Abstract: The present article is part of a series of evaluations on the impact of measures implemented by the Portuguese Ministry of Justice, under the Memorandum of Understanding (MoU) ratified by Portugal and the so-called Troika (EC/ECB/IMF). It has the objective of evaluating the results obtained at the level of Bankruptcy, Insolvency and Corporate Recovery Actions resulting from goals inscribed in the MoU. The methodology incorporates statistical inference analysis of outcomes attained not only during the Troika’s period but during the pre-Troika’s and post-Troika’s periods as well. As was the case for the Civil Enforcement Actions (Correia and Videira, 2015, 2016), results confirm the existence of statistical differences among the three periods under scrutiny and suggest a tangible impact of the MoU implemented measures on the Portuguese judicial system.

Keywords: Troika, Memorandum of Understanding, Measures, Portugal, Bankruptcy, Insolvency and Corporate Recovery Actions.

1. Introduction

The global financial system has passed through its biggest crisis, in the post-war period (Bechtel, Hainmueller, and Margalit, 2014). This global financial crisis started in 2007, causing a decrease in economic growth which affected the entire European Union (Tosun, Wetzel, and Zapryanova, 2014), and specially, some Member States such as Greece, Portugal, and Ireland (Saurugger and Terpan, 2016). In 2009 the Eurozone faced four main problems: the lack of liquidity of the banks; the difficulty to repay the public debt; the excessive deficits of member states; and finally, the severe decrease in economic growth which led to recession.

In order to solve the issues above, a core group of Member States backed by the European Council, the European Commission, the European Central Bank and the International Monetary Fund, defended the necessity of enforce stern public policies at the European Union level (Saurugger and Terpan, 2016). As a result, on May 2011, the MoU (Portugal, 2011) was ratified by the Portuguese government, the European Commission, the European Central Bank and the International Monetary Fund.

The courts’ backlog has a negative influence on the economic performance (Werner, Dias, and Duarte, 2013). Therefore, a list of objectives and measures aiming at improving the
justice performance, was established under the MoU (Portugal, 2011). The objectives and measures established for the civil actions under the MoU (Portugal, 2011), covered the civil enforcement actions, the civil declaratory actions and the bankruptcy, and also the insolvency and corporate recovery actions. Those objectives and measures intended to consolidate the legislation concerning the enforcement proceedings; to create specialized courts; to increase judges’ competences; to promote the processes simplification; to expand the experimental civil regime; to set deadlines for the resolution of injunction actions, execution actions and insolvency actions.

As was the case for the civil enforcement actions (Correia and Videira, 2015, 2016), during the implementation phase of the assistance program, compliance with the measures contained in the MoU (Portugal, 2011) was judicious and complete. Consequently, the positive results gradually began to become undeniable.

The present article is part of a series of evaluations on the impact of measures implemented by the Portuguese Ministry of Justice, under the MoU (Portugal, 2011). Therefore, this article expands the statistical analysis of the Troikas’ experience in the Portuguese Ministry of Justice, presented by Correia and Videira (2015, 2016). The authors hope that the expanded analysis will continue to stimulate discussion of the academic and judicial system on these issues and continue to inspire and foster further theoretical and empirical research.

2. Framework and Objectives

Before the Troika’s arrival, the Decree-Law number 53/2004, of 18th March approved the Insolvency and Corporate Recovery Code, as a result of the XV Portuguese Constitutional Government commitment to review the bankruptcy procedures, given the urgency of approval of legislative measures allowing for a backlog reduction and a quicker and more effective resolution of this type of actions.

After the Troika’s arrival, the XIX Portuguese Constitutional Government promoted the extrajudicial mechanisms of debtor’s restructuration, in order to meet the commitment of operationalization of the alternative dispute resolution solutions, inscribed in the MoU (Portugal, 2011). According to Council of Ministers Resolution number 43/2011, of 25th October, it is important for corporations in difficult financial situations to have the possibility to opt for an extrajudicial agreement instead of going to the judicial insolvency action. For this purpose, resolution number 43/2011 approved eleven guiding principles according to
international best practices for out-of-court debtor’s recovery. When compared to the judicial insolvency action, the extrajudicial mechanism has the advantage of maintaining the corporation’s juridical and economic relationship with the workers, clients and suppliers. This tends to allow creditors to obtain a higher rate of credit recuperation, allowing for the simultaneous release of courts from a number of these particular category of actions, contributing do the reduction of courts’ backlog.

Moreover, after the Troika’s arrival, the Law number 16/2012, of 20th April, introduced the sixth amendment of the Insolvency and Corporate Recovery Code, approved by Decree-Law number 53/2004, of 18th March, in order to simplify the unnecessary formalities and proceedings of the insolvency process, aiming to provide litigants with effective conflict resolution and to reduce the Portuguese courts’ backlog. With law 16/2012 the XIX Portuguese Constitutional Government promoted, on the one hand, the simplification of the formalities of the insolvency process and, on the other hand, created of the Special Revitalization Process (PER) with the intent of eliminating judicial delays. According to article 2 of this law, insolvency proceedings are enforcement actions intended for insolvent debtors, with the objective of satisfying their creditors through an insolvency plan. The insolvency plan may be based on the recovery of the company delimited in the insolvent estate or on the liquidation of the assets belonging to the concerned debtor. In accordance with article 17a, PER actions are urgent procedure for debtors who are imminently insolvent or in difficult economic situations. The aim of PER actions is to establish agreements conducive to companies’ revitalization, therefore avoiding insolvencies.

Despite the growth of literature on the subject for the justice sector, the present article doesn’t seek to provide a theoretical framework, providing instead a statistical study based on the quantitative evidences resulting from the implementation of public policies at the level of the procedure of bankruptcy, insolvency and corporate recovery actions, during the Troika’s Portuguese Ministry of Justice experiment. This article has the objective of evaluating the results obtained at the level of bankruptcy, insolvency and corporate recovery actions resulting from goals inscribed in the MoU (Portugal, 2011).

3. Methodology

The empirical analysis was formulated in order to identify any quantitative processual movement advantages achieved through the implementation of the measures established in the
MoU (Portugal, 2011) for the justice sector, at the level of the bankruptcy, insolvency and corporate recovery actions in the Portuguese first instance courts. The methodology used in the present article, previously developed by Correia and Videira (2015, 2016) for the study of civil enforcement actions, is now applied to bankruptcy, insolvency and corporate recovery actions. Therefore, the same three variables, number of incoming, resolved and pending cases, and the same three compounded indicators, procedural balance, clearance rate and disposition time, used previously by Correia and Videira (2015, 2016), had their chronological evolution scrutinized. Calculation formulas for the three compound indicators can be found, for instance, in Correia and Videira (2015, 2016):

\[ \text{Procedural balance}_t = \text{Number of processes filed}_t - \text{Number of processes ended}_t \]

\[ \text{Procedural resolution rate}_t = \frac{\text{Number of processes ended}_t}{\text{Number of processes filed}_t} \]

\[ \text{Disposal time}_t = \frac{\text{Number of pending processes}_t}{\text{Number of processes ended}_t} \times \text{Number of days}_t \]

The temporal evolution analysis conducted for this case type was built around a 117-month sample spanning from January 2007 to September 2016. 53 of these 117 months, from January 2007 to May 2011, precede Troika’s arrival in Portugal (pre-Troika’s period); the next 34 months, from June 2011 to March 2014, postdate Troika’s arrival and predate Troika’s

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1 Data for the three original raw variables was collected, treated and released to the public by the Directorate General for Justice Policy, and is available at http://www.siej.dgpj.mj.pt.


4 According to Correia and Videira (2015, 2016), “the negative values correspond to a favorable procedural balance (more completed cases than new ones and therefore a decrease in the pendency) and the positive values correspond to an unfavorable procedural balance (more new cases than completed ones and therefore an increase in the pendency)”.

5 According to Correia and Videira (2015, 2016), “the values higher than 100% correspond to a favorable clearance rate (more completed cases than new ones and therefore a decrease in the pendency) and the values lower than 100% correspond to an unfavorable clearance rate (more new cases than completed ones and therefore an increase in the pendency)”.

6 According to Correia and Videira (2015, 2016), “the lower the value the most favorable it is”.

7 In line with the option taken by Correia and Videira (2016): “Cases that were transferred, attached, incorporated or joined to other procedures and those sent to another entity were withdrawn from the initial data, as they do not correspond to new cases in the courts but simply to internal transfers within the Portuguese judicial system and, therefore, do not reflect meaningful supply or demand data”.
departure (Troika’s period); the remaining 30 months, from April 2014 to September 2016, postdate Troika’s departure from the country (post-Troika’s period).

As the monthly data, for each category (pre-Troika’s, Troika’s and post-Troika’s), did not follow normal distributions, the author opted for the application of the non-parametric test of Kruskal-Wallis instead of the ANOVA parametric test. The investigation hypothesis can be stated as follows:

**H₀**: The pre-Troika’s period, Troika’s period and post-Troika’s period datasets for bankruptcy, insolvency and corporate recovery actions have equal medians.

**H₁**: The pre-Troika’s period, Troika’s period and post-Troika’s period datasets for bankruptcy, insolvency and corporate recovery actions do not have equal medians.

4. Results

The present analysis was developed in two phases based on the methodology previously adopted by Correia and Videira (2015, 2016). Sub-phase (1) presents a robust statistical description that constitutes a first-instance body of evidence for the results not only in the pre-Troika’s and Troika’s periods but also in the post-Troika’s period. Sub-phase (2), on the other hand, makes use of statistical tests to unambiguously confirm the results put forward by the statistical description sub-phase.

1) Descriptive statistics

The chronological evolution of the number of incoming and resolved bankruptcy, insolvency and corporate recovery actions in Portugal’s first-instance courts, between January 2007 and September 2016, can be observed in figure 1. Seasonality is an inherent feature of the data presented on figure 1 due to the customary judicial vacation period (predominantly noticeable in August). This effect is particularly intense from 2012 onward.

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8 Significance level of 0.05 (5.00%) for the non-parametric test Kruskal-Wallis test. The reader is recommended to consult further work related to the application of the parametric and non-parametric tests, such as Correia, Carrapato, and Bilhim (2016), Correia and Dias (2018), Correia, Pinto, Garcia, and Dias (2015), and Correia and Videira (2015, 2016).
Figure 1- Incoming and completed bankruptcy, insolvency and corporate recovery actions, between January 2007 and September 2016

To mitigate the seasonality effects and obtain a less influenced interpretation, the data was adjusted to compensate for the seasonality effects\(^9\). Figure 2 presents the monthly numbers of incoming and resolved bankruptcy, insolvency and corporate recovery actions, between January 2007 and September 2016, adjusted to compensate for seasonality.

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\(^9\) The adopted seasonality adjustment procedure was the same as can be seen in Correia and Videira (2015, 2016). Note that the calculations of the procedural balance, clearance rate and disposition time, presented in figures 3, 4 and 5, respectively, are based on the values of incoming and resolved cases displayed in figure 2. Note, as well, that pending bankruptcy, insolvency and corporate recovery actions are not prone to seasonality effects and, therefore, that particular data series was not adjusted according to seasonality.
The procedural balance adjusted according to seasonality is, for the period in question, charted in figure 3. An apparent change in trend, initiated between 1 and 1.5 years after the start of the adjustment program, is observable during the Troika’s and post-Troika’s periods, intensifying in the latter. Of the 117 months considered in the analysis, 57 presented favorable procedural balances. Of those 57 months, 23 (or 40.4%) were recorded in the pre-Troika’s period, 12 (or 21.1%) were recorded in the Troika’s period and 22 (or 38.6%) were recorded in the post-Troika’s period. More remarkable, though, is the fact that in the 53 months comprising the pre-Troika’s period 43.4% (23 months) presented favorable procedural balances, in the 34 months covering the Troika’s period 35.3% (12 months) presented favorable procedural balances and in the 30 months covering the post-Troika’s period, an impressive 73.3% (22 months) presented favorable procedural balances.
The clearance rate adjusted according to seasonality, for the case type in study, between January 2007 and September 2016, is plotted in figure 4. The positive change in trends is more noticeable from March 2014 onward, after the Troika’s departure. Of the 117 months considered in the analysis, 57 presented favorable clearance rates (above 100%). Of those 57 months, 23 (or 40.4%) were recorded in the pre-Troika’s period, 12 (or 21.1%) were recorded in the Troika’s period and 22 (or 38.6%) were recorded in the post-Troika’s period. More remarkable, as was the case with the procedural balance, is the fact that in the 53 months comprising the pre-Troika’s period 43.4% (23 months) presented favorable clearance rates, in the 34 months covering the Troika’s period 35.3% (12 months) presented favorable clearance rates and in the 30 months covering the post-Troika’s period, an impressive 73.3% (22 months) presented favorable clearance rates.
In turn, the disposition time adjusted according to the seasonality, for the case type in question, between January 2007 and September 2016, is plotted in figure 5. As for the previously applied compound indicators, a change in trend is observable particularly from the end of 2010 forward. Of the 117 months considered in the analysis, 73 presented disposition times under 100 days. Of those 73 months, 10 (or 13.7%) were recorded in the pre-Troika’s period, 34 (or 46.6%) were recorded in the Troika’s period and 29 (or 39.7%) were recorded in the post-Troika’s period. More noteworthy is the fact that in the 53 months comprising the pre-Troika’s period only 10 months (18.9%) presented disposition times under 100 days, all of the 34 months covering the Troika’s period (100%) presented disposition times under 100 days and in the 24 months spanning the post-Troika’s period 29 months (96.7%) presented disposition times under 100 days.
The information presented in the previous 5 figures constitute a body of convergent evidence. A careful examination of the figure 6, allows for the corroboration of the previously presented results. The Troika’s arrival at Portugal and the respective adjustment program induced a rampant increase of pendency for the bankruptcy, insolvency and corporate recovery actions. It appears not to be matter of simple coincidence: the compliance with the objectives set out in the MoU (Portugal, 2011) permitted the stabilization of the number of pending cases roughly one year after the Troika’s arrival to Portugal. After the Troika’s departure from Portugal and apart from the sharp increase coincident with the Judicial Map Reform, enforced by Decree-Law 49/2014, the number of pending bankruptcy, insolvency and corporate recovery actions started a steady decline trend, lasting (at least) until September 2016 (the most recent month covered by the article’s data).
The data gives rise to a stimulating and pertinent interrogation: do the analyzed indicators present dissimilar characteristics for the pre-Troika’s, Troika’s and post-Troika’s periods, at a statistical level? If that is the case, the dissimilarities should not be solely attributed to random variations of the phenomena at study and should, rather, be viewed as consequence of the judiciary and the justice administration continued adaptation to the 2011 MoU (Portugal, 2011) challenges

2) Hypothesis Testing

Considering that for any of the six variables (presented in figures 1 to 6) the data didn’t reveal normal distributions, the use of parametric tests to compare the sets of data form the three analyzed periods would have been inadequate. Instead, it was necessary to apply the non-parametric test of Kruskal-Wallis in order to determine whether these sets of data originated from the same population (null hypothesis) or, originated from distinct populations (alternative hypothesis), considering a level of significance of 0.05. The results of the Kruskal-Wallis test for the six variables can be found in table 1.
Table 1 – Results for the Kruskal-Wallis test, grouped by “pre-Troika’s period,” “Troika’s period” and “post-Troika’s period”

<table>
<thead>
<tr>
<th></th>
<th>Incoming*</th>
<th>Completed*</th>
<th>Pending</th>
<th>Procedural balance*</th>
<th>Clearance rate*</th>
<th>Disposition time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kruskal-Wallis test value</td>
<td>90,856</td>
<td>87,439</td>
<td>86,635</td>
<td>15,224</td>
<td>9,865</td>
<td>75,226</td>
</tr>
<tr>
<td>p-value</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
<td>0,000</td>
<td>0,007</td>
<td>0,000</td>
</tr>
</tbody>
</table>

Source: prepared by the authors.

The null hypothesis of the Kruskal-Wallis test was rejected (p-values = 0.000 < 0.05) for all variables. That is equivalent to saying that, for all the considered variables, H₁ was validated. Consequently, one can conclude that the three sets of data do not come from the same population.

Following the rational put forward by Correia and Videira (2016): “The logical question arising from the Kruskal-Wallis test results is: if the three data sets do not come from the same population, their outcomes (for each of the six indicators) can all be considered statistically different or, instead, can be statistically grouped?” Table 2 presents a stepwise comparison aimed at answering that question¹⁰.

Table 2 – Stepwise comparison for statistical similarity of medians – “pre-Troika’s period”, “Troika’s period” and “post-Troika’s period”

<table>
<thead>
<tr>
<th></th>
<th>Incoming</th>
<th>Completed</th>
<th>Pending</th>
<th>Procedural balance</th>
<th>Clearance rate</th>
<th>Disposition time</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-Troika’s period</td>
<td>528</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Troika’s period</td>
<td>---</td>
<td>1598</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>post-Troika’s period</td>
<td>---</td>
<td>---</td>
<td>1396</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

The stepwise comparison, following a Kruskal-Wallis test, allows for the identification median similarities or dissimilarities between mutually exclusive data sets. In this particular case the mutually exclusive data sets are the pre-Troika’s period, the Troika’s period and the post-Troika’s period. Table 2 groups were created using the stepwise comparison. Periods within the same group can be statistically considered to have equal medians for a particular variable. Conversely, periods in different groups can be statistically considered to have different medians for a particular variable.

¹⁰
Troika’s period | 97.1% | ---
--- | --- | 104.3%

| Disposition time | Group 1 | Group 2 |
| --- | --- |
| pre-Troika’s period | 127 | --- |
| Troika’s period | --- | 74 |
| post-Troika’s period | --- | 79 |

Source: prepared by the authors; * Values adjusted for seasonality.
Note: Groups 1, 2 and 3 unrelated between variables (an independent analysis was conducted for each variable)

The above results constitute an important contribute to the understanding of the behavior of this particular type of actions.

Regarding the median of incoming actions adjusted for seasonality, all three periods are statistically different: median\(^{11}\) of 528 incoming cases per month before the arrival of Troika to Portugal, of 1598 incoming cases per month during Troika’s stay in Portugal and of 1396 incoming cases per month after the departure of Troika from Portugal. Despite the median decline of more than 200 incoming cases per month after the departure of Troika from Portugal, when compared with the Troika’s period, the median per month value of incoming cases for the post-Troika’s period is still more than 850 units above

A similar behavior can be observed for the completed bankruptcy, insolvency and corporate recovery actions. All three periods are statistically different: median of 524 completed cases per month before the arrival of Troika to Portugal, of 1569 completed cases per month during Troika’s stay in Portugal and of 1420 completed cases per month after the departure of Troika from Portugal. Despite the median decline of almost 150 completed cases per month after the departure of Troika from Portugal, when compared with the Troika’s period, the median per month value of completed cases for the post-Troika’s period is still almost 900 units above the value for the pre-Troika’s period. This significant and persistent improvement in the number of completed cases is a determinant factor impacting the outcomes of this analysis remaining variables.

Concerning the number of pending actions, it is possible to conclude that there is no statistically significant difference over the Troika’s and post-Troika’s periods, but the approximate differences of nearly +1700 and +1400 units between these two periods and the pre-Troika’s period statistically signals a considerable increase in the pending bankruptcy, insolvency and corporate recovery actions (median of 2254 pending cases per month before the

\(^{11}\) Medians must be used instead of means, for all indicators, given that data distributions are not Normal (Gaussian).
arrival of Troika to Portugal, of 3953 pending cases per month during Troika’s stay in Portugal and of 3648 pending cases per month after the departure of Troika from Portugal).

For the procedural balance, adjusted for seasonality, it is possible to conclude that there is no statistically significant difference over the pre-Troika’s and Troika’s periods (both with unfavorable median procedural balances), but the differences of -74 and -106 units between these two periods and the post-Troika’s period statistically suggests an improvement in the median procedural balance for bankruptcy, insolvency and corporate recovery actions (median of +14 cases per month (unfavorable) before the arrival of Troika to Portugal, of +46 cases per month (unfavorable) during Troika’s stay in Portugal and of -60 cases per month (favorable) after the departure of Troika from Portugal). It is also important to highlight that the sign differences constitute a relevant qualitative progress for the results.\(^\text{12}\)

The clearance rate adjusted for seasonality does not show signs of statistically significant difference over the pre-Troika’s and Troika’s periods (both with unfavorable values below 100%), but the differences of 6.5 and 7.2 percentage points between these two periods and the post-Troika’s period statistically exposes an improvement in the clearance rate for bankruptcy, insolvency and corporate recovery actions (median of 97.8% before the arrival of Troika to Portugal, of 97.1% during Troika’s stay in Portugal and of 104.3% after the departure of Troika from Portugal). Again, it is important to highlight that the above 100% results for the clearance rate constitute a relevant qualitative progress for the results.\(^\text{13}\)

Lastly, the disposition time, adjusted for seasonality, shows no sign of statistically significant differences over the Troika’s and post-Troika’s periods (both below 100 days), but the differences of 53 and 48 days between these two periods and the pre-Troika’s period statistically exposes an improvement in the disposition time for bankruptcy, insolvency and corporate recovery actions (median of 127 days before the arrival of Troika to Portugal, of 74 days during Troika’s stay in Portugal and of 79 days after the departure of Troika from Portugal). It is important to highlight, once more, that the decrease in the disposition time backs up the case in favor of the existence of some celerity gains in the judicial system’s handling of bankruptcy, insolvency and corporate recovery actions (the decrease of 48 days in the disposition time between the pre-Troika’s period and the post-Troika’s period corresponds to a decrease of roughly one month and eighteen days for this variable).

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12 The + sign accompanies unfavorable procedural balances results and a pendency increase. The - sign accompanies favorable procedural balances results and a pendency decrease.
13 Implying a reduction of pendency.
Therefore, all indicators considered, the results presented in phases 1) and 2) of this analysis (descriptive statistics and hypothesis testing) are convergent.

5. Discussions and conclusions

At the moment of the establishment of MoU (Portugal, 2011), the institutions framed in the Portuguese justice sector started the process of implementation of the prescribed measures. At that time, the judicial system started to struggle with accentuated increases in the number of pending bankruptcy, insolvency and corporate recovery actions, a phenomenon related to the economic and financial crisis that had swept across Europe.

After the relatively recent completion of the economic and financial assistance program, it is already possible to conclude through evidences of statistical data analysis that the Troika’s inspired Portuguese government interventions made it possible to control and stop the rampant growth in the number of pending actions of this type. Hence, evidence suggests the implemented public policies produced not only short term positive results but enduring ones as well.

In the period comprised from March 2014 to September 2016 (post-Troika’s period), the statistical evidence is straightforward: society’s demand for bankruptcy, insolvency and corporate recovery actions stabilized and the previous period increase was halted (in all probability as a result of improved economic and financial conditions); the judicial system’s supply for such actions has sustained most of the improvements achieved during the Troikas’ period; and the number of pending bankruptcy, insolvency and corporate recovery actions starts to show signs of moderate, consistent decline.

As a consequence, performance indicators such as disposition time, clearance rate or procedural balance improved quantitatively and qualitatively during the Troika’s stay and sustained those improvements after Troika’s departure. It seems perfectly reasonable to conclude, given the previously presented empirical arguments, that the Portuguese civil bankruptcy, insolvency and corporate recovery actions public policy implementation constitutes a moderately successful story, in line with results reported by Correia and Videira (2015, 2016) for the civil enforcement actions, although with considerably less voluminous outcomes. The statistically significant positive results were not limited to the Troika’s period and are still easily measurable 30 months after Troika’s departure from the country.
Following Correia and Videira (2016) approach, “we leave to others the task of analyzing to what measure and extent these results constitute evidence of a successful IMF, EC and ECB strategy toward countries that beneficited from financial assistance”.

Future studies should carry out similar empirical studies for other types of actions specifically targeted in the MoU (Portugal, 2011), particularly, for the Special Revitalization Process, given the close link to bankruptcy, insolvency and corporate recovery actions. It is also suggested for future studies to continue the quantitative monitoring of the performance of bankruptcy, insolvency and corporate recovery actions, in order to accumulate a comprehensive historic that will allow to determine whether the Portuguese justice sector positive results attained following the MoU implementation are confined to a short time interval or will spread into the near and distant future.

Bibliographic References


