

27 July 2018

## Survey on Framework Regulation Costs 2017

### **Companies perceive greater difficulties in hiring workers and access to qualified technicians between 2014 and 2017**

In 2017, the global framework regulation costs indicator, which aggregates nine costs domains, registered an intermediate value of 3.05 on a 1 to 5 scale, similar to the value observed in 2014. By economic activity, Accommodation and food services continued to show the highest indicator (3.16), despite the decrease when compared to 2014 (-0.05). By enterprise size-class, small and medium enterprises continued to be the ones that presented the highest indicator, 3.09 (+0.02 than in 2014), while those of micro-dimension perceived lower framework regulation costs levels (2.94 in 2017, 0.4 less than in 2014).

Among the nine domains analysed, the main constraints to business activity were identified in the judicial system, in licensing and in tax system, similar to what was considered by companies in 2014. However, it was the human resources domain which recorded the largest increase between 2014 and 2017, +0.17 points, mainly reflecting difficulties in hiring workers (+0.28) and access to qualified technicians (+0.23).

In 2017, in the set of costs associated with compliance with the information obligations, 88.5% were supported by the company's own means and 13.5% fulfilled by outsourcing. The provision and delivery of business and fiscal information recorded the greatest weight in the annual average cost with the fulfilment of the information obligations (37.5%), followed by the licenses, certificates, authorisations or permissions (23.2%).

With this press release, Statistics Portugal disseminates the results from the second edition of the Survey on Framework Regulation Costs (IaCC), with reference to 2017. The first edition, from 2014, was published by Statistics Portugal in 2015, and is available at [www.ine.pt](http://www.ine.pt).

The IaCC focused on nine main domains, identified as potential areas of obstacle to businesses' activities: starting a business, licensing, network industries, financing, judicial system, tax system, administrative burden, barriers to internationalisation and human resources.

Framework regulation costs are understood as the negative effects resulting from rules, procedures, actions or omissions that hinder businesses and that are not attributable to the investor, its business or organization.

The new edition of the survey included a new module called "Costs from compliance with information obligations", with the purpose to identify the costs incurred by companies in the tasks associated with compliance with information obligations, or to access benefits arising from legislation.

In this survey 5 060 non-financial companies<sup>1</sup> were surveyed, constituting a sample stratified by enterprise size-class and economic activity. It was carried out between March and April 2018 and gathered 4 248 valid answers. In 2016, these companies represented 40.3% of the total turnover of non-financial companies in Portugal.

>> **Table 1 – Characterisation of companies from IaCC (2017)**

| Aggregation   | Number of companies | Weight (%)    |
|---|---------------------|---------------|
| <b>Total companies</b>                                    | <b>4 248</b>        | <b>100.0%</b> |
| <b>Enterprise size-class</b>                              |                     |               |
| Large   | 959                 | 22.6%         |
| Small and medium  | 2 050               | 48.3%         |
| Micro   | 1 239               | 29.2%         |
| <b>Economic activity</b>                                  |                     |               |
| Agriculture, forestry and fishing                         | 240                 | 5.6%          |
| Manufacture   | 1 218               | 28.7%         |
| Energy, water and sanitation                              | 193                 | 4.5%          |
| Construction and real estate                              | 505                 | 11.9%         |
| Distributive trade  | 626                 | 14.7%         |
| Accommodation and food services                           | 250                 | 5.9%          |
| Transportation and storage, information and communication | 426                 | 10.0%         |
| Other service activities                                  | 790                 | 18.6%         |

**Source:** Statistics Portugal, IaCC – Survey on Framework Regulation Costs

The main results of the Survey on Framework Regulation Costs 2017 are presented as a global indicator and partial indicators, according to the framework regulation costs domain, computed in the same way as those obtained in the IaCC 2014 edition. This form of presenting the results does not deplete the analytical potential of the survey. For instance, examples are included at the end of this press release, using information exploitation techniques at micro-data level.

In addition to the indicators included in this press release, a file with a broader set of table results from the IaCC is attached.

<sup>1</sup> Along this press release, the terms enterprise and company are used indiscriminately.  
Survey on Framework Regulation Costs – 2017

## 1. Global framework regulation costs indicator

### SMALL AND MEDIUM COMPANIES CONTINUE TO BE THOSE WHO PRESENTED THE HIGHEST INDICATOR

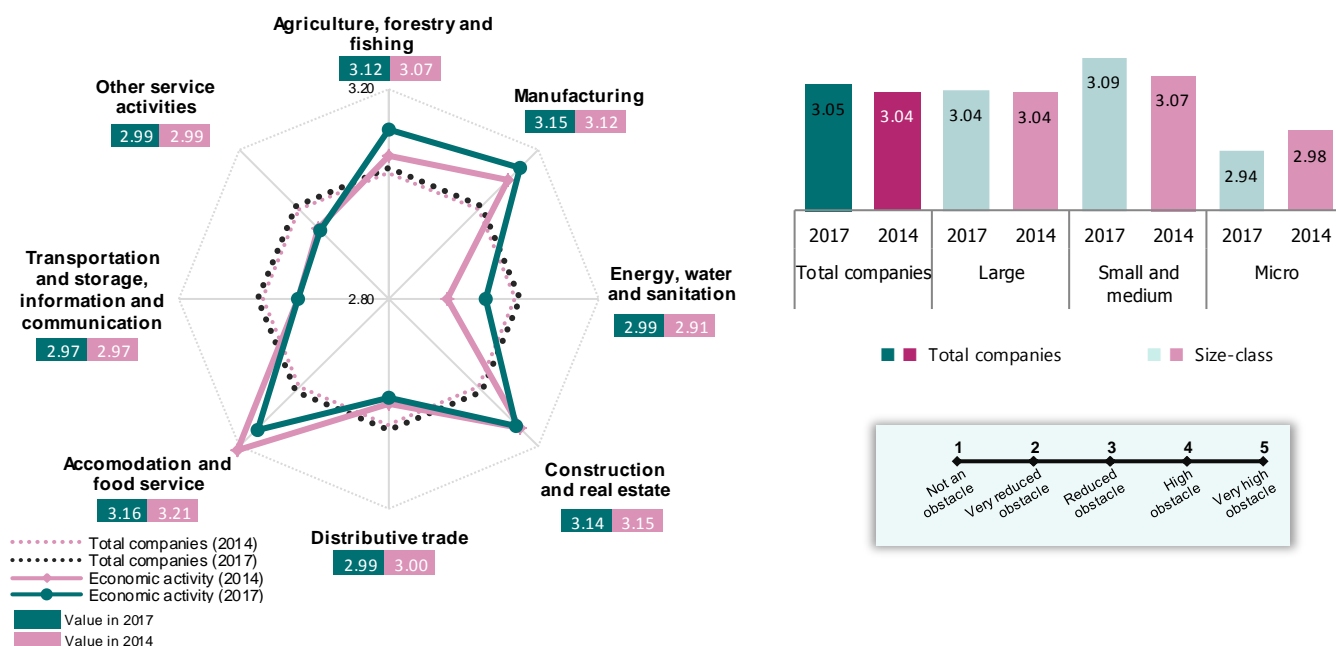
the value observed in 2014.

By economic activity, the Accommodation and food services continued to show the highest indicator (3.16), despite the decrease compared to 2014 (-0.05). The Manufacturing sector, which ranked 3<sup>rd</sup> in 2014, surpassed the Construction and real estate sector, occupying the 2<sup>nd</sup> position.

The Transportation and storage, information and communication sector, with an indicator of 2.97 (identical value in 2014), was the one that presented the lowest result, followed by the sectors of Energy, water and sanitation, Distributive trade, and Other service activities, all with 2.99 in 2017.

In 2017, the small and medium enterprises continued to present the highest global framework regulation costs indicator, 3.09 (+0.02 than in 2014), while microenterprises perceived lower costs levels (2.94 in 2017, -0.4 than in 2014).

>> **Figure 1 – Global framework regulation costs indicator, by size-class and economic activity (2014 and 2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

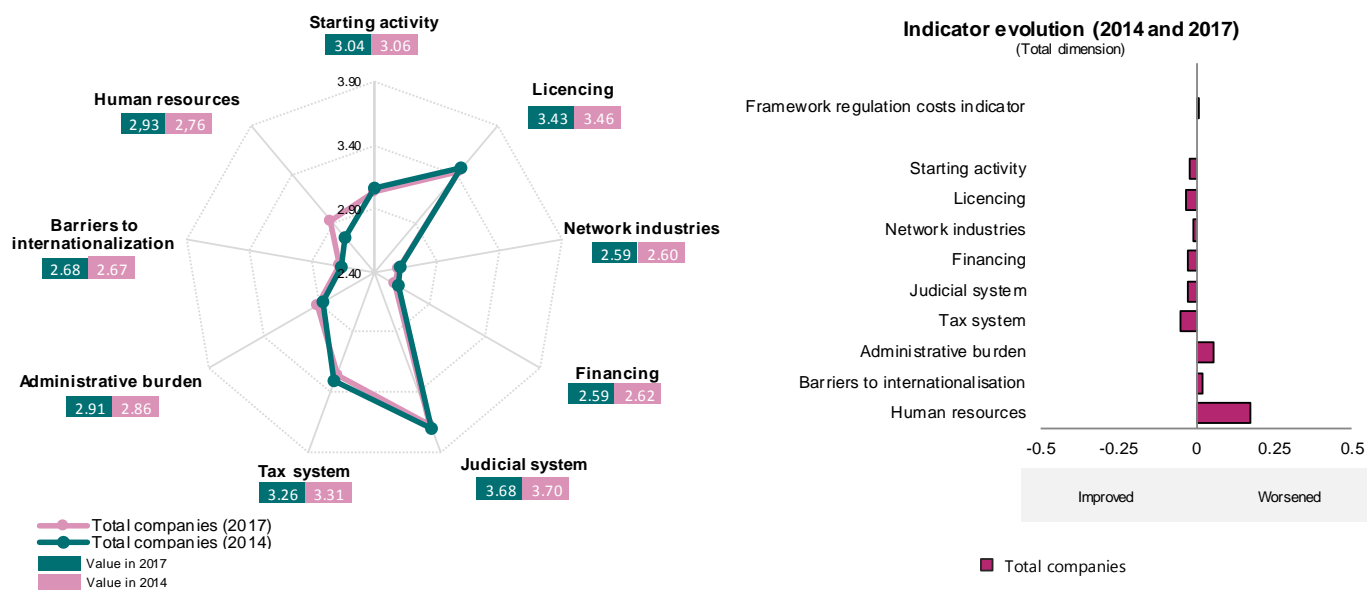
**JUDICIAL SYSTEM CONTINUED TO BE IDENTIFIED AS THE DOMAIN OF FRAMEWORK REGULATION COSTS WITH HIGHER NEGATIVE IMPACT ON BUSINESSES' ACTIVITY**

In 2017, the judicial system, the licencing and the tax system were identified by the companies as the domains with the greatest perceived obstacles to their activity, with 3.68, 3.43 and 3.26, respectively, as evidenced in 2014.

By contrast, network industries and financing were not perceived as significant obstacles to the activity of most companies, where both domains recorded a global framework regulation costs indicator of 2.59, in 2017.

Human resources domain presented the largest increase between 2014 and 2017 (+0.17), followed by the administrative burden and the barriers to internationalisation (+0.05 and +0.01, respectively).

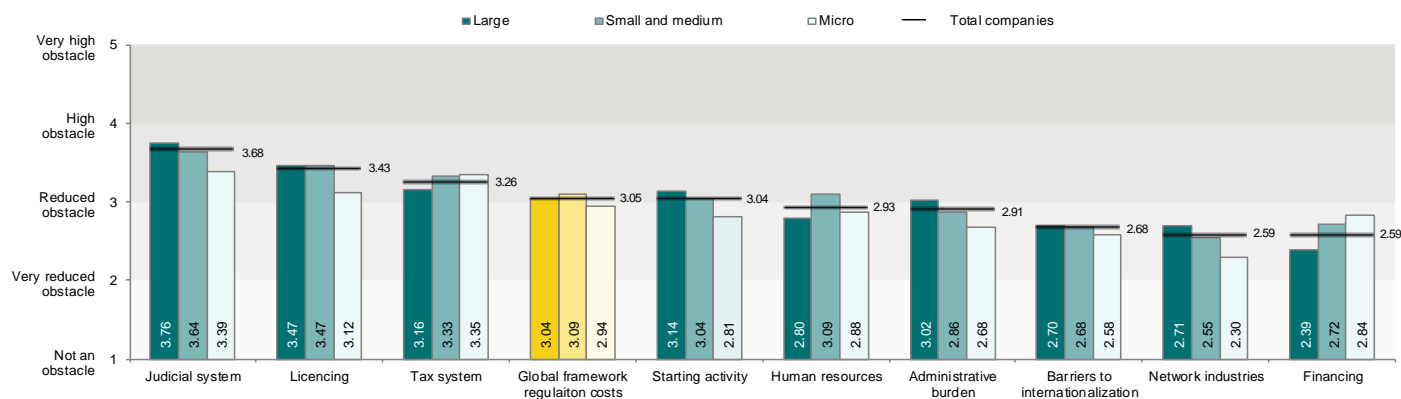
**>> Figure 2 – Global framework regulation costs indicator and evolution, by costs domain (2014 and 2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

By enterprise size-class, the judicial system was perceived as the domain that generated the greatest constraints on microenterprises, with an indicator of 3.39 in 2017 (-0.08 vis-à-vis 2014). In 2014, the tax system was the domain with the major obstacle to the activity of these companies.

>> **Figure 3 – Framework regulation costs indicator, by costs domain and enterprise size-class (2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

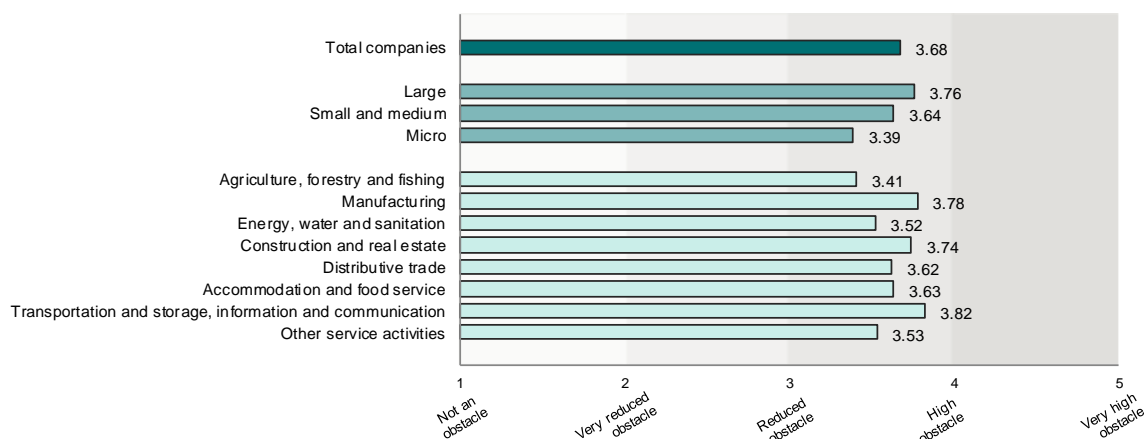
### 1.1. Framework regulation costs domains in detail

As mentioned above, in the nine domains under analysis, the **judicial system** was the area where companies perceived the highest obstacles to their activity, with a framework regulation costs indicator of 3.68. Analysing the several components of the judicial system, fiscal disputes (3.82) continued to present more obstacles to companies than those commercial or labour related (3.69 and 3.51, respectively). As regards the characteristics of the proceedings, the greatest obstacle was again the duration of legal proceedings, considered as being a high or very high obstacle to the activity of 49.0% of the companies.

**HALF OF THE COMPANIES CONSIDERED THE DURATION OF JUDICIAL PROCEEDINGS AS A HIGH OR VERY HIGH OBSTACLE**

The obstacles in the judicial system were particularly higher for large companies (3.76) and lower for microenterprises (3.39). By economic activity, Transportation, storage, information and communication and Manufacturing sectors were the ones that registered the highest indicators, with 3.82 and 3.78 respectively, in this domain.

>> **Figure 4 – Framework regulation costs indicator in the judicial system, by enterprise size-class and economic activity (2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

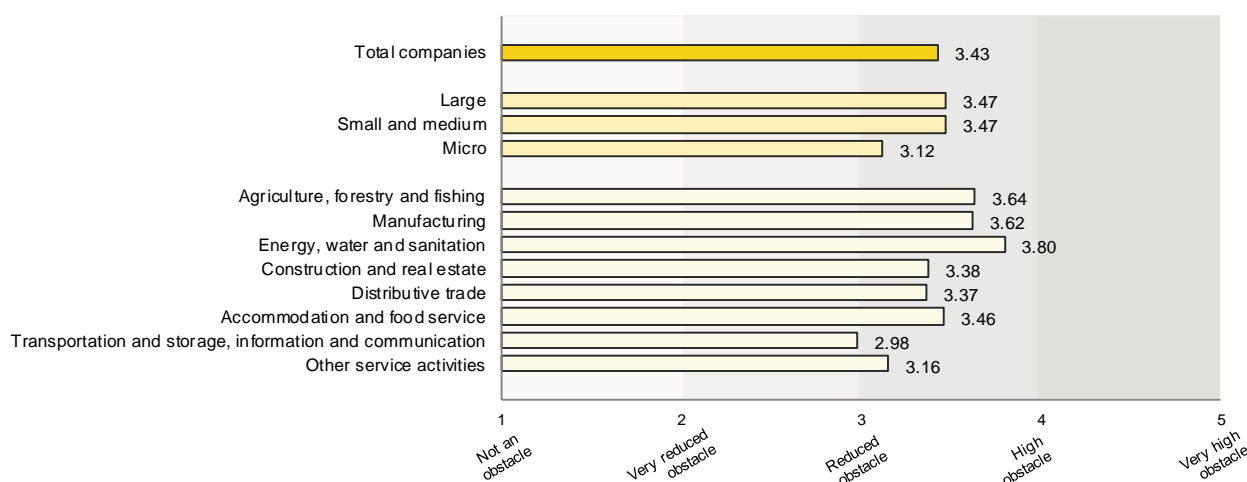
Between 2014 and 2017, the components of the stability of the current legislation and the duration of the judicial processes both registered a reduction of 0.06 points, reaching 3.83 and 3.57 in 2017, respectively.

### ENVIRONMENTAL LICENSES CONSIDERED AS THE MAJOR OBSTACLE TO THE ACTIVITY OF THE ENERGY SECTOR

Another domain with a perception of high framework regulation costs for the companies was the **licensing**, with a global indicator of 3.43.

The large and the small and medium companies perceived higher obstacles in this domain, 3.47 in both size-classes, compared to microenterprises (3.12). The companies in the Energy, water and sanitation sector were those that perceived the greatest obstacles to their activity, mainly due to environmental (4.06) and activity (3.90) licenses.

>> **Figure 5 – Framework regulation costs indicator in licensing,  
by enterprise size-class and economic activity (2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

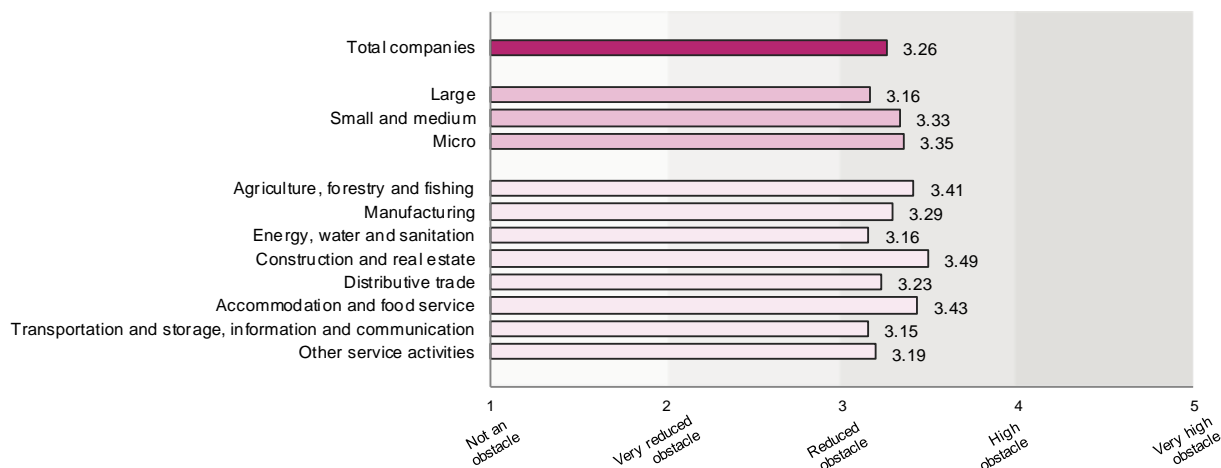
Between 2014 and 2017, all the components registered an improvement in the indicators, with emphasis on the activity licenses and environmental certification, both with a reduction of 0.05, recording 3.36 and 3.40, respectively, in 2017.

The **tax system** also presented a relatively high framework regulation costs indicator. The tax burden was pointed out as the major obstacle to the companies' activities (3.44), in which 52.0% of the companies considered it as a high or very high obstacle.

### IN THE TAX SYSTEM DOMAIN, THE TAX BURDEN COMPONENT WAS REFERRED AS THE MAJOR OBSTACLE TO THE ACTIVITY OF THE COMPANIES

In the Construction and real estate sector, the tax burden (3.71) and the contributions to Social Security (3.66) were the components considered by companies as the ones that created the highest obstacles to their activity.

>> **Figure 6 – Framework regulation costs indicator in the tax system, by enterprise size-class and economic activity (2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

Compared with 2014, the main improvement (minus 0.14) occurred in microenterprises. In this group of companies, this domain no longer presents the greatest framework regulation costs indicator, having been replaced by the judicial system in that role. In 2017, the VAT (3.38) and the IRC (3.37) were the components of the tax system that registered the greatest improvements compared to 2014, with lower framework regulation costs (-0.09 and -0.06 respectively).

The **starting of activity**, with a framework regulation costs indicator of 3.04, below the global indicator, perceived the costs (including taxes and equity required) and legal requirements to start activity as the main obstacles. The time required to start activity was the lowest indicator in this domain, with 33.1% of the companies considering this component as a reduced or very reduced obstacle.

The large companies registered the highest value as regards this indicator (3.14). The microenterprises consider that this domain did not constitute a major obstacle to their activity, with an indicator of 2.81. The Manufacturing sector registered the highest framework regulation costs indicator, followed by the Energy, water and sanitation sector.

Between 2014 and 2017, the framework regulation costs indicator improved in all components of this domain, with the exception of the legal requirements necessary for the starting of activity (3.15 in 2014 to 3.16 in 2017).

Operations linked with **human resources** were not perceived as a major obstacle to the activity of companies (2.93). However, this was the indicator that recorded the largest increase between 2014 and 2017 (+0.17 points).

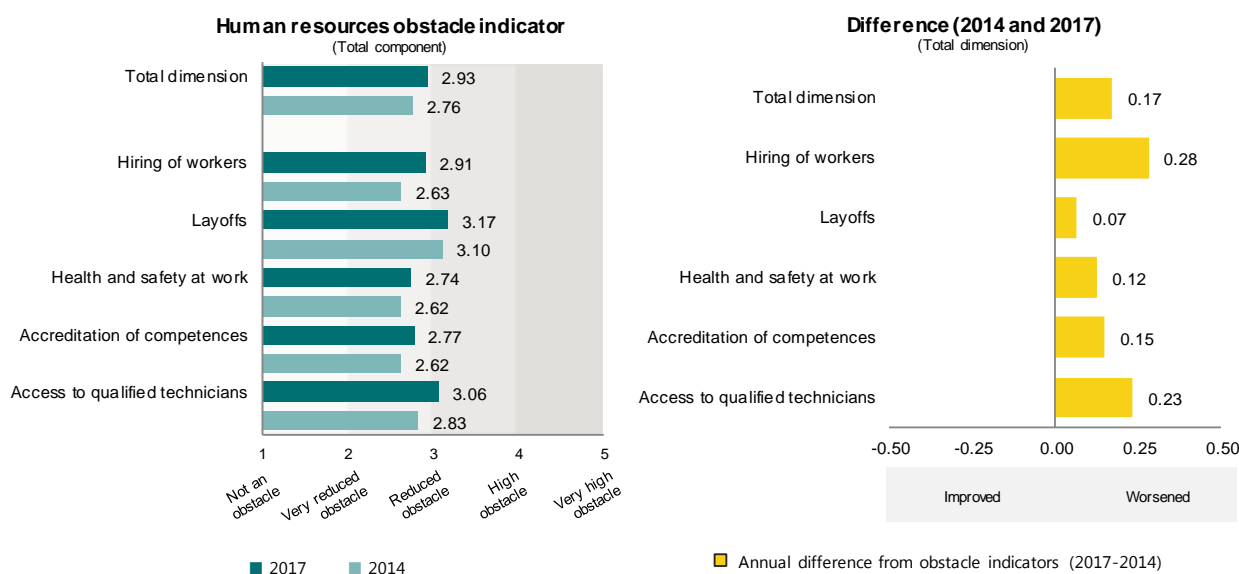


**THE HUMAN RESOURCES DOMAIN  
PRESENTED THE HIGHEST INCREASE IN  
THE FRAMEWORK REGULATION COSTS  
INDICATOR, COMPARED TO 2014**

As regards human resources in a more detailed level, it was verified that the increase of 0.17 points in the framework regulation costs indicator between 2014 and 2017 was mainly due to difficulties in hiring workers (+0.28) and access to qualified technicians (+0.23).

However, the difficulties with layoffs were pointed out, both in 2014 and 2017, as the biggest obstacle to economic activity in this domain (3.10 and 3.17, respectively).

**>> Figure 7 – Framework regulation costs indicator in human resources, by component and variation (2014 and 2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

In 2017, the **administrative burden** registered a lower value than the global framework regulation costs indicator, 2.91, and the frequency, complexity and response to requests to the Tax and Customs Authority (AT) caused the greatest obstacles to businesses' activity. The large companies and the Manufacturing sector were the ones that perceived administrative burden as the highest framework regulation costs.

In this domain, there were improvements only in the components administrative burden and relation with the Tax and Customs Authority (3.34, -0.03 in relation to 2014) and with Statistics Portugal (3.14, -0.02 compared to the same period).

The framework regulation costs indicator for the **barriers to internationalisation** domain was 2.68. The results for this domain have to be read carefully, since this domain was considered as not applicable by 52.8% of respondent companies.



The opening of establishments and subsidiaries abroad were again, in 2017, the relatively higher obstacles, with indicators of 3.14 and 3.12, respectively. Companies belonging to the Manufacturing sector were the ones that most perceived this type of costs, yet with an indicator lower than 3.

Between 2014 and 2017, the companies operating in Construction and real estate perceived a significant improvement in the framework regulation costs indicator, -0.27.

The **network industries** recorded an indicator value of 2.59 in 2017. Electricity and land transport services experienced the highest values in this domain of framework regulation costs, with 2.92 and 2.82, respectively.

Within the companies that consider the network industries as a high or very high obstacle, 54.7% considered the costs of services as the main obstacle. By economic activity, the Manufacturing sector registered the highest value, 2.81, influenced by the result of the electricity and transport services for land and sea/river freight.

In this domain, the components of liquid fuels and electricity services registered a lower framework regulation costs indicator in 2017 compared to 2014, with decreases of 0.11 and 0.08, respectively.

The access to **financing** was the domain with the lowest framework regulation costs indicator, 2.59. For the total companies, the access to subsidies and government support programs was the component with the highest value (2.86 in 2017).

Large enterprises perceived the access to financing as a minor obstacle compared to micro, small and medium enterprises. As regards microenterprises, the access to medium and long-term credit stood out as the biggest obstacle perceived. By economic activity, the companies from Construction and real estate, Agriculture, forestry and fishing, and Accommodation and food service sectors evidenced the highest indicators, 3.04, 2.96 and 2.93, respectively.

Between 2014 and 2017, the indicator related to the financing domain went from 2.62 to 2.59. This improvement was more significant in the components of issuance of bonds and the increase in equity and issuance of shares, -0.10 and -0.07, respectively.

## 1.2. Framework regulation costs domains and economic activities

At a more aggregated level, for some domains, there were no significant differences between 2014 and 2017. However, by looking at the domains and their components by economic activity, it was perceived that, for the majority of them, the components with higher framework regulation costs indicators belong to the judicial system. The following tables summarise the five components with the highest indicator values for 2017 and 2014, identifying the main changes between the two editions of the survey.

In 2017, the Transportation and storage, information and communication sector registered the highest indicator, as regards the duration of the judicial proceedings with tax disputes. In 2014, this was the third highest indicator.

### COMPANIES FROM ACCOMMODATION AND FOOD SERVICE NO LONGER PERCEIVE VAT (TAX SYSTEM) AS THE BIGGEST OBSTACLE

In 2014, the Accommodation and food service sector perceived VAT as the highest indicator (4.28). In 2017, the companies in this sector no longer perceived VAT as the biggest obstacle to the development of their activity, registering an indicator of 3.73, and falling to 48<sup>th</sup> place in the list of framework regulation costs indicators in that year. In the middle of 2016, VAT on food service decreased (from 23% to 13%), which might explain these results.

>> Table 2 – 5 largest framework regulation costs indicators, by economic activity, costs domain and their components, in 2017 and 2014

| Economic activity                             | Domain          | Component  | Indicator |          |       |          |
|---|-----------------|--|-----------|----------|-------|----------|
|   |                 |  | 2017      |          | 2014  |          |
|   |                 |  | value     | position | value | position |
| 5 major framework regulation costs indicators |                 |  |           |          |       |          |
| TRN   | Judicial system | Fiscal disputes: duration of court proceedings     | 4.16      | 1º       | 4.18  | 3º       |
| IND   | Judicial system | Commercial disputes: duration of court proceedings | 4.12      | 2º       | 4.17  | 4º       |
| TRN   | Judicial system | Commercial disputes: duration of court proceedings | 4.12      | 3º       | 4.16  | 5º       |
| IND   | Judicial system | Fiscal disputes: duration of court proceedings     | 4.08      | 4º       | 4.14  | 6º       |
| ENR   | Licencing       | Environmental licenses                             | 4.06      | 5º       | 3.92  | 18º      |

#### 5 largest framework regulation costs indicators in 2014 by economic activity

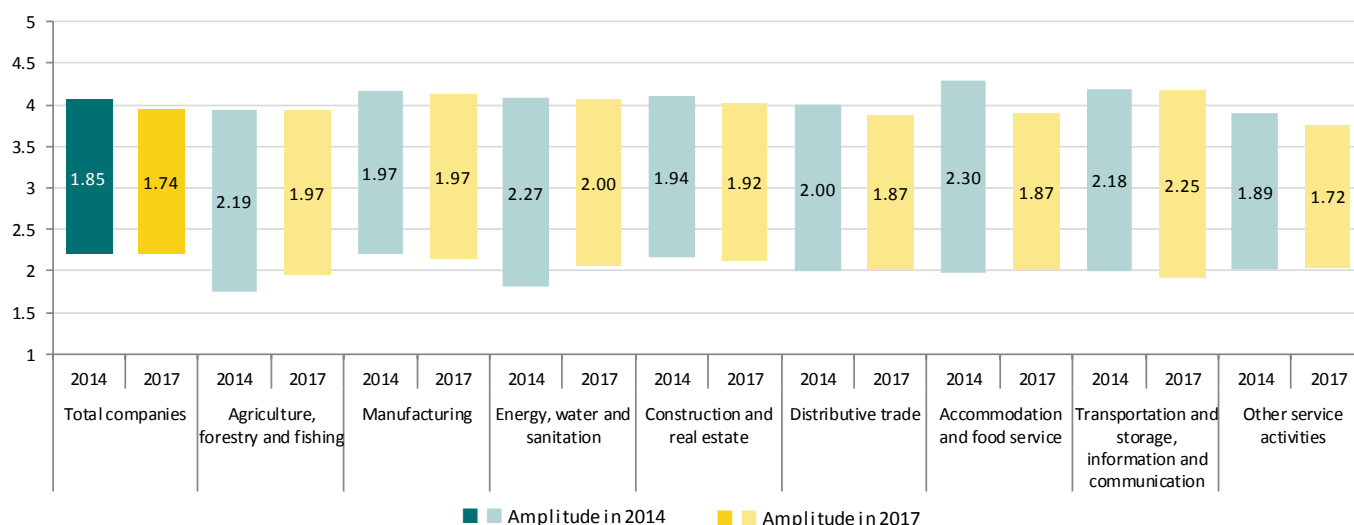
| Economic activity                             | Domain          | Component  | Indicator |          |       |          |
|---|-----------------|--|-----------|----------|-------|----------|
|   |                 |  | 2014      |          | 2017  |          |
|   |                 |  | value     | position | value | position |
| 5 major framework regulation costs indicators |                 |  |           |          |       |          |
| ALJ   | Tax system      | Fiscal burden: VAT                                 | 4.28      | 1º       | 3.73  | 48º      |
| ALJ   | Tax system      | Fiscal burden: contributions to Social Security    | 4.20      | 2º       | 3.89  | 18º      |
| TRN   | Judicial system | Tax disputes: duration of court proceedings        | 4.18      | 3º       | 4.16  | 1º       |
| IND   | Judicial system | Commercial disputes: duration of court proceedings | 4.17      | 4º       | 4.12  | 2º       |
| TRN   | Judicial system | Tax disputes: duration of court proceedings        | 4.16      | 5º       | 4.12  | 3º       |

Notes: ENR - Energy, water and sanitation; ALJ - Accommodation and food service; TRN - Transportation and storage, information and communication; IND - Manufacturing. The components "other n.e." from licensing and "regional administration" from the administrative burden were not considered.

Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

Considering the components of all framework regulation costs domains, the amplitudes of the framework regulation costs indicator are presented below, obtained by the difference between the maximum value and the minimum value of the indicator for each economic activity.

>> **Figure 8 – Amplitude of framework regulation costs indicators by economic activity (2014 and 2017)**



Note: The components "other n.e." from licensing and "regional administration" from the administrative burden were not considered.

Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

For the total number of companies, the amplitude of indicators decreased from 1.85 in 2014 to 1.74 in 2017, presenting a lower dispersion. The Accommodation and food service sector recorded the largest reduction in the amplitude. The Transportation and storage, information and communication sector was the only one that registered an increase in the amplitude between 2014 and 2017.

## 2. Costs from compliance with information obligations

In 2017, the survey included a new module called "Costs from compliance with information obligations", with the objective of identifying the costs incurred by the companies in the tasks associated with compliance with information obligations, or to access benefits arising from the legislation.

Seven types of information obligation arising from legislation have been identified, to be fulfilled by companies: the provision and delivery of business and fiscal information; applications for licenses, certificates, authorisations or permissions; the registers and notifications; the application for subsidies or other supports; the availability of manuals of procedures and action plans; cooperation with audits, checks and inspections; the provision of information labels and the provision of information to consumers and other entities.

The results presented correspond to average annual costs per company with these obligations. They were obtained in two ways: (i) When fulfilled by the use of outsourcing, the value considered was the one indicated by the company in the survey; (ii) When fulfilled internally by the company, the time spent with the fulfilment of the obligation was taken as reference, multiplied by a monetary value that translated the direct and indirect costs incurred by the company. For each economic activity and size-class, this value was obtained by the quotient between the gross value added and the total number of hours worked in 2016, according to the Integrated Business Accounts System, that is based on the reporting under the Simplified Business Information.

**WEIGHT OF COMPANY'S OWN MEANS  
REPRESENTED 86.5% OF THE AVERAGE  
TOTAL COSTS ASSOCIATED WITH  
COMPLIANCE WITH INFORMATION  
OBLIGATIONS**

In 2017, in the set of costs associated with compliance with the information obligations, 86.5% were supported by the company's own means and 13.5% determined by outsourcing. The weight of costs with the company's own means was always higher, both by enterprise size-class and by economic activity.

Microenterprises presented the greatest weight from outsourcing (47.3%), compared to the remaining size-classes (20.8% and 11.2% in the small and medium and in the large companies, respectively).

**>> Table 3 – Average annual costs per company, with compliance with legal obligations (2017)**

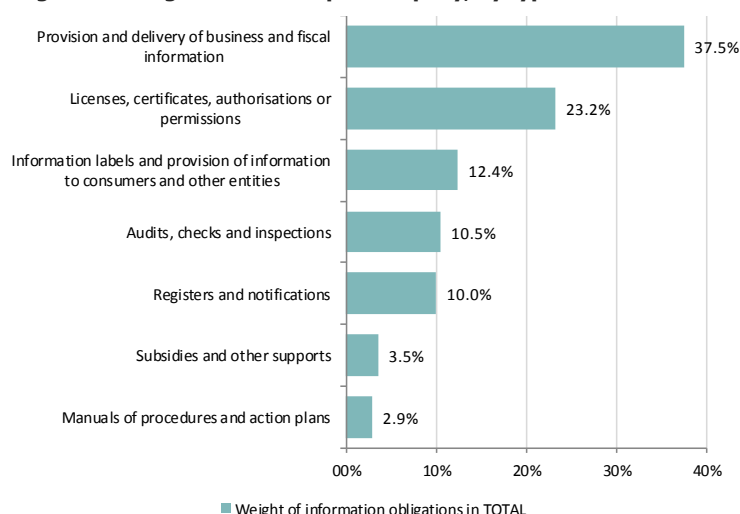
| Aggregation   | Companies | Costs                                     |                                  |                    |
|---|-----------|---|----------------------------------|--------------------|
|   |           | Weight from companies' own means in TOTAL | Weight from outsourcing in TOTAL | Weight in turnover |
|   | number    | percentage per company                    |                                  |                    |
| Total companies   | 3 009     | 86.5%                                     | 13.5%                            | 0.34%              |
| <b>Enterprise size-class</b>                              |           |   |                                  |                    |
| Large   | 959       | 88.8%                                     | 11.2%                            | 0.30%              |
| Small and medium  | 2 050     | 79.2%                                     | 20.8%                            | 0.74%              |
| Micro   | 1 239     | 52.7%                                     | 47.3%                            | 2.09%              |
| <b>Economic activity</b>                                  |           |   |                                  |                    |
| Agriculture, forestry and fishing                         | 240       | 82.9%                                     | 17.1%                            | 0.74%              |
| Manufacturing   | 1 218     | 81.2%                                     | 18.8%                            | 0.07%              |
| Energy, water and sanitation                              | 193       | 95.9%                                     | 4.1%                             | 1.03%              |
| Construction and real estate                              | 505       | 66.8%                                     | 33.2%                            | 0.26%              |
| Distributive trade  | 626       | 90.0%                                     | 10.0%                            | 0.09%              |
| Accommodation and food service                            | 250       | 59.1%                                     | 40.9%                            | 1.22%              |
| Transportation and storage, information and communication | 426       | 67.3%                                     | 32.7%                            | 0.08%              |
| Other service activities                                  | 790       | 68.8%                                     | 31.2%                            | 0.95%              |

Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

**PROVISION AND DELIVERY OF BUSINESS  
AND FISCAL INFORMATION REGISTERED  
THE HIGHEST WEIGHT OF ALL  
INFORMATION OBLIGATIONS IN 2017**

In 2017, the provision and delivery of business and fiscal information recorded the greatest weight in the annual average cost with the fulfilment of the information obligations (37.5%), followed by the licenses, certificates, authorisations or permissions (23.2%). In the opposite direction, there is the obligation with manuals of procedures and action plans with 2.9% of the average annual cost per company.

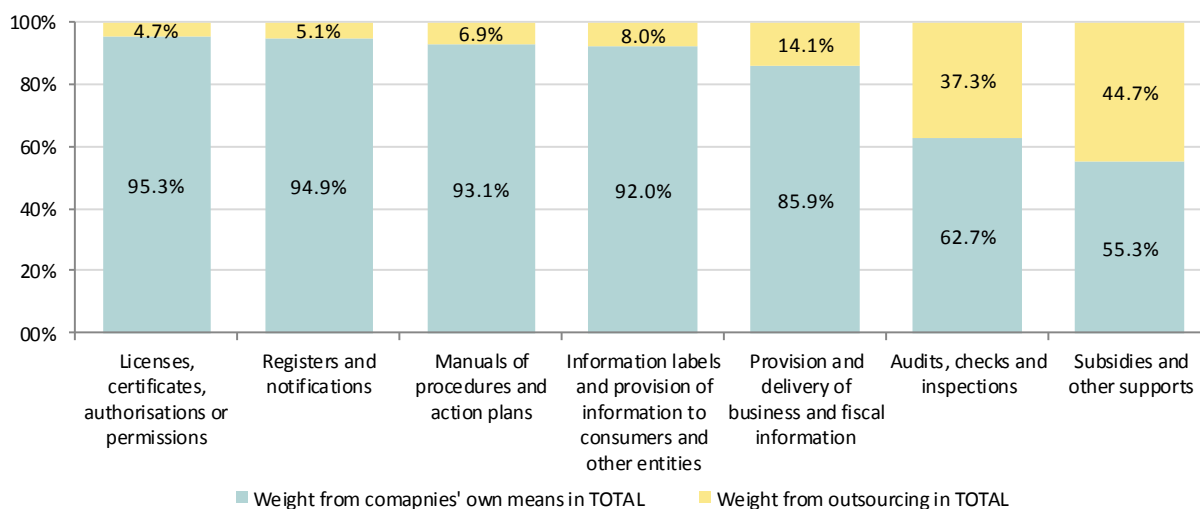
>> **Figure 9 – Weight in average annual cost per company, by type of information obligation (2017)**



**Source:** Statistics Portugal, IaCC – Survey on Framework Regulation Costs

As previously mentioned, the provision and delivery of business and fiscal information was the obligation that registered the greatest weight on the average annual cost, which 85.9% with company's own means and the remaining from outsourcing. Furthermore, 95.3% of the cost with applications for licenses, certificates, authorisations or permissions resulted from companies' own means.

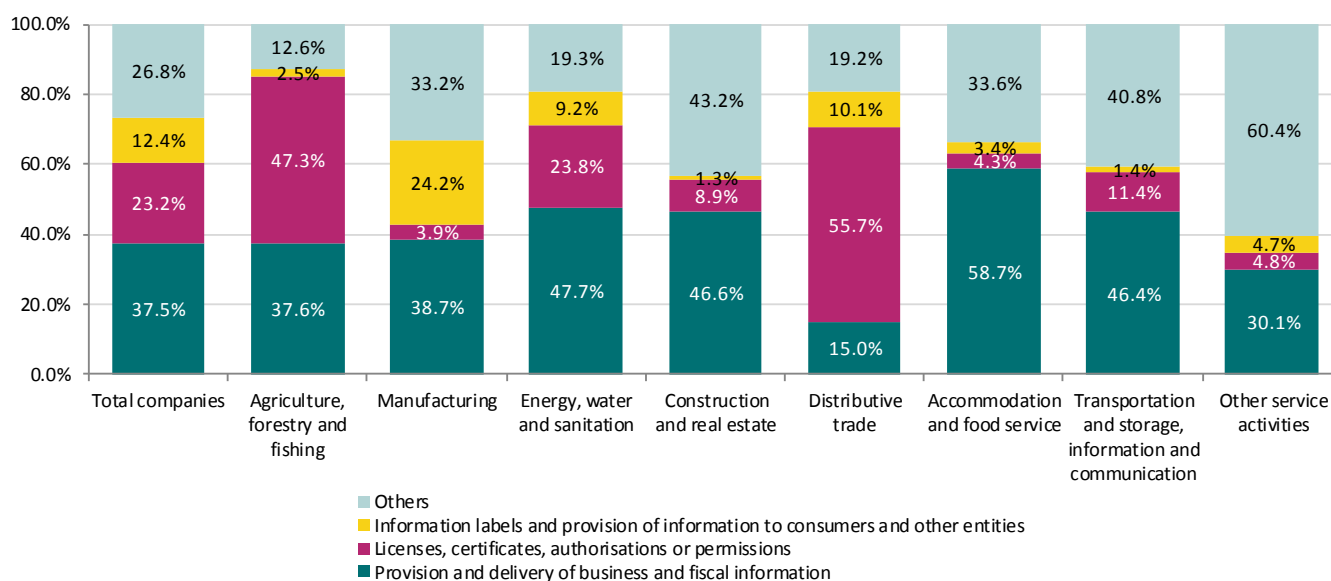
>> **Figure 10 – Weight of average annual cost in the total costs, by type of information obligation (2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Costs

The applications for licenses, certificates, authorisations or permissions represented about half of the average annual cost per company in the Distributive trade and Agriculture, forestry and fishing sectors, with 55.7% and 47.3%, respectively. It should be noted that it was also in the domain of licensing that these economic activities registered the highest framework regulation costs indicator, with 3.37 and 3.64, in the same order. In the Accommodation and food service sector, the costs incurred with provision and delivery of business and fiscal information represented 58.7% of the average annual cost per company.

>> **Figure 11 – Weight of the main obligations in the total average annual cost, by type of information obligation and economic activity (2017)**



Source: Statistics Portugal, IaCC – Survey on Framework Regulation Cost

## Variable associated with framework regulation costs significantly influences the companies' productivity

Combining the data obtained through the Survey on Framework Regulation Costs (IaCC) with other sources of information, namely the Integrated Business Accounts System (SCIE) and the *Quadros de Pessoal*, an example of econometric application is presented below, as an illustration.

Taking as a reference the synthetic indicator, computed with the results from the Survey on Management Practices, an indicator by company was calculated, hereinafter referred to as *ccscore*. This indicator results from the simple average of the response scores for the nine framework regulation costs domains. The score of each reply ranges from 0 to 1, the maximum value being allocated to the reply option "very high obstacle" and the minimum to the option "not an obstacle".

In order to understand the relevance degree of the *ccscore* in economic performance, two linear regression was tested, one for 2014 and another for 2017, in which the dependent variable was the (natural logarithm of the) Gross Value Added per worker in every enterprise, that was taken as the economic performance indicator, where the *ccscore* was included among the regressors. Underlying this regression there is the following production function:

$$(1) Y_i = AK_i^\alpha L_i^\beta e^{\gamma c_i} \prod_j e^{\delta_j x_{ij}}$$

Where  $Y_i$  corresponds to the GVA of enterprise  $i$ ,  $A$ ,  $\alpha$ ,  $\gamma$  and  $\delta_j$  are the parameters,  $K_i$  is the capital of enterprise  $i$  (proxied by the net value of the non-current assets),  $L_i$  corresponds to the employment level in enterprise  $i$  (proxied by the number of persons employed),  $c_i$  is the *ccscore* of enterprise  $i$ , and  $x_{ij}$  is the value associated with a  $j$  characteristic of enterprise  $i$ .

When divided by  $L_i$  and applying natural logarithms to (1), the following expression is obtained, which was taken as a reference for the linear regression with the ordinary least square method.

$$(2) \ln\left(\frac{Y_i}{L_i}\right) = \ln(A) + \alpha \ln\left(\frac{K_i}{L_i}\right) + (\beta + \alpha - 1) \ln(L_i) + \gamma c_i + \sum_j \delta_j x_{ij}$$

The characteristics considered are divided into two groups. The first group includes the characteristics associated with the *dummy* variables with value one or zero, depending on whether or not the characteristic in question of enterprise  $i$  is observed. This group comprises the following characteristics: age of the enterprise; ownership by a corporate group; size of the enterprise; having an exporting profile; and belong to a tradable sector.

In the second group, for every enterprise, the following characteristics were considered: ratio of employees having at least a graduate degree to the total; average employee seniority, measured in years of enterprise service; and natural logarithm of the employees and asset per employee.



The results indicate that the variable associated with the framework regulation costs (*ccscore*) has a significant influence over the economic performance indicator considered, taking however a slightly lower magnitude in 2017, compared to the estimated for 2014.

>> **Table 4 – Results obtained from the linear regression**

| Variable  | ln(GVA/nps)                          | ln(GVA/nps)                          |
|---|--------------------------------------|--------------------------------------|
|   | Year: 2014                           | Year: 2017                           |
| <i>Interception</i>   | 8.862***<br>(0.112)                  | 8.775***<br>(0.0968)                 |
| <b><i>Synthetic indicator of framework regulation costs (ccscore)</i></b> | <b>-0.0615***</b><br><b>(0.0197)</b> | <b>-0.0513***</b><br><b>(0.0161)</b> |
| <i>Enterprise with less than 5 years of age</i>                           | 0.0832<br>(0.0551)                   | 0.062<br>(0.0487)                    |
| <i>Enterprise from 6 to 19 years of age</i>                               | 0.0635*<br>(0.0337)                  | 0.103***<br>(0.0298)                 |
| <i>Ownership by a corporate group</i>                                     | 0.340***<br>(0.0357)                 | 0.273***<br>(0.0322)                 |
| <i>Microenterprise</i>  | -0.828***<br>(0.0500)                | -0.676***<br>(0.0440)                |
| <i>Large enterprise</i>   | 0.601***<br>(0.0461)                 | 0.577***<br>(0.0421)                 |
| <i>Enterprise with an exporting profile</i>                               | 0.276***<br>(0.0350)                 | 0.212***<br>(0.0305)                 |
| <i>Natural logarithm of asset per employee</i>                            | 0.178***<br>(0.00678)                | 0.180***<br>(0.00607)                |
| <i>Ratio of employees having at least a graduate degree to the total</i>  | 0.737***<br>(0.0586)                 | 0.827***<br>(0.0536)                 |
| <i>Average employee seniority</i>   | 0.0123***<br>(0.00266)               | 0.0122***<br>(0.00256)               |
| <i>Natural logarithm of the employees</i>                                 | -0.200***<br>(0.0140)                | -0.182***<br>(0.0130)                |
| <i>Enterprise belonging to a tradable sector</i>                          | -0.171***<br>(0.0331)                | -0.0980***<br>(0.0289)               |
| Observations  | 3 384                                | 3 511                                |
| Adjusted R <sup>2</sup>   | 0.440                                | 0.457                                |

**Note:** Levels of significance: \*\*\*, 1%; \*\*, 5%; \*, 10%. Standard deviation between parentheses. The dependent variable in the model is the natural logarithm of adjusted productivity.

### Methodological note:

The Survey on Framework Regulation Costs (IaCC), 2017 edition, intends to know the perception of the companies regarding the existence, evolution and impact of the framework regulation costs in their economic activity. On the basis of its results, it is also intended to carry out analyses, both from the point of view of time evolution (evolution of indicators between the various editions of the survey) and cross-sectoral (identification of the framework regulation costs that most affect each economic activity), as well as the size-class (micro, small, medium and large enterprises). Framework regulation costs are understood as the negative effects resulting from rules, procedures, actions or omissions that hinder businesses and that are not attributable to the investor, its business or organization.

The IaCC focused on nine main areas, identified as potential areas of obstacle to businesses' activities: starting a business, licensing, network industries, financing, judicial system, tax system, administrative burden, barriers to internationalisation and human resources. The new edition of the survey included a new module called "Costs from compliance with information obligations", with the purpose to identify the costs incurred by companies in the tasks associated with compliance with information obligations, or to access benefits arising from legislation.

The survey was carried out on active and non-financial companies, headquartered in Portugal, classified in sections A to S (excluding sections K and O) of the Portuguese Classification of Economic Activities, Revision 3 (CAE-Rev.3). Companies were enquired about the levels of obstacles they perceive in the various domains. The survey was launched to a sample of 5 060 non-financial corporations, constituting a sample stratified by size-class and economic activity. It was carried out between March and April 2018 and 4 248 replies were considered valid.

It is convenient to have caution in the interpretation of the results, since it is possible that some of the companies' responses do not really reflect framework regulation costs, which basically derive from externalities that negatively affect their activity, but rather the weight of direct costs that occur as a consequence of their activity. This difficulty of distinction differs with the domains of framework regulation costs, and is probably lower in the domains associated with administrative processes.

### Base of sampling and sample:

For the purpose of sample selection, the base of sampling used in the Survey on Framework Regulation Costs (IaCC) was stratified by two variables: activity and size-class. 31 divisions of CAE-Rev.3 and 4 size classes were considered. The distribution of the sample by stratification was carried out in proportion to the square root of the total number of persons employed, according to the following expression:

$$n_h = \frac{N_{hk} \sqrt{NPS_k}}{\sum_{i=1}^H N_{ik} \sqrt{NPS_k}} n$$

Where  $h = (j, k)$  is a representative index of the strata, which results from the crossing of the CAE  $j$  (ECAE= $j$ ) with the size-class  $k$  (DIM= $k$ );  $n_h$  is the sample size in the stratum  $h$ ;  $N_h$  is the dimension of the universe in the stratum  $h$ ;  $NPS_k$  is the total of persons employed in the universe in the stratum  $h$ ;  $n$  is the total sample size;  $H$  is the total number of strata. A minimum sample size was imposed in each stratum of 5 companies. For the purpose of sample selection, a random number generated with uniform distribution in the 0 to 1 range was associated with each company. Within each stratum, companies were increasingly ranked by that number and the first  $n_h$  companies were selected, to which correspond the  $n_h$  smaller random numbers.

### Aggregation of results:

In each stratum  $h = (j, k)$  is determined the number ( $E_{r,h}$ ) and the percentage ( $P_{r,h}$ ) of companies, according to the type of response  $r$  given in each item:

- Number of companies with response of type  $r$  in a given item, in stratum  $h$ :  $E_{r,h} = \sum_{i=1}^{n_h} I_{hi}$ , being that  $I_{hi} = 1$  if the company  $i$  indicates the option  $r$ ,  $I_{hi} = 0$  otherwise, being  $r = 1, 2, \dots, R$ , where  $R$  represents the number of response options in a given item.
- Percentage of responses of type  $r$  in a given item, in stratum  $h$ :  $P_{r,h} = \frac{E_{r,h}}{\sum_{r=1}^R E_{r,h}} \cdot 100\%$ , having that  $\sum_{r=1}^R P_{r,h} = 100\%$ .

The results were obtained by aggregating the calculated values at the stratum level, weighted by the respective stratum in the total turnover. The percentage of responses of type  $r$  in a given item, for each aggregate  $i$ , is given by:

$$P_{r,i} = \left( \sum_h P_{r,h} W_h \right) \cdot 100\%$$

Where  $W_h = \frac{\sum_{i=1}^{N_h} VVN_{hi}}{\sum_{h=1}^H \sum_{i=1}^{N_h} VVN_{hi}}$  and  $VVN_{hi}$  represents the turnover of the company  $i$  in the stratum  $h$ .

On the basis of the results obtained, additional results were computed, namely:

### 1) Structure of responses for the total of the domains

In each of the nine domains of framework regulation costs, for the total of the companies and for each of the activity and size-class aggregates, a response structure was computed for the total of the domains. This aggregation corresponds to the simple mean of the responses of the components of each domain. There are two cases in which components were excluded from these calculations: (i) Licensing: the responses to the "other n.e" component were not considered, since the response was optional; (ii) Administrative burden: the responses to the "regional administration" component were not considered, because this question was only applicable to companies in the autonomous regions (The Azores and Madeira).

### 2) Framework regulation costs indicator

It corresponds to an indicator that synthesizes the corresponding response structures. The values were obtained by applying to the response options a range between 1 and 5, as follows:

1 - Not an obstacle; 2 - Very reduced obstacle; 3 - Reduced obstacle; 4 - High obstacle; 5 - Very high obstacle

The options "do not know / do not answer" and "not applicable" were not considered in the computation of this indicator. The percentage corresponding to these options was redistributed by the others, proportionally.

### 3) Global framework regulation costs indicator

Corresponds to the aggregation of the framework regulation costs indicators obtained in each domain of costs, weighted based on the answers to the question "Indicate the importance that each of the following dimensions currently assumes in the activity of your company", present in module 11 of the Survey on Framework Regulation Costs (IaCC).

### For dissemination purposes, the following was considered:

A) 8 Economic activity groups: Agriculture, forestry and fishing (section A of CAE Rev.3), Manufacturing (sections B and C), Energy, water and sanitation (sections D and E), Construction and real estate (sections F and L), Distributive trade (section G), Transportation and storage, information and communication (sections H and J), Accommodation and food service (section I) and Other service activities (sections M to S);

B) 3 enterprise size groups: Microenterprise ( $5 \leq \text{employees} < 10$  and  $\text{Turnover} \leq \text{€}2,000,000$ ); Small and medium-sized enterprise ( $10 \leq \text{employees} < 250$  and  $\text{turnover} \leq \text{€}50,000,000$ ) and Large enterprises ( $\text{employees} \geq 250$  or  $\text{Turnover} > \text{€}50,000,000$ ).

The results presented in chapter 2 correspond to average annual cost per company with these information obligations, based on the responses in module 10 of the IaCC questionnaire - "Costs from compliance with information obligations". They were obtained in two ways: (i) When fulfilled by the use of outsourcing, the value considered was the one indicated by the company in the survey; (ii) When fulfilled internally by the company, it was taken as reference the time spent with the fulfilment of the obligation multiplied by a monetary value that translated the direct and indirect costs incurred by the company. For each economic activity and size-class, in a total of 131 strata, this value was obtained by the quotient between the gross value added and the total number of hours worked in 2016 for each stratum, according to the Integrated Business Accounts System, that is based on the reporting under the Simplified Business Information.

The questionnaire provided relevant information on framework regulation costs perceived by companies in Portugal and one of the goals with this information was to create a synthetic indicator of measurement, relating framework regulation costs and economic performance, referred to as *ccscore*. Thus, this indicator translates to some extent the level of a company's framework regulation costs, including the following domains: starting a business, licensing, network industries, financing, judicial system, tax system, administrative burden, barriers to internationalisation and human resources. The *ccscore* is obtained for each company by simple averaging the scores assigned to these survey questions.

The econometric application in this press release uses information from other statistical operations of Statistics Portugal, namely the Integrated Business Accounts System (variables: company age or age class, belonging or not to a group, size-class, exporting profile, and the remaining economic variables) and *Quadros de Pessoal* (variables: qualification and seniority of workers). The results obtained here result from the application of econometric models, which can be naturally improved in future works.

### Major concepts

**Framework regulation costs:** Negative effects resulting from rules, procedures, actions or omissions that hinder businesses and that are not attributable to the investor, its business or organization.

### Economic and financial ratios

Apparent labour productivity = GVA / Persons employed

### Acronyms and abbreviations:

|           |   |
|-----------|---|
| %         | Percentage  |
| €         | Euros   |
| CAE-Rev.3 | Portuguese Classification of Economic Activities (Revision 3) |
| GVA       | Gross value added   |
| IaCC      | Survey on Framework Regulation Costs                          |
| IBAS      | Integrated Business Accounts System                           |
| IRC       | Corporate Income Tax  |
| No        | Number  |
| Prob      | Probability   |
| QP        | <i>Quadros de Pessoal</i>                                     |
| VAT       | Value Added Tax   |
| VVN       | Turnover  |

### Useful links:

- [Methodological document \(in Portuguese only\)](#)
- [Questionnaire \(in Portuguese only\)](#)

**Note:** Due to rounding of values, the totalizers, in value or percentage, may not correspond exactly to the sum of their parts.

**Information to users:** Further information can be found in the Excel/CSV file accompanying this press release.