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The Impact of Economic Austerity Measures on Corporate Performance: The Case of an SME-Dominated Construction Industry

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6.1 Introduction

The financial crisis originated from the US, with the so-called subprime crisis, resulting in turbulence of global markets, with spillover effects across the globe that still endure. As Europe was no exception, the most fragile Southern countries have been more negatively impacted. Like Greece, Portugal was forced to ask for external financial aid, from the

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A. Thrassou et al. (eds.), *The Changing Role of SMEs in Global Business*, Palgrave Studies in Cross-disciplinary Business Research, In Association with EuroMed Academy of Business, https://doi.org/10.1007/978-3-030-45831-7_6

European Commission-European Commercial Bank-International Monetary Fund (EC-ECB-IMF) so-called “Troika”. Subsequently, Europe and inevitably Portugal would eventually be hit and suffer many consequences due to this financial crisis. Since this sovereign debt crisis, “policy makers from a large number of countries have had to take into account the rapid changes in the yields of their national bonds when making decisions. This development has limited the room for manoeuvre of those decision makers as they feel pressured to act in ways that (they think) would reassure investors” (Moury and Standing 2017: 660). In fact, as a result of the huge turbulence of global markets, Portugal (unable to come out of the crisis in which it was involved) sees the need to obtain external help from the “Troika”.

As stated by Balaban (2012), the relationship between the construction sector and the economy is highly discussed and emphasized in the literature. The construction sector is usually accepted as the engine that triggers economic growth due to its strong backward and forward linkages with other sectors. The impact of global financial crisis periods on the construction sector inspired several researchers (San and Heng 2011; Al-Malkawi and Pillai 2013; Kapelko et al. 2014; Acosta-González et al. 2019; Olanipekun and Saka 2019). Indeed, as mentioned by Heo and Yang (2014: 495), “construction companies are highly sensitive to economic cycles and bankruptcy rapidly increases in an economic downturn”. Besides, because the construction industry requires high leverage, when these companies face financial problems it will affect the overall system, increasing unemployment and burdening the creditor institutions. Thus, just like Kapelko, Horta, Camanho and Lansink (2015) argue, we do think that an in-depth evaluation of productivity change in the national construction industry is particularly important to support

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firms in the definition of successful strategies in order to prosper in the long run, boosting the Portuguese economy.

This book chapter aims to analyse the performance of the small and medium enterprises (SMEs) from the civil construction sector, between the years 2010 and 2014, during the time in which the Troika was present in Portugal, imposing a series of reforms and policies to combat the crisis. The Sabi database, managed by the Bureau van Dijk, offers financial information about Portuguese and Spanish companies and is the data source this study. This dataset contains the financial accounts of Portuguese companies. Based on financial ratios, we analyse the performance of Portuguese companies operating in construction. The book chapter proceeds with the next section presenting background information on the Troika policy for Portugal. This is followed by a presentation of the methodological procedures. The subsequent sections describe and discuss the results. The final section offers concluding comments and identifies some future research opportunities.

6.2 Troika's Permanence Period

Contrary to all expectations from the financial markets, a financial crisis in the US began in late 2007, which would have repercussions in many countries and in the most varied latitudes caused by the bursting of a huge real estate bubble in the US, resulting from the excessive optimism experienced by the banking system and its lack of regulation. However, this crisis would bring with it a huge lack of confidence from global investors, dragging the entire banking system into financial collapse. It was found that there was a reduction in the amount of loans and financing needed to stimulate the economy, also a consequence of the contractionary policies of the financial system aimed at reducing risk exposure as the crisis spread. The problem is that this crisis would not be limited to the country itself (US), as it would eventually have repercussions around the world.

Portugal was one of the countries that was still very fragile and with a high public debt to be able to mitigate the effects of the financial crisis to which it was dragged, but this situation would worsen further with the successive cuts in public debt rating, increasing the difficulties in issuing new

debt and obtaining loans. Thus, countries such as Portugal and Greece were forced to resort to foreign aid because of their inability and conditions to access international markets to finance themselves. Given the above circumstances, Portugal had only one solution which was to obtain aid from the European Union, the European Central Bank (ECB) and the International Monetary Fund (IMF). The country would then be funded by 78 billion euros, of which 12 billion would go to the bank. However, within this entity there was never a great consensus in the decisions made. In fact, it has often been realized that there were opinions and clashes of ideas among its members, essentially the result of their conflicting objectives, each of whom supporting the ones which they would give more importance. Essentially these entities said that the problem was based on a budgetary issue and therefore wanted at all costs to show commitment and budgetary determination, without looking at costs or consequences.

Jorge (2014) states that the main European entities wanted only a short-term rapid recovery, based on a programme of cuts after cuts (austerity) and without the slightest concern about the adverse effects that these measures could drag. Overly optimistic thinking about the crisis has caused Portugal and other countries to be completely suffocated by the austerity measures implemented in their own country, but also measures widely implemented throughout the Eurozone. Nonetheless, it would be the Troika that, together with the government in office, would present the adjustment plan in force between 2011 and 2014. This programme was composed of a set of measures and reforms that would have to be implemented in order to obtain a reconstruction of the economy, aimed at reducing the budget deficit. In essence, a counterpart for the financial support that the Portuguese government used, pledging to maintain an austerity plan, forced an increased and vigorous sacrifice to the entire Portuguese population.

The adjustment plan presented to the Portuguese was essentially based on three fundamental axes:

1. Reduction of budget deficit and public debt
2. Planning and scheduling of structural reforms (justice, labour market, leasing, etc.)
3. Reduction in the high indebtedness and stability of the financial system (restructuring and recapitalization of banks with public funds)

According to Martins (2016), the adjustment process applied to Portugal was in fact quite rigid, implying severe costs to the Portuguese economy and society, with the objective of correcting the large macroeconomic imbalances, but very important for Portugal to reach its commitments towards the markets by providing specific guidance in the implementation and drafting of the State Budget and its control. Over the four years of the Troika's stay in Portugal, the country would eventually multiply wage cuts and social benefits in contrast to a general rise in taxes. These measures had as their main objectives the reduction of public deficit and debt, as well as economic recovery as provided for by the adjustment plan. At the time, this austerity policy was seen as the only solution to the problem and fundamental to circumvent the whole situation in which the country was found in. However, a few years after the implementation of all these measures and policies (memorandum) it was apparent that something did not go as planned and therefore failed, as the deficit reduction targets were successively postponed and public debt was becoming increasingly unsustainable.

Evidence that these austerity measures were not always correct is verified by the numerous times that the outlined budget control plan had to be corrected. For Cunha (2012: 10), "1/5 of Portuguese families were affected by unemployment". The author also talks about a series of measures/cuts that the Portuguese and their families were forced to make in their households. On 17 May 2014, Troika's four-year stay in Portugal ended, during which period a series of structural reforms were implemented, assumed to be necessary to replace the balanced public accounts and prevent a financial collapse, but it actually had profound consequences for the majority of Portuguese society. Over this period, we witnessed a steady growth in the unemployment rate and a fragile and unsustainable public financial system, favouring a climate of fear and insecurity throughout the whole social and economic system. The lack of motivation of workers was widespread, resulting from the constant reductions in labour rights and rising unemployment that led to the insolvency of several indebted families.

Portugal was a country with great productive weaknesses, unbalanced and subordinate to other economies, inserted in an external institutional context that removed all internal room for maneuverer, unable to react or pursue independently. The great difficulties that Portugal was

experiencing were the result of the requirements of the outlined plan, based on incorrect studies that strongly contributed to the failure of the results. This was duly identified realizing that the intended effects of the austerity policies failed as the economy was not reacting as initially intended. Between 2011 and 2013 the fall in Portuguese GDP (Gross Domestic Product) was 7%, along with a sharp fall in internal demand (caused mainly by the loss of households' purchasing power), an aggravation of social inequalities, an increase in the number of workers with lower incomes and elimination of many job posts, as well as a huge reduction in household disposable income as a result of tax increases, unemployment, precarious wages and increased indebtedness.

According to Jorge (2014), the IMF (International Monetary Fund) recognizes that some strategies and studies that underpinned the implementation of measures and the adjustment plan were poorly delineated, considering the difficulties and impacts that Portugal and other countries receiving aid could have been minimized, thus avoiding an abrupt increase in the level of austerity that these countries had to endure. Regarding the Portuguese case, there were two major fundamental errors recognized by the Troika that were closely linked to the formulation basis of the adjustment plan outlined for the country. The first is related to the calculation formula of the so-called Budget Multipliers, while the other is related to the public debt/GDP ratio. Baranzini and Allisson (2016) report that these findings are consistent with research and investigations which suggest that in an environment of substantial economic austerity, and a monetary policy of contraction and generalized by countless economies, tax multipliers may well be above the values observed in "normal" seasons. Also, Jorge (2014: 32) reports that "in these cases, the cut implies a much larger reduction of the GDP, because the economy reacts more: The population, besides losing purchasing power, saves more, reducing consumption aggressively; companies adjust to all this demand shock by cutting investment and opt to job redundancy; and banks scared of the situation, begin to cut credit. This is what happened in Portugal and the Eurozone".

Alesina and Ardagna (2012: 2) state that "with regard to the reduction of large public debts the lesson of history is reasonably optimistic. Large Debt/GDP ratios were reduced relatively quickly followed by sustained growth. This was the case with some belligerent countries' post-World

War II public debt; this was also the case for the US in the 1990s, when, without virtually any increase in tax rates or significant expenditure cuts, it turned a public deficit into a surplus". This decision was also supported by other studies and theses that argued (through historical data) that countries with high public debt (above 90%) would grow less than normal. Reinhart and Rogoff (2010: 1) published studies advocating the widespread choice of austerity, further strengthening decision-making, noting that "firstly, the ratio of government debt to real GDP growth is weak for a debt-to-GDP ratio below 90 percent of GDP. Above 90%, median growth rates fall by one percent, and average growth drops considerably more".

Of course, given these studies presented by leading economists, it has become even more difficult to assert the views of other economists who defended the dangers and risks of short-term fiscal consolidations by applying austerity and budgetary restraint simultaneously. However, design errors were later identified in these studies, as they were found to have gaps in their design, naturally leading to biased conclusions, therefore leading to wrong decisions. Obviously, the "anti-crisis" strategy would have to be implemented; this was absolutely unquestionable by all the entities and economists involved, but it was hypothesized that austerity would have been softer and more coordinated among the various Eurozone countries. Even so, "Troika pressure to pursue coercive strategies vis-à-vis domestic opponents. High costs of no agreement seem to be a necessary means to pass on political and market pressure through coercion" (Lütz et al. 2019: 1).

6.3 Empirical Study

In the previous points we briefly refer to the contours and evolution of the crisis from its inception in 2007 to its contagion to Europe, affecting the most economically unbalanced countries, as was Portugal's case in particular. Given this, countries and sectors of activity present in these countries would have to endure constant political and financial changes, testing their resistance. On the other hand, there are authors who report that in times of crisis there are companies or sectors that can find a

business opportunity to grow and thus find advantages over their competitors. Normally, these companies are better prepared, more efficient and with adequate strategic management, making the crisis factor the key to their success (Spielmann and Ross 2011). Others report that in times of crisis such as this, some companies eventually find the great advantage of progressively looking for a strategy that best fits the company (Nabais and Nabais 2011). Notta and Vlachvei (2014) analysed the performance of Greek food manufacturing firms before and during the economic crisis. Their results for that period show that market share, liquidity and leverage have a significant effect on profits and explain profitability differences among the firms. The coefficients of market share obtained in their study prove that even during a crisis firms with large market share and loyal customers are more competitive and profitable. Dengleri et al. (2019) also demonstrated the impact of the general economic crisis on Greek medicine production. Their sustainability analysis showed that some companies had the most favourable course over time, from 2010 to 2016.

With this study we intend to analyse the implications on the main financial and economic indicators of a sample of SMEs from the construction sector, as a result of the measures to which Portugal was subjected with the presence of the Troika.

6.3.1 The Overall Performance of the Construction Industry and the Economy

Magone (2014: 348) classifies the Portuguese economy as a semi-peripheral one, that is, an “economy has consumption patterns that are similar to those of developed economies, however the production structures are closer to those of developing countries in spite of some national business champions that are also internationally active”. From the data on the number of companies operating in EU-28, period 2000–2017, in Industry, Construction, Distribution and Accommodation and Restaurants and with 2008 as the reference (index = 100), we find that Construction together with Accommodation and Restaurants were the first to begin recovery and at a superior level (Fig. 6.1).

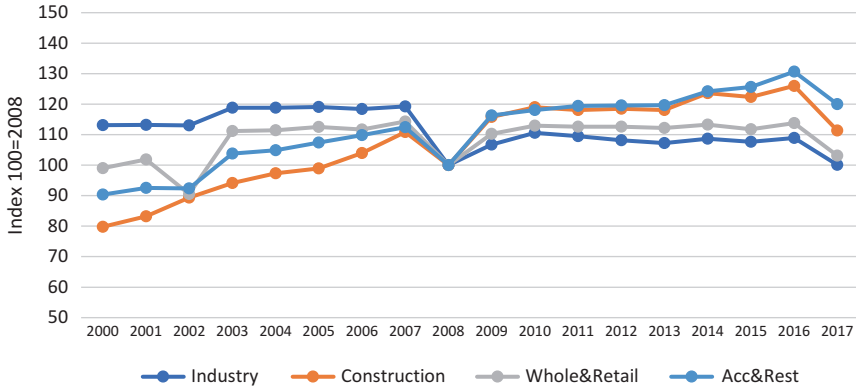


Fig. 6.1 EU-28—No. of companies by activity, 2000–2017. (Source: Authors’ calculations for the period 2000–2017 using Eurostat data)

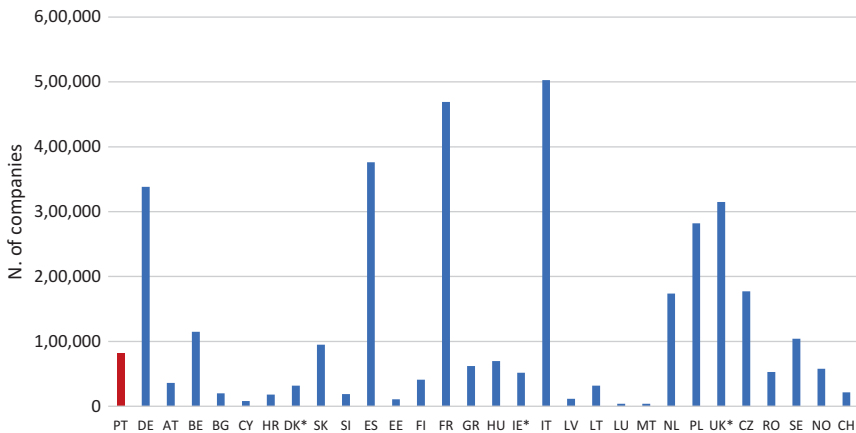


Fig. 6.2 EU-28—No. of construction companies by country (2017, or latest year available. Source: Eurostat data)

In EU-28 there are 3.5 million companies in the construction sector (2017), with a significant weight for Italy (14.4% of the total number), France (13.4%), Spain (10.7%), Germany (9.7%), the UK (9.0%) and Poland (8.0%), followed by the Czech Republic (5.1%), the Netherlands (5.0%), Belgium (3.3%), Sweden (3.0%), Slovakia (2.7%) and Portugal (2.3%). All the other countries have a share equal to or under 2% (Fig. 6.2).

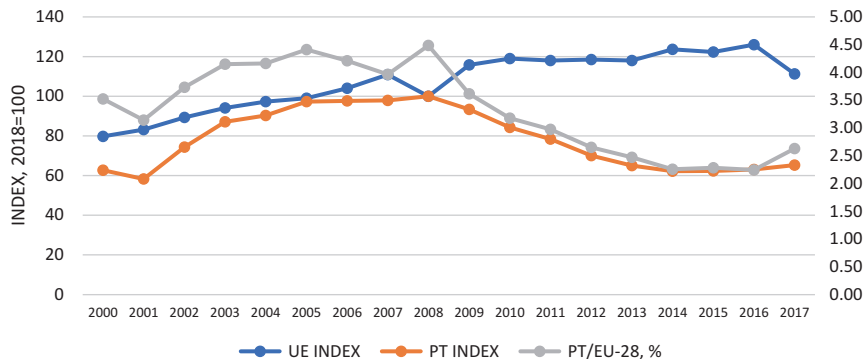


Fig. 6.3 Construction: EU-28 versus Portugal, No. (index) and share (%), 2000–2017

The downturn of the Portuguese construction sector after the beginning of this financial crisis provides a case in point. This business sector experienced specific adjustments during the financial crisis period. On the one hand, there was the internal economic crisis, and on the other were important modifications in bank credit regulations. Comparing Portugal versus EU-28, the post-2008 recovery never took place and the downward trend continued over the following years, where the sovereign debt crisis and public policies played a relevant role (Fig. 6.3).

Until the beginning of the financial crisis, the construction sector in Portugal had been primarily geared towards new construction. More recently, the rehabilitation segment has assumed a greater relative importance in the construction sector. According to Vilhena (2013), between 2001 and 2011 three short-term changes were conducive to boosting rehabilitation:

- 1) legislative initiatives under the urban rent regime and the legal rehabilitation regime;
- 2) the financial crisis that made it difficult to access credit for housing purchase and for corporate financing; and
- 3) the entry of new actors and organizational solutions in the management and promotion of rehabilitation interventions.

6.3.2 Sample Selection

The sample of companies was obtained from the Sabi database for CAE 4120—“Construction of buildings” (residential and non-residential) in which the number of companies that compose it is high, with the provision to export data for 38,656 entities. Subsequently, the data were processed, excluding companies that met the following criteria:

- 1) They were in a situation such as Acquisition, Dissolution, Legal Closure, Extinction, Insolvency, Liquidation or Temporarily Inactive.
- 2) Companies active in 2014, but without full information for the years 2010 to 2014.
- 3) Companies that had for each ratio a deviation from the average of this indicator above three times the standard deviation.

Thus, initially, 22,013 companies were taken from the initial sample. After this stage, companies that did not have the complete information for the entire period under review were withdrawn, removing in this case 6399 companies, and then an additional 682 companies were eliminated due to the fact that they had more than three times the standard deviation from the average sample for each indicator under analysis.

After this step the sample was reduced to 9562 companies; it appears that this sector is mostly made up of SMEs (93.6%), while large companies represent the remainder (6.4%). The final sample consisted of 8950 SMEs. The time period under consideration is justified by the claim to achieve more uniform and broader information. The initial reference year of 2010 is coincident with the adoption of a new set of financial statement standards in Portugal, prepared under the new Accounting Standardization System (SNC), which is aligned with the IASB's GAAP (International Accounting Standards Board's generally accepted accounting principles). Therefore one can assure the comparability of dataset, as financial statements prepared before 2010 were subject to different accounting principles. Furthermore, as the Troika started forcing its austerity measures adoption in 2011, the sample ensures that its impacts can be fully covered. The study of this sector is justified because it was the sector where the global subprime financial crisis began, but also because

of its high importance in the Portuguese economic structure. However, this would also be severely penalized throughout the Troika's stay in Portugal, as a result of the various austerity measures implemented, both fiscally and financially.

The consequences mentioned above are firstly denoted by a profound change in banking policies practised in the country, after the realization that the real estate assets that served as security for mortgages were greatly overvalued, and with the awareness of the risks associated with these financial products (mortgages). From here it would be easy to foresee a huge reduction in mortgages, which in turn translated into a huge breakdown of construction projects. Concurrently, the massive tax burden that the Troika and the Portuguese Government have implemented in tandem on real estate and on household income (directly and indirectly), made household financial resources even scarcer. Furthermore, the Government was forced to cut costs, on both spending and investment. Such reduction of public investment led to a massive drop on the construction of public buildings, and other related activities, as maintenance, which, vis-à-vis with the political and financial instability experienced in Portugal by then, resulted in additional negative spillovers, as a sharp decrease on foreign investment, which contributed to reinforce the negative condition for the construction sector, in particular, and, overall, for the whole Portuguese economy. However, this is indeed a sector that is of enormous importance in the national economy. It differs from other sectors of activity in terms of both production and the labour market in that it is associated with an extensive value chain, given its need to draw on a large number of inputs, thus having a significant effect on its upstream and downstream multipliers.

According to an analysis of the construction sector carried out by Banco de Portugal in 2012, the construction sector comprised around 46,000 companies, representing 12% of companies, 7% of turnover and 11% of people employed by non-financial corporations in our country, being the second most important sector with regard to the number of companies (Banco de Portugal 2014). In the same study it is reported that in 2012, both turnover and construction sector operating costs fell sharply (−26%). Accordingly, EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) also decreased (−6%) and the return on equity remained negative (−8%).

6.3.3 Indicators Used for Analysis

Economic ratios or indicators act as a tool that enables us to evaluate the performance or evolution of one or more businesses in a simpler way and based on the various financial statements. According to Farinha (1994: 6), “a ratio is no more than the quotient between two quantities usually extracted directly from the accounting information of a company”. Generally, these types of indicators are widely used for economic and financial analysis, firstly because they allow the reduction of a huge number of relevant and constant information from various types of financial information and secondly because they can be obtained relatively quickly, easily and simply with important indicators for top agencies to follow the growth or evolution of companies comparing it to others in the same industry.

According to Gonçalves et al. (2013), it will be important that the observation of these ratios is understood and analysed in conjunction with other ratios, or even other techniques for a better perception of reality, as it can be dangerous to make decisions or conclusions based on indicators only. These should always be seen as a complement to other analytical techniques and not as a sole instrument. In the present study there are fundamental principles of analysis that we will not be able to overcome and that imply some caution in the treatment of data. We refer to principles such as:

- Proportionality (proportional relationship between numerator and denominator)
- Normality (normal distribution of data)

In this case and after extracting the values related to the sectors, the existence of data normality is visible, since there are several asymmetries between the extracted data and the existence of extreme values. Thus, we will use the following economic and financial ratios: Profitability of Sales, Return on Equity, Economic Profitability, Return on Assets, Indebtedness Ratio, General Liquidity Ratio, Solvency and Financial Autonomy. These ratios have been selected taking into account the fact that they are often used in literature for analyses of this kind. It should be noted that in the case of economic ratios, these allow us to analyse purely economic and

structural events, allowing us to analyse a company's ability to generate results and pay back invested capital, while financial ratios are related to purely financial and "immediate" events, also enabling us to measure an entity's ability to meet its short-, medium- and long-term commitments. Therefore, economic analysis is directly related to profitability and financial analysis is related to the survival of the company over time.

Silva (2010) states that "there are many ratios that can be calculated, but it is only interesting to calculate those that are of interest for the intended analysis, because only then will they make sense and be useful". Other authors such as Gonçalves et al. (2013: 305) say that "ratios and other indicators do not bring conclusions, but indications. Their importance increases when there are benchmarks for comparing the company's historical values with those of other companies within the same industry". For Laffarga and Mora (1998), the analysis performed by reading ratios always presents some advantages, among them the fact that these indicators are easy to calculate and compare information. However, the conclusions drawn from this kind of analysis should always be viewed in a limited way, essentially because the ratios lack some limitations which, while not invalidating their application, always require a great deal of attention from the reader. Some authors such as Laffarga (1999) and Saias et al. (1998) list among them the following:

- The ratios make it possible to quantify facts and to detect anomalies, but they usually cannot by themselves satisfactorily explain the identified inaccuracies.
- The information obtained from a ratio is minimal. The method assumes the study of the evolution of the same ratio over time and its interconnection with other ratios. For example, the high General Liquidity ratio may represent a situation of strong liquidity (good management) or an excess of non-yielding cash funds (poor management).
- A ratio can evolve positively by improving or worsening one of its components. For example, an increase in the Profitability of Sales ratio may occur due to a decrease in sales volume.

- A positive value ratio (which may at first appear to be the result of a favourable situation) can disguise an unfavourable situation as a result of components with simultaneous negative signals, that is, $-y / -x \Rightarrow 0$.
- Absence of a theory that helps in the selection of variables, in problems related to the distribution of ratios as well as sector and size differences between companies.

6.4 Results Discussion

Over time, the construction sector has had an enormous impact on the Portuguese economy. It is a sector of intensive labour and intensive raw material consumption and it leverages other sectors like commerce and finance. Thus, the construction sector dictates economic cycles. Kapelko et al. (2015: 65) argue that “the construction industry plays a central role in the economy of Iberian countries”. Therefore, it is not surprising that, following the 2008 global economic and financial crisis, the construction sectors in both Portugal and Spain faced a period of severe difficulties, resulting in a “slowdown in construction industry activity and the bankruptcy of many construction firms” (Kapelko et al. 2015: 65). Furthermore, as Kapelko et al. (2015) point out, it is important to keep in mind the significance of the construction industry, which accounts for 10% and 7% of Spain and Portugal’s GDP, respectively, being also noteworthy that Spanish companies were more severely impacted by the crisis than Portuguese construction firms, as reflected by the higher decrease in the relative output and employment. Nevertheless, such impacts were deeply felt on the later as well, and, therefore, seems obvious to argue that the construction industry in both Iberian economies faced a disastrous crisis.

Through the analysis of Fig. 6.4 we can see that most of the indicators under study show negative trends for the sector, signalling a possible a loss of glow of an industry that was booming before the crisis, and also reflecting the result of the negative conjuncture and anti-debt crisis measures applied to the Portuguese economy. However, in the analysis of indicators, some specific characteristics of this sector should be considered. For example, in the case of the Overall Liquidity ratio, which actually presents an inverse trend to most indicators, these figures may be the result of the crisis in the sector itself; but may well be because of the

application of the formula, which may be misleading. The evolution of this ratio is positive during the whole period of 2010-2014, which can be obviously considered to be very much positive. Nevertheless, that favourable condition may be due to the fact that in Portugal the companies were eventually holding higher inventory values and having a higher number of customers on credit, reflecting possible difficulties on sales and a higher risk of non-performing debts. Another indicator that needs some caution in its reading is the return on equity indicator, as there is a large percentage of companies that have negative equity while having negative net results. However, as a result of applying the formula, it will cause the indicators to present a distorted expression of reality. Figure 6.4 illustrates the path taken by this sector during the Troika's years of presence in Portugal better. We realize that the economic situation experienced by Portugal and the anti-crisis measures adopted had a negative influence on the financial and economic indicators of the sector.

As we can observe in greater detail in Fig. 6.4, critical financial ratios have been worsening since 2010, with debt increasing and financial autonomy decreasing, along with declining return on equity, raising questions regarding the survival possibilities of companies in the construction sector.

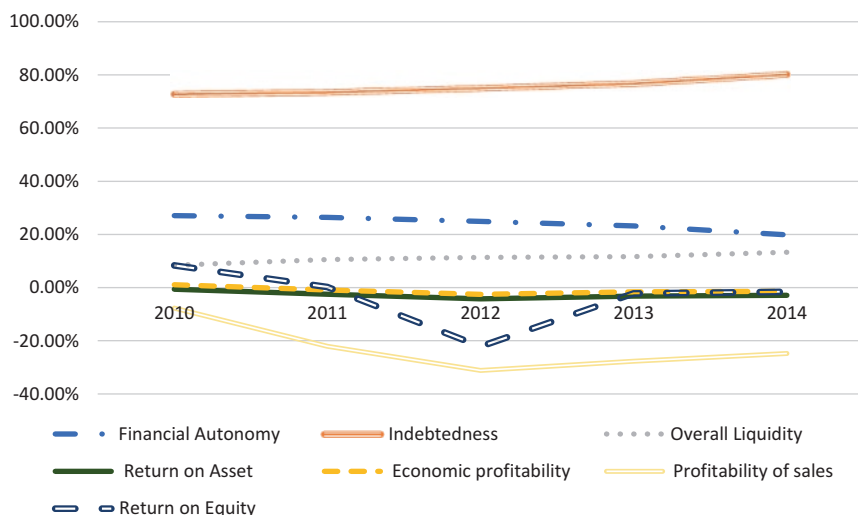


Fig. 6.4 Indicators analysed for the period 2010–2014

6.5 Conclusions

The financial crisis of 2008 triggered a radical change in thinking and policies among various world economies. This crisis marked the resilience of different activities, forcing them to re-shape according to the contingencies, especially in Southern European countries, following the impacts on sovereign debt at the end of 2009.

The construction sector is an economic barometer that reflects the state of the economy. This book chapter analysed the performance of Portuguese SMEs from the civil construction sector, between the years 2010 and 2014, the time during which the Troika was present in Portugal, imposing a series of reforms and policies to combat the crisis. The economic environment experienced by Portugal and the anti-crisis policy adopted had a negative influence on the financial and economic indicators of the sector. Financial ratios have been worsening since 2010, with indebtedness rising and financial autonomy decreasing.

This book chapter contributes to the literature by undertaking an empirical analysis of the overall dynamic of Portuguese SMEs operating in the construction sector during the “Troika” intervention. This research also makes a contribution while suggesting that the global economic environment was indeed quite unfavourable essentially in the years after 2008/2009, given the level of importance and need to give the financial markets stability. This fluctuation in financial markets was evident shortly after the subprime crisis in the US in 2008, with the securitization of high-risk loans to the country’s own financial institutions and other institutions such as European and Asian. The problem arose when non-compliance on these credit titles ceased to have the same commercial value forcing financial entities to recognize large losses and, in some cases, even leading to bankruptcy. “Financial instability has hit world economies hard in the last few years. Southern Europe in particular has moved into the eye of the storm with a number of countries requiring massive international assistance to face the onslaught of market pressures over their external ratings and debt borrowing costs” (Gorjão 2012: 64).

Early into the Troika’s programme, “the costs of no-agreement were exceptionally high. Portugal was excluded from financial markets and bond yields reached an all-time high in January 2012” (Lütz et al. 2019:

5). Portugal would eventually be severely affected, either by the impact of the world crisis or by the country's internal economic weaknesses or frailty, providing an even greater and deeper shock.

The purpose of this book chapter was to analyse the financial and economic performance of SMEs in the civil construction sector, as a result of some reforms implemented by the country due to Troika's requirements. Through the analysis of the economic and financial ratios of the construction sector during the period 2010–2014, we find that these indicators are quite fragile and with a negative trend. We can say that there is a possibility that the SMEs from the construction sector have been heavily penalized by the austerity policies implemented, given the need for the various financial entities to feel the obligation to readjust their banking policies and, consequently, to reduce the approval of bank loans essential for this type of activity. Thus, we can conclude that the economic environment experienced by Portugal and the anti-crisis policy adopted had a negative influence on the financial and economic indicators of the sector. The existence of a high number of ratios with extreme values made comparison difficult and forced the removal of countless companies from the study. The credibility of any study depends greatly on the quality of the data on which it is based. It is possible that some companies' data may not reflect their economic and financial reality, as the companies were SMEs and most did not have their accounts audited and were not required to do so.

Finally, it is important to recall that the construction sector is commonly accepted as one main engine that triggers economic growth due to its strong backward and forward linkages to other sectors. Therefore, taking this fact into consideration, this book chapter examined the performance of SMEs from the civil construction sector, as SMEs compose the bulk of this industry. Concurrently, having developed this analysis for the years between 2010 and 2014, that is, the period in which the Troika was present in Portugal, imposing a series of reforms and policies to contain the financial crisis, it was possible to find that the economic environment experienced by Portugal, together with the austerity measures adopted, had a negative influence on the financial and economic indicators of the construction industry. Although this finding is unsurprising, it, nevertheless, represents a relevant contribution to the literature, as it measures and

provides further details of such impact. This allows us to shed light on the impact of the Troika's austerity measures on an industry that is very dominated by SMEs, which is, furthermore, very socially relevant due to its impacts on employment and household income.

Acknowledgement This work was financially supported by the research unit on Governance, Competitiveness and Public Policy (UID/CPO/04058/2019), funded by national funds through FCT – Fundação para a Ciência e a Tecnologia.



References

- Acosta-González, E., Fernández-Rodríguez, F., & Ganga, H. (2019). Predicting corporate financial failure using macroeconomic variables and accounting data. *Computational Economics*, 53(1), 227–257.
- Alesina, A., & Ardagna, S. (2012). *Large changes in fiscal policy: Taxes versus spending*. National Bureau of Economic Research. Working Paper 15438, 2–68.
- Al-Malkawi, H. A. N., & Pillai, R. (2013). The impact of financial crisis on UAE real estate and construction sector: Analysis and implications. *Humanomics*, 29(2), 115–135.
- Balaban, O. (2012). The negative effects of construction boom on urban planning and environment in Turkey: Unraveling the role of the public sector. *Habitat International*, 36(1), 26–35.
- Banco de Portugal. (2014). *Análise ao Sector da Construção*. Lisboa: Estudo Central de Balanços. N. 15 (Bank of Portugal 2014 Construction sector analysis. Lisbon: Balance Sheet Study), 1–57.
- Baranzini, R., & Allisson, F. (2016). *Economics and other branches – In the shade of the oak tree: Essays in honour of Pascal Bridel*. New York: Routledge.
- Cunha, L. C. (2012). O Impacto da Crise no Bem-Estar dos Portugueses (The crisis impact on Portuguese welfare). *SEDES*, 1–93.

- Dengleri, K., Lois, P., Thrassou, A., & Repousis, S. (2019). Industry application of assessment and forecasting theories through comparative financial analysis: The case of Greek pharmaceutical industries under crisis conditions. In A. Thrassou et al. (Eds.), *The synergy of business theory and practice*. Palgrave studies in cross-disciplinary business research. In Association with EuroMed Academy of Business, 2, 175–198. https://doi.org/10.1007/978-3-030-17523-8_8
- Farinha, J. B. (1994). *Análise de Rácios Financeiros*, Versão 2, Outubro (Financial ratio analysis, Version 2, October), 1–35.
- Gonçalves, C., Santos, D., Fernandes, R., & Sant'Anna, J. (2013). *Relato Financeiro: Interpretação e Análise*. 2ª Edição (Financial reporting: Interpretation and analysis. 2nd ed.). Porto: Vida Económica, S.A.
- Gorjão, P. (2012). Portugal and the straitjacket of the European financial crisis. *The International Spectator*, 47(4), 64–68.
- Heo, J., & Yang, J. Y. (2014). AdaBoost based bankruptcy forecasting of Korean construction companies. *Applied Soft Computing*, 24, 494–499.
- Jorge, R. P. (2014). *Os 10 Erros da Troika em Portugal*. 1ª Edição (Troika's 10 mistakes in Portugal. 1st ed.). Lisbon: Esfera dos Livros.
- Kapelko, M., Lansink, A. O., & Stefanou, S. E. (2014). Assessing dynamic inefficiency of the Spanish construction sector pre-and post-financial crisis. *European Journal of Operational Research*, 237(1), 349–357.
- Kapelko, M., Horta, I. M., Camanho, A. S., & Lansink, A. O. (2015). Measurement of input-specific productivity growth with an application to the construction industry in Spain and Portugal. *International Journal of Production Economics*, 166, 64–71.
- Laffarga, J. B. (1999). Los modelos de predicción de la insolvencia empresarial: limitaciones y utilidades. *Boletín AECA*, 48, 31–34.
- Laffarga, J. B., & Mora, A. E. (1998). Los Modelos de Predicción de la Insolvencia Empresarial: Un análisis crítico. In A. S. Calvo-Flores & D. P. L. García (Eds.), *El Riesgo Financiero de la Empresa* (pp. 11–58). Madrid: A.E.C.A.
- Lütz, S., Hilgers, S., & Schneider, S. (2019). Games borrower governments play: The implementation of economic adjustment programmes in Cyprus and Portugal. *West European Politics*, 1–21.
- Magone, J. M. (2014). Portugal is not Greece: Policy responses to the sovereign debt crisis and the consequences for the Portuguese political economy. *Perspectives on European Politics and Society*, 15(3), 346–360.
- Martins, F. (2016). A reação das empresas portuguesas à crise económica e financeira: Principais choques e canais de ajustamento (The reaction of Portuguese

- companies to the economic and financial crisis: Main shocks and adjustment channels). *Banco de Portugal*, 2–25.
- Moury, C., & Stranding, A. (2017). 'Going beyond the Troika': Power and discourse in Portuguese austerity politics. *European Journal of Political Research*, 56(3), 660–679.
- Nabais, C., & Nabais, F. (2011). *Prática Financeira I: Análise Económica & Financeira*. 6ª edição (Financial practice I: Economic & financial analysis. 6th ed.). Lisbon: Lidel.
- Notta, O., & Vlachvei, A. (2014). The impact of financial crisis on firm performance in case of Greek food manufacturing firms. *Procedia Economics and Finance*, 14, 454–460.
- Olanipekun, A. O., & Saka, N. (2019). Response of the Nigerian construction sector to economic shocks. *Construction Economics and Building*, 19(2), 160–180.
- Reinhart, C. M., & Rogoff, K. S. (2010). Growth in a time of debt. Working Paper 15639. *National Bureau of Economic Research*. Cambridge, 1–25. Available in <http://www.nber.org/papers/w15639>
- Saias, L., Carvalho, R., & Amaral, M. C. (1998). *Instrumentos de Gestão Financeira*. 3ª edição (Financial management instruments. 3rd ed.). Lisboa: Universidade Católica Editora.
- San, O. T., & Heng, T. B. (2011). Capital structure and corporate performance of Malaysian construction sector. *International Journal of Humanities and Social Science*, 1(2), 28–36.
- Silva, Eduardo Sá. (2010). *Gestão Financeira, Análise de Fluxos Financeiros*. 4th Edition. Porto, Portugal: Vida Económica Editorial, S.A.
- Spielmann, R., & Ross, P. (2011). Vencendo em tempos de crise (Winning in times of crisis). *Bain Company*, 2–11.
- Vilhena, A. (2013). Reabilitação habitacional e o setor da construção civil. In Seminário: *O parque habitacional e a sua reabilitação: retrato e prospetiva*. INE e LNEC.