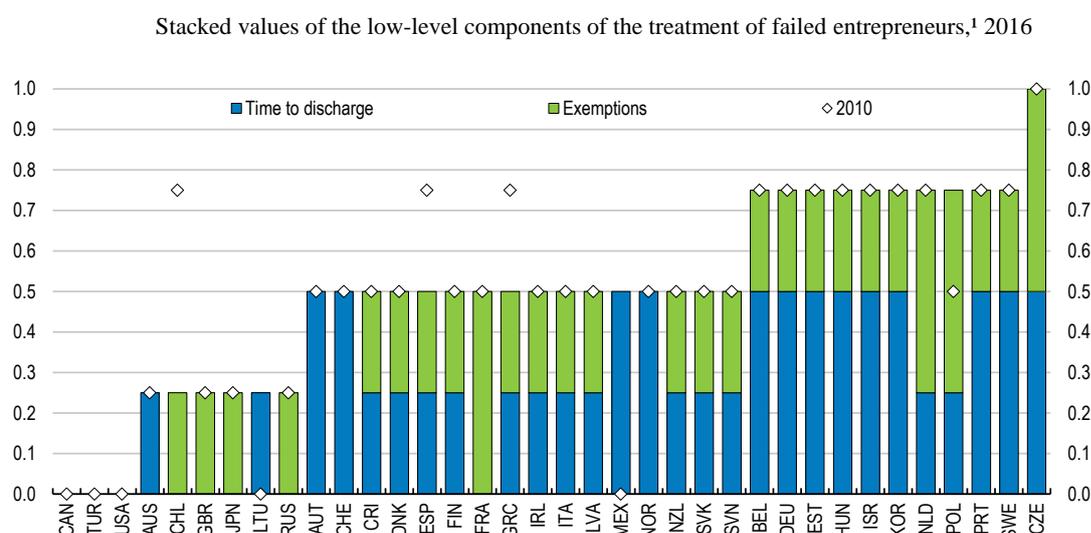
A key dimension of personal insolvency regimes is the extent to which they “punish” failed entrepreneurs. Following the literature, the extent to which insolvency regimes limit entrepreneurs’ ability to start new businesses following a failure will typically depend on: i) the availability of and the 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.¹⁵

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).

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 their value of the proceeds that goes to the creditor (Campbell et al., 2011).

Against this backdrop, 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 three 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.

Looking at the indicator values, the personal costs to entrepreneurship are lowest in Canada, Turkey and the United States, while they are the highest in the Czech Republic (Figure 3.3). Reform activity in the area of personal costs to failed entrepreneurs has been limited, with only Chile, Greece and Spain undertaking reforms in this area between 2010 and 2016.

Figure 3.3. The availability of a fresh start

1. Time to discharge 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 (or is not available). Exemptions take the value 0 if exemptions (pre-bankruptcy assets which are exempt from the bankrupt estate) are more generous than modest personal items and working equipment (e.g. the debtor's house is exempt), 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. The sum is divided by 2 to range from 0 to 1.

Source: Adalet-McGowan, A. and D. Andrews (2018), "Design of Insolvency Regimes across Countries", OECD Economics Department Working Papers, forthcoming.

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There are significant cross-country differences in discharge possibilities. In fact, discharge is not available in Mexico, Norway and Switzerland. It is higher than three years in 10 other countries. Exemptions are most stringent in the Czech Republic, France, Poland and the Netherlands, where they 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.

3.4.2. Prevention and streamlining features

Early resolution of debt distress can maximise the value recovered for creditors and minimise the cost to the economy (Garrido, 2012). In practice, the lack of sufficient preventative and streamlining actions can be due to:

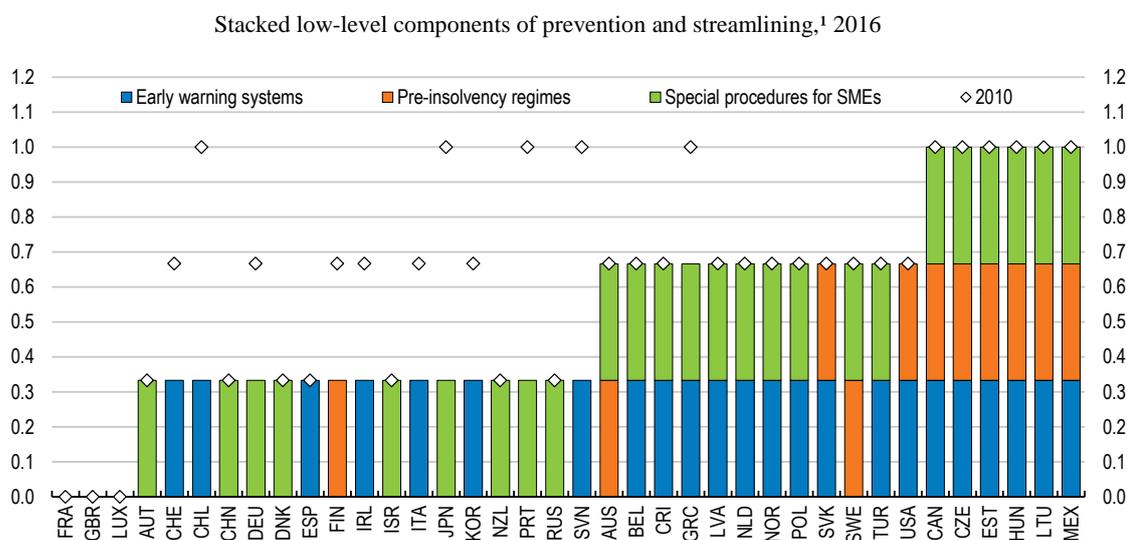
- A lack of early warning mechanisms and pre-insolvency regimes, which may push viable firms experiencing temporary financial distress into lengthy and costly formal insolvency proceedings, when firm distress could have been addressed via informal workouts (i.e. without the involvement of courts).
- An absence of special procedures for small and medium enterprises (SMEs), 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.

Early warning tools, such as training offered 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 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 of 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.

Small and medium enterprises (SMEs) may warrant a different treatment from other firms in a debt restructuring strategy as complex, lengthy and rigid procedures, as well as 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. Clearly, such measures need to be assessed with caution, as the policy discontinuity may add a barrier to SME growth – however, in case of insolvency procedures this is not likely to be a major issue.

The indicator counts the existence of early warning mechanisms, pre-insolvency regimes and special insolvency procedures for SMEs, 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.

Early-warning mechanisms are present in only one-third of the countries analysed, suggesting that there is ample room for reform in this area (Figure 3.4). 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. In total, 25 countries do not have special insolvency procedures for SMEs, 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. Over time, insolvency reform efforts have been more important and widespread in the area of prevention and streamlining between 2010 and 2016, especially in European countries, with reforms observable in 11 countries.

Figure 3.4. Features to enable early detection and resolution of debt distress

1. Early warning systems are equal to 0 if countries have early warning mechanisms (e.g. on-line self-test, training) in place and 1 otherwise. Pre-insolvency regimes are equal to 0 if pre-insolvency regimes exist and 1 otherwise. Special procedures for SMEs take the value 0 if special insolvency procedures exist for SMEs and 1 otherwise. The sum is divided by 3 to range from 0 to 1.

Source: Adalet-McGowan, A. and D. Andrews (2018), "Design of Insolvency Regimes across Countries", OECD Economics Department Working Papers, forthcoming.

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3.4.3. Restructuring tools

Design features of corporate insolvency regimes should support the rehabilitation of viable firms (Djankov et al., 2008) by lowering the barriers to restructuring. The chances of success of a restructuring process can be increased by design features that promote the timely initiation of restructuring and the continuity of firm operations. Such design features include:

- *Creditors are able to initiate restructuring.* The possibility of starting restructuring procedures early is a key element of an efficient insolvency regime as delays can increase costs and reduce the likelihood of a successful restructuring (World Bank, 2015; Bricongne et al., 2016). As a result, non-viable firms are less likely to linger in the market and viable firms which encounter temporary financial distress are less likely to become impaired due to a lack of impetus to restructure. As the debtor may have incentives to delay restructuring, it is crucial to give the creditor the opportunity and the right incentives to initiate such procedures.
- *A stay on assets is possible.*¹⁶ The continuity of firm operations during the restructuring process increases the chances of a successful restructuring. 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 can increase the probability of viable firms being liquidated, but also discourage entrepreneurs from starting a new

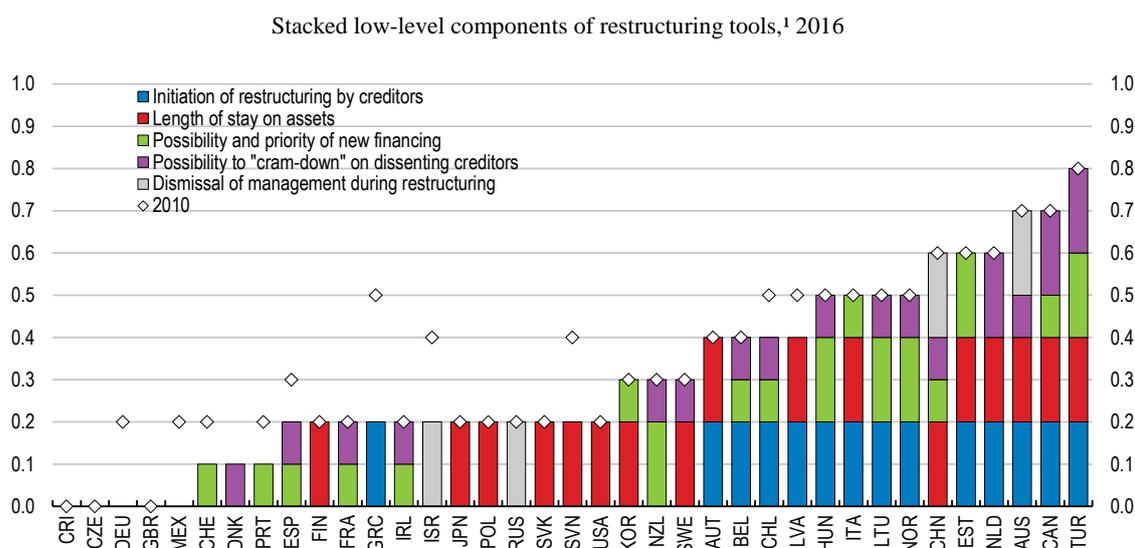
business in the first place and affect the innovation strategies adopted by entrants. On the other hand, if creditors have limited ability to recuperate their loan, this can increase the cost of credit, which can adversely affect entrepreneurship (Armour and Cumming, 2008; Lee et al., 2011; Broadie et al., 2007). Hence, safeguards are necessary to ensure that the stay is time-limited and be used strictly to facilitate a restructuring plan.

- *There is the possibility of priority (“seniority”) available to new financing over unsecured creditors.* Priority rules, which refer to the order in which various stakeholders get paid in the event of liquidation, are specified ex ante in the debt contract in accordance with general insolvency laws, but 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 and the detailed priority rights of securitised creditors, employees, suppliers and tax authorities vary across countries. Retaining the (ex-ante) priority order increases the efficiency of the system by making it more predictable and fair. 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). 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. However, 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.¹⁷
- *It is possible to “cram-down” on dissenting creditors that try to block a restructuring plan.*¹⁸ 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). Again, 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.
- *Incumbent management is not automatically dismissed during restructuring.* 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).¹⁹ Against this, retaining incumbent management could weaken market selection if it incentivises secured creditors to liquidate, rather than restructure, viable firms (Kaiser,

1996).²⁰ Despite these trade-offs, it is assumed that dismissal of management during restructuring can have largely adverse effect on the timely initiation of insolvency.

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). In 14 countries (Figure 3.5), only debtors can initiate restructuring. A stay on assets during restructuring is available in all countries, but the length of the stay varies and around half of the countries analysed has an indefinite length of stay on assets during restructuring. There are significant cross-country differences both in terms of the availability and the priority of new financing to distressed or restructuring firms. Priority only over unsecured creditors is possible for new financing in 20 countries. New financing can have priority over both secured and unsecured creditors in 11 countries, while in the remaining 6 countries there is no priority for new financing.

Figure 3.5. Barriers to restructuring



1. Initiation of restructuring by creditors is equal to 0 if creditors can initiate both liquidation and restructuring and 1 if creditors can initiate only liquidation. Length of stay on assets in restructuring is equal to 0 if the length of stay has a limit and 1 if the length of stay is indefinite. Possibility and priority of new financing 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. Possibility to cram-down on dissenting creditors is equal to 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. Dismissal of management during restructuring is equal to 0 if management is not dismissed during the restructuring process and 1 if management is dismissed. The sum is divided by 5 to range from 0 to 1.

Source: Adalet-McGowan, A. and D. Andrews (2018), "Design of Insolvency Regimes across Countries", OECD Economics Department Working Papers, forthcoming.

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The possibility of cram-down on dissenting creditors is absent in only in three countries – Canada, the Netherlands and Turkey. Among the countries where cram-down is possible,

13 do not have the provision that dissenting creditors should receive at least as much under the restructuring plan as they would receive under liquidation – leaving room to reform towards best practice. Management does not necessarily get dismissed in all but four countries, namely Australia, China, Israel and the Russian Federation. Overall, barriers to restructuring have declined in 10 countries between 2010 and 2016.

3.4.4. Other design features

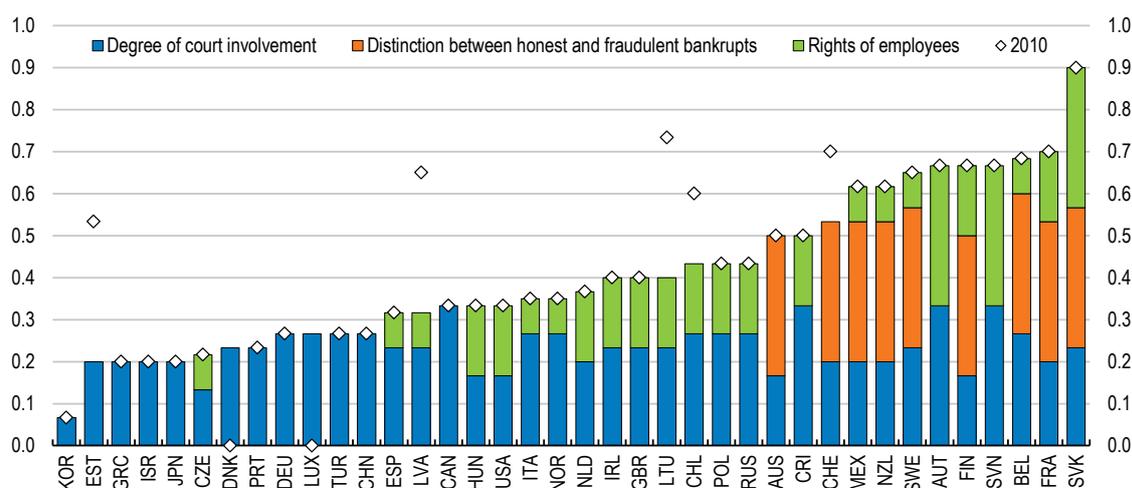
Finally, the indicator also surveyed three *additional* factors:

- *A high degree of court involvement, which may prolong the exit or restructuring of weak firms*, particularly in countries with inefficient judicial systems. 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). Although some stages of a restructuring process require court involvement, most procedural steps – in principle and in relatively straightforward cases – 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 release scarce resources to be re-deployed to more productive uses. The indicator has been 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). It remains a proxy as there are large complementarities between this feature and judicial efficiency (Ponticelli, 2015).
- *Stringent restrictions on worker dismissals and collective dismissals that cannot be negotiated during proceedings*, which may delay the exit or downsizing of weak firms. Obviously, the goal of restrictions on dismissals is not to impede firm exit or restructuring, but as a side effect, such restrictions can create a bias away from liquidation of non-viable firms, which can adversely affect productivity.²¹ The indicator 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.
- *An insufficient distinction between honest and fraudulent bankrupts*, which raises the costs and the stigma of failure of insolvency proceedings, making it less likely that weak firms exit the market in a timely fashion. 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.

The degree of court involvement in liquidation and restructuring is lowest in Korea and highest in Canada, Costa Rica, Austria and Slovenia (Figure 3.6). Similarly, there are significant cross-country differences in terms of employee rights during liquidation and restructuring, with the most stringent restrictions in Austria, Slovenia and the Slovak Republic. Finally, the differentiation in the treatment of honest and fraudulent entrepreneurs, which is crucial for an effective second chance, is available in 29 out of the countries analysed.

Figure 3.6. Other design features

Stacked low-level components of other factors,¹ 2016



1. Degree of court involvement adds the number of stages in which courts are involved for restructuring (from 0 to 5) and number of stages for liquidation (from 0 to 5), and is then rescaled between 0 and 1. Distinction between honest and fraudulent bankrupts takes the value 0 if there is a distinction between the treatment of honest and fraudulent entrepreneurs in the insolvency process and 1 otherwise. For both liquidation and restructuring the 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. The two are summed and rescaled to be between 0 and 1. The sum is divided by 3 to range from 0 to 1.

Source: Adalet-McGowan, A. and D. Andrews (2018), "Design of Insolvency Regimes across Countries", OECD Economics Department Working Papers, forthcoming.

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3.5. Cross-country differences in overall insolvency regimes

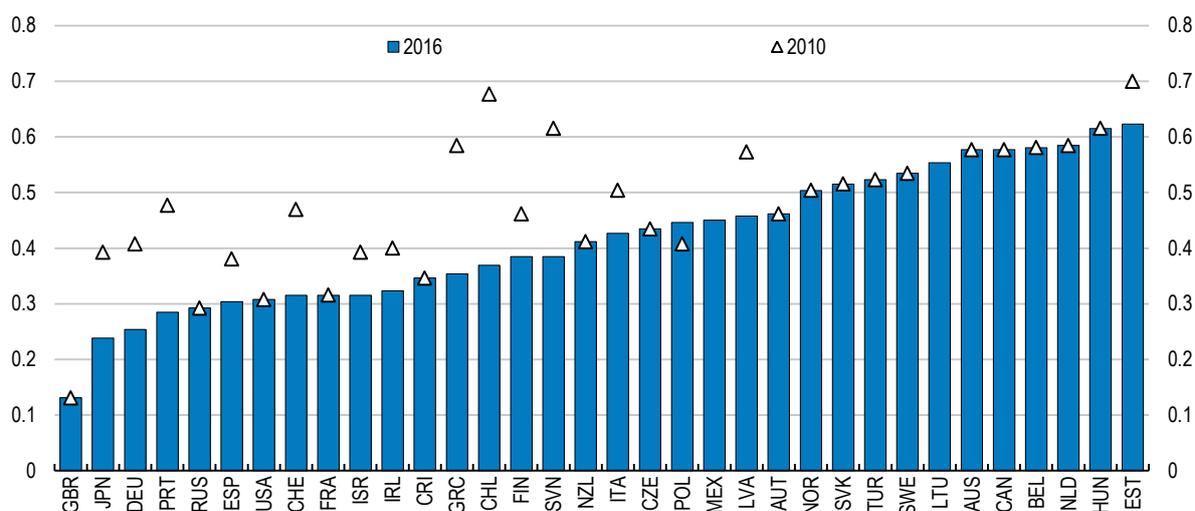
The data on the various OECD sub-indicators has been combined in a composite insolvency regime indicator through a bottom-up approach, allowing tracing indicator scores back to individual policies. The aggregation applies equal weights to each of them, where each of the four main dimensions (Figure 3.4) have been all rescaled in order to have the aggregate indicator on insolvency regimes ranging between 0 and 1 – with 1

signalling the highest impediments to a smooth exit or successful restructuring (Figure 3.7).

According to these combined 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. On the contrary, the high value for Estonia comes from an almost equal contribution of the three subcomponents.²²

Figure 3.7. Composite indicator of insolvency regimes

Scale of 0 to 1 from least to most stringent



Source: Adalet-McGowan, A. and D. Andrews (2018), "Design of Insolvency Regimes across Countries", OECD Economics Department Working Papers, forthcoming.

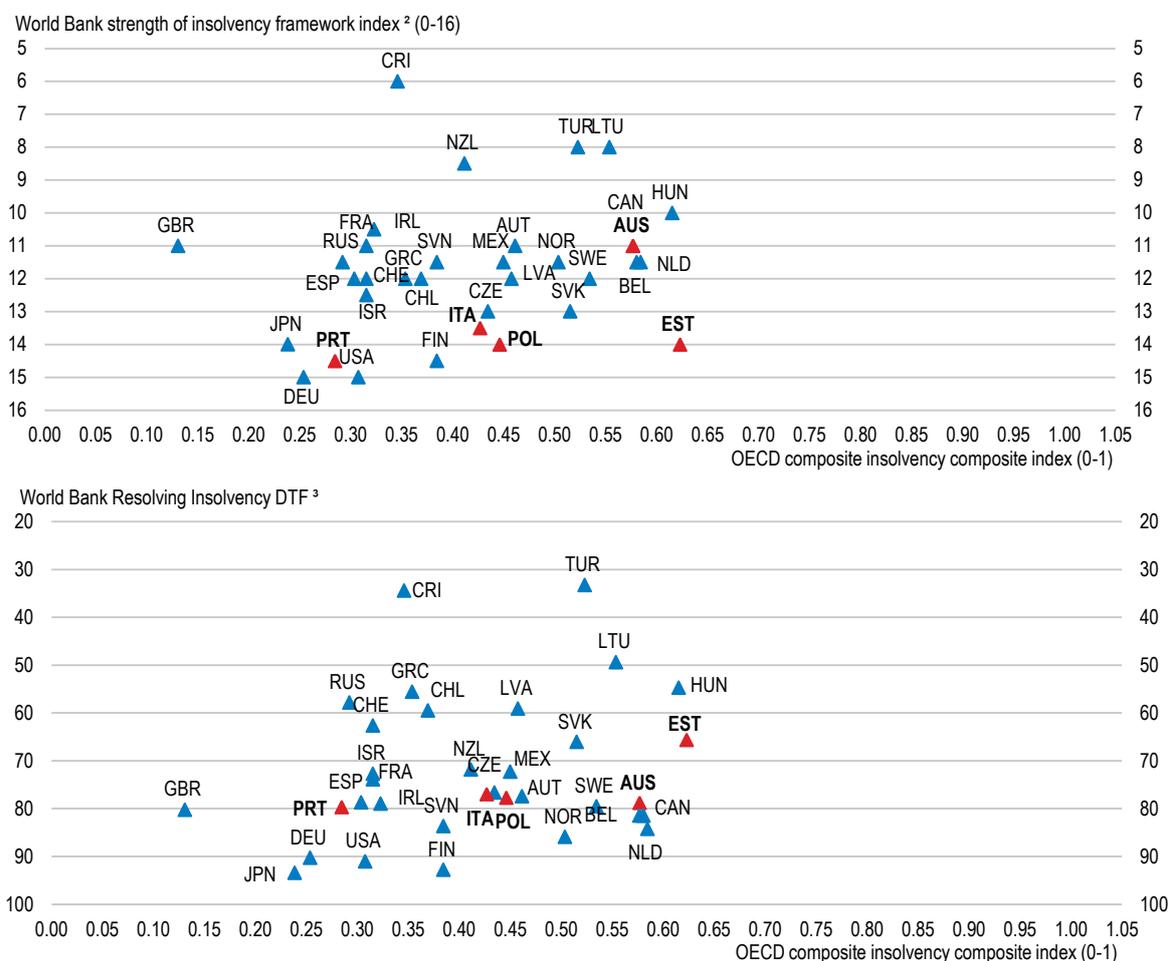
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Along with Estonia, Australia, Italy, Poland and Portugal are the OECD countries for which a priority has been identified in this area in the last edition of Going for Growth (OECD, 2017). Most are in the top half of the distribution depicted by the aggregate insolvency indicator and perform mid-rank on the World Bank's Doing Business Resolving Insolvency indicator (Figure 3.8). Interestingly, Estonia, Portugal, Poland and Italy tend to rank somewhat better on the *de jure* WB Strength of Insolvency Framework index than on the *de facto* WB Recovery Rate.

Across time, a comparison of the 2010 and 2016 values for the three sub-indicators shows that 15 countries have reformed their insolvency regimes recently. The countries with the biggest reform in this area are Chile, Germany, Greece, Japan, Portugal and Slovenia. The reform efforts have concentrated on prevention and streamlining, with reforms observable in 11 countries, especially European countries (e.g. Portugal). This may partly 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. Notably, of the set of countries

with a *Going for Growth* priority on insolvency regimes, significant reforms have taken place between 2010 and 2016 but only in Southern Europe: Portugal and Italy. As reported in Chapter 1, reforms have continued in Italy in 2017.

Figure 3.8. The OECD and World Bank insolvency indicators¹



1. Red marker and bold labels indicates countries with a 2017 Going For Growth recommendation on insolvency regimes.

2. The World Bank strength of insolvency framework index is based on four other indices: commencement of proceedings index, management of debtor’s assets index, reorganization proceedings index and creditor participation index. The strength of insolvency framework index is the sum of the scores on the commencement of proceedings index, management of debtor’s assets index, reorganization proceedings index and creditor participation index. The index ranges from 0 to 16, with higher values indicating insolvency legislation that is better designed for rehabilitating viable firms and liquidating nonviable ones.

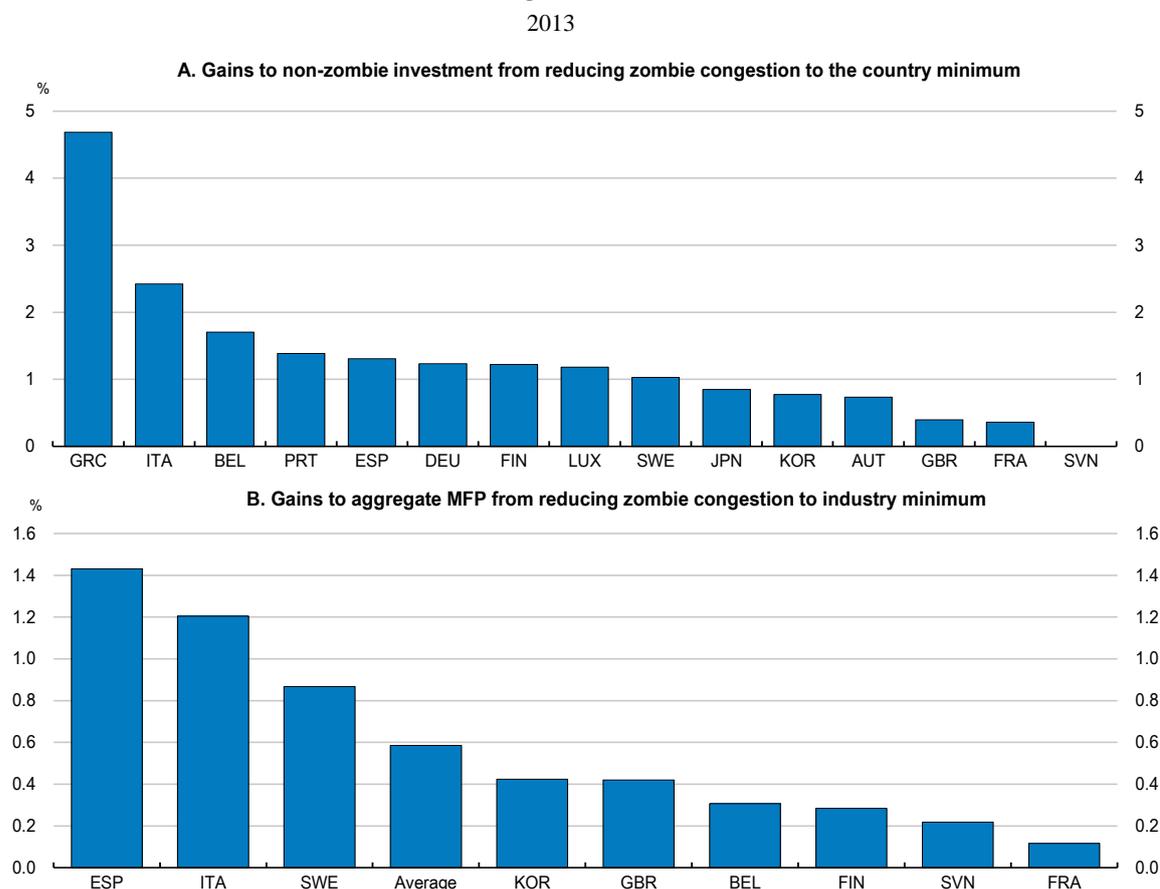
3. The data for the resolving insolvency indicators are derived from questionnaire responses by local insolvency practitioners and verified through a study of laws and regulations as well as public information on insolvency systems. The ranking of economies on the ease of resolving insolvency is determined by sorting their distance to frontier scores for resolving insolvency.

Source: Adalet-McGowan, A. and D. Andrews (2018), "Design of Insolvency Regimes across Countries", OECD Economics Department Working Papers, forthcoming; World Bank, Doing Business.

StatLink  <http://dx.doi.org/10.1787/888933680533>

The new OECD insolvency indicators constitute an important tool to assess the impact of insolvency regimes on economic performance and will allow for a better integration in *Going for Growth* of the exit margin to set countries' priorities. For example, recent research using the new indicators 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, Figure 3.9); 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 also allow for cross-country comparisons of certain design features of insolvency regimes and the monitoring of over time changes, providing key information for the conduct of OECD country reviews of economic performance and structural policy reforms.

Figure 3.9. Simulated gains in aggregate labour productivity from the reduction of zombie congestion,¹



1. Zombie firms are defined as firms aged of 10 years and over, with an interest coverage ratio below 1 over three consecutive years. Panel A shows the simulated gains to investment of a typical non-zombie firm from reducing the share of zombies to the sample minimum level (i.e. Slovenia in 2013). Panel B shows the simulated gains to aggregate business sector MFP via more efficient capital reallocation from reducing the shares of zombies in each country to the sample minimum level in each industry and year. The country level numbers are an unweighted average of all industries (2-digit level detail according to NACE Rev. 2, covering the non-farm non-financial business sector).

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

StatLink  <http://dx.doi.org/10.1787/888933680552>

Endnotes

13. Environmentally related taxes are defined as any compulsory, unrequited payment to government levied specifically on tax bases deemed to be of environmental relevance, i.e. taxes that have a tax base with a proven, specific negative impact on the environment, such as: energy products, transport equipment and services, pollution and natural resources. The definition includes revenues from auctioning of emission permits. Environmentally related taxes increase the costs of a polluting product or activity, which tends to discourage its production or consumption, regardless of what was the intention behind the introduction of the tax.

14. WB indicators also do not fully capture the availability and the length of the stay on assets, the fate of management and prevention and streamlining tools as they only focus on formal insolvency proceedings. In principle, 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 –, but the coverage is limited to- a sub-sample of European countries in 2012.

15. These include: i) the loss of power to deal with assets; loss of the right to vote or hold elected office; ii) restrictions on obtaining credit or on being involved in the management of a firm; and iii) restrictions on travel or interception of mail or being incarcerated for non-payment of debt.

16. A stay on assets stops actions by creditors, with certain exceptions, to collect debts from a debtor.

17. This applies to cases when all creditors still are more likely to recover their investment with a successful restructuring than in the alternative case of liquidation. Secured creditors refer to those lenders which hold a secured claim, i.e. secured by collateral taken as a guarantee to enforce a debt in case of the debtor's default.

18. The indicator also takes into account design features that ensure that dissenting creditors receive as much under the restructuring plan as they would in the case of liquidation (which is likely to lead to more restructuring).

19. The design of management compensation schemes will also affect incentives for firms to undertake costly productivity-enhancing investments, where the benefits might only be realised with a lag.

20. Furthermore, allowing management to stay on the job can be perceived by creditors as a block to secure repayment on their debt, thereby increasing the cost of credit and reducing firm entry rates, especially if creditors believe that managers can default strategically (Moulton and Thomas, 1993).

21. There is a question of whether there are more efficient tools to support workers displaced by firm exit – such as active labour market policies (Andrews and Saia, 2016).

22. Note that the number of countries can differ across sub-indicators, depending on responses received. The aggregation is hence possible for 34 countries only.

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