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Wage Dynamics Network:

SME Credit Constraints in Cyprus During the Period 2010-2013 and Effects on Employment, Wages and Prices[+]

Charalambos P. Charalambous[*] and Marios C. Polemidiotis[*]

Economic Analysis and Research, Central Bank of Cyprus

Abstract

In the context of its participation in the ESCB Wage Dynamics Network (WDN), the Central Bank of Cyprus (CBC) conducted a survey regarding the wage- and price-setting policies of domestic firms covering the period 2010-2013. This paper focuses on the behaviour of small- and medium-sized enterprises (SMEs) employing between 3-19 workers driven by changes in financing conditions. This is particularly important given the unprecedented shock to the banking system following the March 2013 events. The survey results suggest that, in the run up to the crisis, SMEs focused primarily on the use of price reduction strategies in an attempt to increase or maintain their volume of sales as a response to a shift in demand from SMEs to larger firms. SMEs also resorted to cost reduction strategies, including wage cuts. Since 2012, SMEs increased the average wage cut to broadly match the reduction in prices. Overall, the survey suggests that SMEs' ability to maintain adequate liquidity for operational purposes via significant price and cost reductions, allowed a share of SMEs to overcome the obstacles related to the tighter financing conditions following the crisis.

Keywords: Wages, labour, prices, crisis, small- and medium-sized enterprises, access to finance, credit constraints, bail-in.

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[*] Corresponding author. Address: Economic Analysis and Research, Central Bank of Cyprus. Telephone: +357 22-714514, Address: P. O. Box 25529 CY-1395 Nicosia, Cyprus. Email: CharalambosCharalambous@centralbank.cy

1. Introduction

The role of small- and medium-sized enterprises (SMEs) is crucial for Cyprus, as the economy is dominated by small enterprises. According to the Ministry of Energy, Commerce, Industry and Tourism (MECIT)[1] , almost all enterprises (99,9%) employ less than 250 individuals whilst the overwhelming majority (95%) employs less than 10 individuals. Overall, the total number of SMEs in Cyprus is estimated by MECIT at over 60.000. Judging from these figures, SMEs, both in number as well as their employment capacity and value added, clearly make a significant contribution to the Cyprus economy. In this respect, providing the right conditions in order to strengthen the domestic entrepreneurial ecosystem in which SMEs operate is paramount for ensuring a sustainable growth path.

This paper draws information from the third wave of the Wage Dynamics Network survey (henceforth WDN3), which aimed to assess the response of Cypriot firms, especially SMEs, to the shocks that took place during the period 2010-2013, and ultimately to gauge the impact on the labour market[2]. It should be noted that WDN3 results are influenced by "survival bias", given that those firms that participated in the survey are those that managed to weather the crisis.

The term SME covers, in general, a variety of definitions and measures, with employment being the most widely used criterion for determining firm size. According to the OECD, SMEs are usually defined as firms with fewer than 500 employees, although a number of countries - including those in the European Union - use a lower cut-off point of 250 employees. Other SME definitions include turnover and total balance sheet size[3]. Given that the overwhelming majority of enterprises in Cyprus employ less than 10 individuals, the OECD definition is not very useful in the case of Cyprus. As such, and on the basis of the WDN3 categorisation of firms[4], the analysis in this paper explores the impact of financing conditions on the behaviour of SMEs with 3-19 employees. On the basis of the WDN3 adjusted population of firms from which the gross sample was drawn, Cypriot SMEs with 3-19

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[1] http://www.mcit.gov.cy/mcit/mcit.nsf/dmlsme_en/dmlsme_en?OpenDocument

[2] The WDN3 country report for Cyprus is available at the following link: https://www.centralbank.cy/images/media/pdf/Working_Paper_April_2016.pdf

[3] The European Union definition of SMEs includes firms with turnover not exceeding €50 million. See Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises for more details.

[4] The WDN3 analysis utilised the following employment groups: 3-4, 5-19, 20-49, 50-199 and 200+ employees. The final realised sample consists of 182 responses (response rate of about 11%), of which 122 responses emanate from firms in the 3-19 employment category.

employees constitute about 88% of the survey population of firms. Also, firms in the 3-19 employment category employ around 35% of total workers in the WDN3 adjusted population of firms. In terms of average firm size, the above figures demonstrate the presence of a large number of firms which employ a very small number of personnel and a small number of firms employing a significant number of workers.

In terms of promoting SME competitiveness, access to finance constitutes a key driver of entrepreneurial activity. In general, well-functioning capital markets facilitate business start-ups and ensure that existing businesses are able to obtain the necessary capital to expand. In the case of Cyprus, the resolution of the two largest banks in Cyprus in March 2013 as well as the recapitalisation through the bail-in of uninsured deposits in one of the two banks was followed by a period of tighter credit standards (loan supply) and low demand for loans. These developments are reflected in the results of the quarterly Bank Lending Survey (BLS)[5] conducted by the Eurosystem. Although the Cypriot banking sector has stabilised to a great extent since the March 2013 events and progress has been made to strengthen it, access to finance by SMEs remains a key issue. In this respect, there are a number of schemes directly aimed at easing SMEs' financing conditions as well as wage subsidy schemes intended to reduce labour costs, which for many SMEs represent the largest share of operating expenses.

This paper presents a follow-up and a more focused analysis of that presented in the WDN3 country report for Cyprus (see Charalambous et al., 2016). The WDN3 findings incorporated in the country report pointed to the need to investigate the reaction of SMEs to financing conditions that prevailed during the period 2010-2013 in more detail. In particular, whilst the impact of financing conditions appeared relatively limited over the entire sample of firms analysed, credit constraints proved important for micro and very small firms (3-4 and 5-19 employees, respectively) in the construction and market services sectors.

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[5] The Eurosystem has been conducting the BLS since 2003. The BLS is a quantitative survey for the assessment of credit conditions in the euro area and is conducted on a quarterly basis (January, April, July and October). The survey is addressed to senior loan officers in a representative sample of euro area banks. Cyprus has been participating in the BLS since April 2008, with a sample size covering around 85% of the outstanding loans to euro area enterprises and households. The aggregated national results are published on the CBC website soon after the publication of the euro area results by the ECB.
For more information see following link:
https://www.centralbank.cy/en//publications/surveys/bank-lending-survey.

The aim of this follow-up paper is to explore in more detail the impact of tighter credit conditions during the period 2010-2013 and understand the behaviour of Cypriot SMEs, especially following the March 2013 events. In particular, a significant number of SMEs which responded to the WDN3 survey stated that financial constraints were not relevant during the period under review. This is a surprising result given the unprecedented circumstances faced at the time. On the basis of the survey results, this seemingly paradoxical finding could be explained by SMEs' ability to maintain adequate liquidity for operational purposes via significant price and cost reductions, including wage cuts. In this respect, these price- and wage-setting policies could have allowed at least some SMEs to overcome the obstacles related to the tighter financing conditions following the crisis. This is in line with Calvo et al. (2006) suggesting that firms go through a process of financial engineering during the economic recovery phase to restore liquidity outside the formal credit markets, the so-called "Phoenix miracle".

The remainder of this paper is organised as follows. Section 2 provides a short literature review to explain why firm size could influence the degree of access to finance. Section 3 discusses the various policy measures supporting the SME business environment in Cyprus. Section 4 is devoted to the synopsis of the size of the credit shock in Cyprus and SMEs' adjustments to changes in financing conditions. Section 5 summarises and concludes.

2. Understanding SME behaviour

Entrepreneurial activity can be defined as the seizing of new business opportunities, both by start-ups and existing firms. In line with Schumpeter (1942), it could be viewed as a process of dynamic competition or "creative destruction" through which new firms enter a market with new technology or work practices, compete with existing, more mature firms and ultimately replace outdated production units. Leff (1979) argues that "entrepreneurship is so important for economic development that it has sometimes been conceptualised as a 'fourth' factor of production".

SMEs have a significant role to play in strengthening the entrepreneurial orientation of an economy via entry in new or established markets with new or existing goods or services. A number of academic studies link SMEs and entrepreneurship with growth, including Lumpkin and Dess (1996), Wennekers et al. (2010) and Fotopoulos (2012). Access to credit is important for firms, in particular for start-ups and SMEs, so as to finance their activities. Lack of, or limited, access to finance is likely to act as a barrier to entrepreneurship. By contrast, when capital markets function well, businesses are able to obtain the necessary capital to expand. Nevertheless, there are certain capital market imperfections that prevent or restrict viable businesses, especially SMEs, from accessing the funds they need. This can have economy-wide implications, as these firms will not be able to raise the necessary capital to finance new technologies or new ways of operating, even if they have the technical knowledge to do so. A number of academic studies investigate the issue of SME credit access on investment choices of firms, including Chirinko (1993), Hubbard (1998), Beck (2006, 2008a, 2008b) and Guariglia (2008). Whilst a variety of econometric approaches are used by these studies to explore the impact of financial factors upon investment choices of firms, the findings point to the significance of capital-market imperfections for firm decisions.

According to the OECD (1997), there are three main capital market imperfections that prevent SMEs from accessing the funds they need or restrict the amount of credit available at their disposal given a divergence in external credit availability and related terms (i.e. borrowing costs and other contractual obligations) between SMEs and larger firms. In the case of Cyprus, despite the fact that the majority of non-financial corporations (NFCs) are SMEs, these capital market imperfections are still relevant due to the distribution of SMEs across the different employment categories. First, larger firms usually comply with higher disclosure requirements compared with SMEs because of their access to a relatively broader range of external funds (e.g. bonds, equity, loans, etc.). Financial institutions generally lend at higher interest rates to SMEs than to bigger companies in order to compensate for the relatively higher costs of information collection, higher risk of failure and lack of collateral, especially associated with business start-ups as well as the relatively smaller volume of external financing sought (OECD, 2015).

Second, information asymmetries (Bernanke, Gertler and Gilchrist, 1996) and in particular principal-agent problems (Jensen and Meckling, 1976) exist in capital markets. These problems are more acute for SMEs. Financial institutions (the "principal") face an "adverse selection" of potential recipients of credit (the "agent") given that the agent usually has better information about the expected profits of the enterprise in question than the financial institution. This lack of information leads to higher market rates to compensate for the risk that the fund-seeker fails to use the money as intended, takes unnecessary risks or is not vigilant in reducing risk (the so called "moral hazard" issue). This issue is even more applicable to SMEs as these firms are more likely to be susceptible to information asymmetry effects, since little public information is available to them, thus making it more difficult for financial institutions to determine their level of creditworthiness. In this respect, obtaining external finance could prove particularly costly for smaller and younger firms (Bernanke and Gertler, 1999). At the same time, new firms face similar problems as their lack of credit history hinders their ability to gain access to credit. This limits their ability to take advantage of economic opportunities.

Third, lending to SMEs is more likely to be based on collateral compared with loans to larger firms. This could lead to situations in which lending is not based on expected return but rather upon access to collateral. The availability of collateral can alleviate or even eliminate the aforementioned principal-agent problems of "moral hazard" and "adverse selection". Lack of, or limited, collateral may thus create financing difficulties for SMEs.

It is worth mentioning that, other than external finance, SMEs can raise finance internally (e.g. using retained earnings). It should be acknowledged that the concepts of internal and external financial constraints are related. For instance, a business with a more significant internal cash flow could find it easier to obtain external finance as it will be perceived as less risky by lenders. A high internal cash flow can in fact be considered as evidence of the commitment of the firm's managers towards their investment projects (Leland and Pyle, 1977). Conversely, firms that face financial constraints internally could find it more difficult to obtain external finance.

Finally, it is important to note that factors other than firm size could also influence the degree of access to finance. For instance, macroeconomic stability is a relevant factor as it influences company profitability and profitability in turn influences access to finance. Additionally, access to different types of finance, risk aversion of both the lender and borrower and ease of access to international markets could have an effect on the relative ease of access to finance throughout the economic cycle. According to the OECD (1997), the expansion of private equity markets, including informal markets, has greatly improved the access to venture capital for start-ups and SMEs, but considerable differences remain among countries.

3. Policy measures supporting the SME business environment in Cyprus

As noted in the introduction, the role of SMEs is crucial for the Cyprus economy given their number, employment capacity and value added. The MECIT and the Directorate General for European Programmes, Coordination and Development (EPCD) of the Republic of Cyprus share joint responsibility for the formulation of government policy on SMEs. There are a number of schemes aiming to promote entrepreneurship and SME competitiveness across the different sectors of the economy[6]. Although the schemes do not generally distinguish between micro, small, medium or larger enterprises, firm size is one of the parameters which is taken into account in policy design and formulation. In particular, the undertaking of an "SME Test" as part of a new impact assessment mechanism that entered into force on 1 January 2017, seeks to take into consideration all possible impacts on SMEs when drafting new legislation.

The government's approach in promoting entrepreneurship and SME competitiveness is reflected in the "National Policy Statement for the Strengthening of the Entrepreneurial Ecosystem" adopted by the Council of Ministers in December 2015. The National Policy Statement recognised the need to implement 75 actions in five key priority pillars, including improving access to finance. The various funding programmes available include a number of grant schemes and loans by financial intermediaries (i.e. traditional financing), alternative forms of financing (e.g. business angels funding) as well as other measures (e.g. tax incentives for investing in innovative SMEs). Further details are available in the Cyprus National Reform Programme 2017[7].

As regards traditional financing, relevant schemes include: (a) programmes co-funded by the European Structural and Investment Funds (ESIF) covering the programming period 2014-2020 (e.g. the JEREMIE initiative); (b) programmes funded by other EU or international sources (e.g. initiatives under the Horizon 2020 and the COSME programmes, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the European Fund for Strategic Investments (EFSI), etc.) and

[7] https://ec.europa.eu/info/sites/info/files/2017-european-semester-national-reform-programme-cyprus-en.pdf.

programmes funded or supported (i.e. guaranteed) by national sources (e.g. the Cyprus Entrepreneurship Fund, CYPEF).

In relation to alternative forms of financing, the need to develop these sources was recognised in the aforementioned National Policy Statement. To this end, efforts are being made to set up the legal and regulatory framework regarding the industry of collective investment schemes. In addition, considerations are being made in relation to the development of crowdfunding.

Further to the above, the Ministry of Labour, Welfare and Social Insurance and the Human Resource and Development Authority have promoted a number of schemes to enable businesses, including SMEs, to hire unemployed individuals given the challenging labour market conditions. These schemes target young people and are associated with a variety of measures, including wage subsidies, which support SMEs by financing a large part of the labour cost of the persons employed (salary and employer's social insurance contributions). In this respect, wage subsidy schemes help enterprises to reduce their overall operating costs, freeing up financial resources which could then be used to finance other aspects of firm activity.

4. SMEs' adjustments to changes in financing conditions[8]

4.1 Size of credit shock

In the run-up to the March 2013 events associated with the resolution of the two largest banks in Cyprus, including the recapitalisation through the bail-in of uninsured deposits in one of the two largest banks, Cypriot SMEs found themselves operating in an increasingly difficult economic environment associated with continuous tightening of credit standards. Given the contraction in domestic demand, SMEs had to function in a more competitive market environment, with an associated deterioration in profits observed. This is corroborated by the WDN3 results showing that about 77% of participating SMEs reported a decrease in their firms' activities on account of changes in the level of demand (Figure 1). Other important factors that

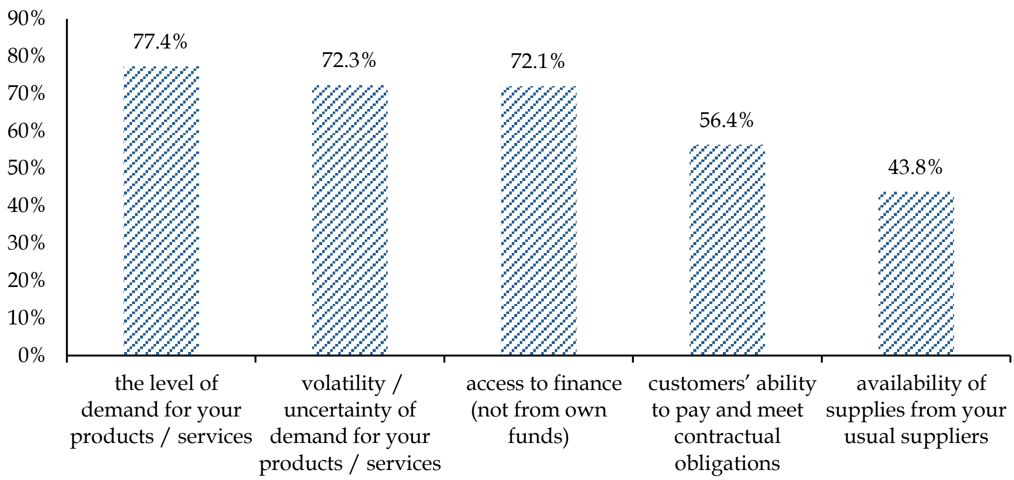
[8] To ensure comparability with the WDN3 country report for Cyprus, SME responses are adjusted using the "basic" sampling weight, which adjusts for the unequal probability of firms ending up in the realised or final sample, i.e. of receiving and replying to the questionnaire. In general, the purpose of sampling weights is to correct for imperfections in the sampling procedure in order to ensure that the distribution of the realised sample of firms reflects as closely as possible the distribution of the total population of firms.

were reported to have contributed to a decrease in SME activity were the tighter credit standards exercised by banks restricting access to finance as well as the increased volatility/uncertainty of demand (about 72% of respondents each). The majority of SMEs also stated that the aforementioned factors were expected to have a medium to long-term effect (Figure 2). It is interesting to note that about 50% of respondents viewed constraints in accessing finance as having a long-term effect, the highest share of responses among all other factors, even though a significant share of respondents considered access to finance not to have been a constraining factor during the period 2010-2013 (Figure 9).

FIGURE 1

Decrease in firms' activity during 2010-2013 due to changes in:

(% of respondents)



Source: CBC, WDN3 survey.

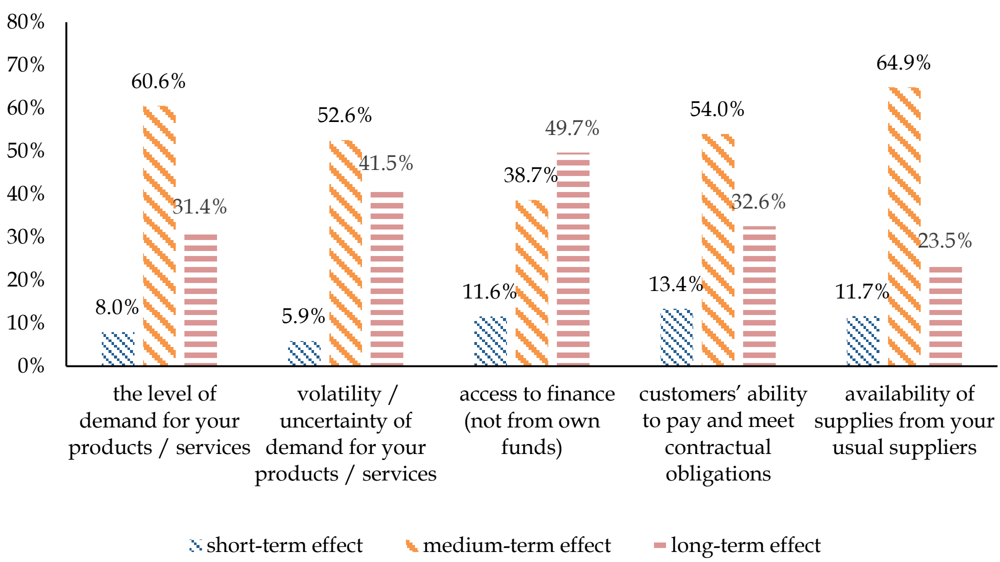
These results are in line with consecutive BLS[9] survey results, whereby credit standards for loans to SMEs were tightened almost every quarter since the beginning of the survey in April 2008 and up until the end of 2014 (Figure 3). Note that since 2015, credit standards have remained broadly unchanged, i.e. banks have maintained their credit standards at the same levels as 2014. This is in line with the stricter regulatory framework as well as the banking sector reforms and consolidation efforts that have taken place following the aftermath of the financial crisis. The deterioration in the

[9] In the BLS, the distinction between large firms and SMEs is based on annual net turnover. A firm is considered large if its annual net turnover is more than €50 million.

macroeconomic environment, in particular the increase in unemployment and the escalating level of non-performing exposures (NPEs), also contributed to the tightening of credit standards. For comparison, the respective euro area developments are also presented in Figures 3 to 8. As can be seen, credit standards for Cypriot SMEs moved in a different direction compared with those in the euro area during the period 2010-2013. It is also important to mention developments on the demand side. In particular, as the financial crisis evolved, the worsening in macroeconomic conditions had a negative impact on net demand for loans to SMEs in Cyprus (Figure 4). It is worth mentioning that since 2015Q1, net demand for loans to SMEs has been recording continuous increases, mainly attributed to the improved economic conditions and the historically low domestic interest rate environment. In a similar vein, banks' expectations regarding credit standards and net loan demand (three month period ahead) followed a broadly similar path, indicating that banks were fully aware of the economic environment in which they were operating (Figures 5 and 6).

FIGURE 2

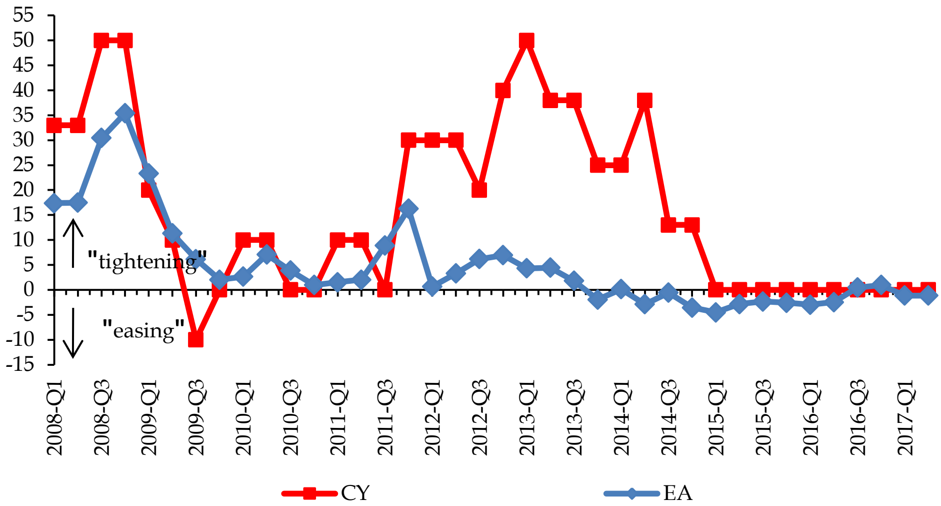
Duration of impact on firms' activity during 2010-2013 due to changes in:
(% of respondents)



Source: CBC, WDN3 survey.

FIGURE 3

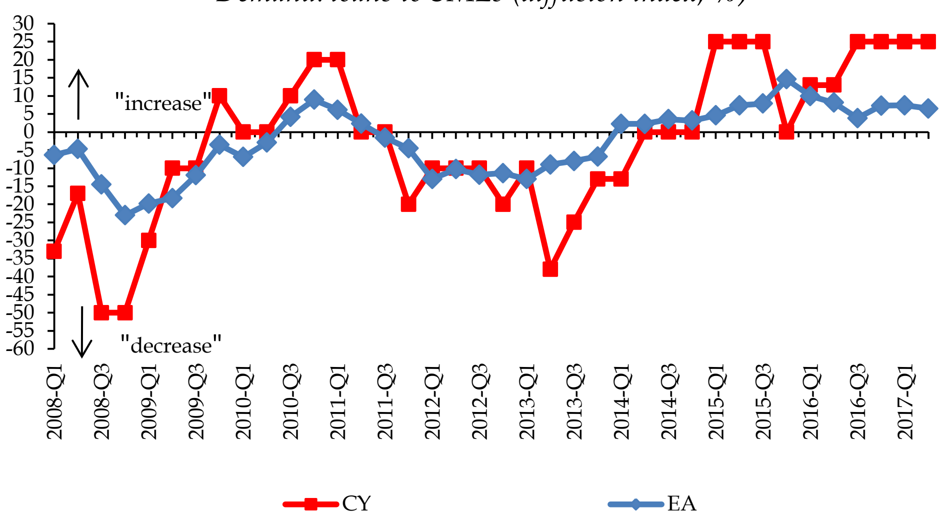
Credit standards: loans to SMEs (diffusion index, %)



Source: SDW.

FIGURE 4

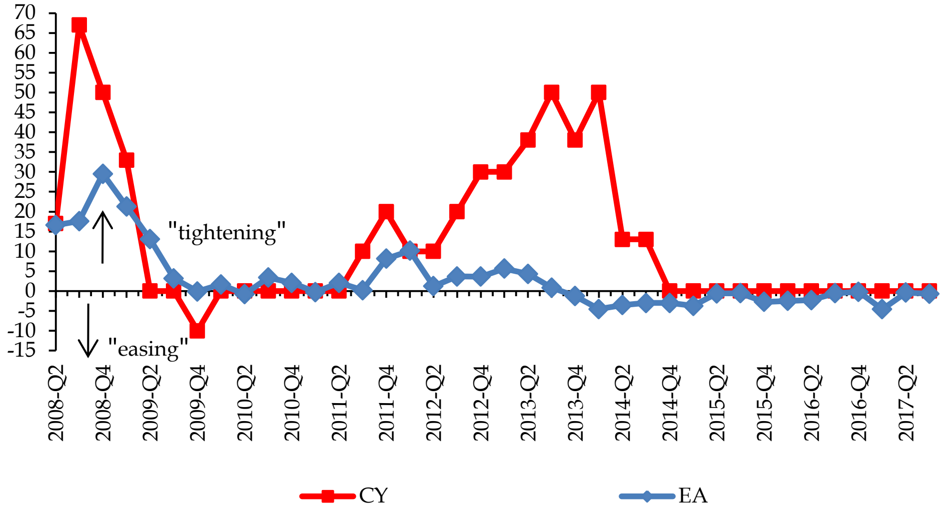
Demand: loans to SMEs (diffusion index, %)



Source: SDW.

FIGURE 5

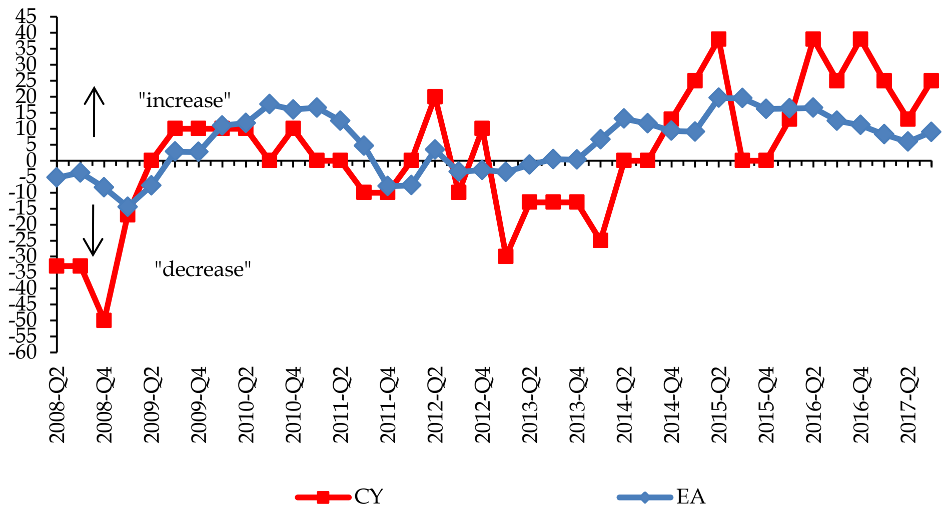
Credit standards: loans to SMEs expectations (diffusion index, %)



Source: SDW.

FIGURE 6

Demand: loans to SMEs expectations (diffusion index, %)



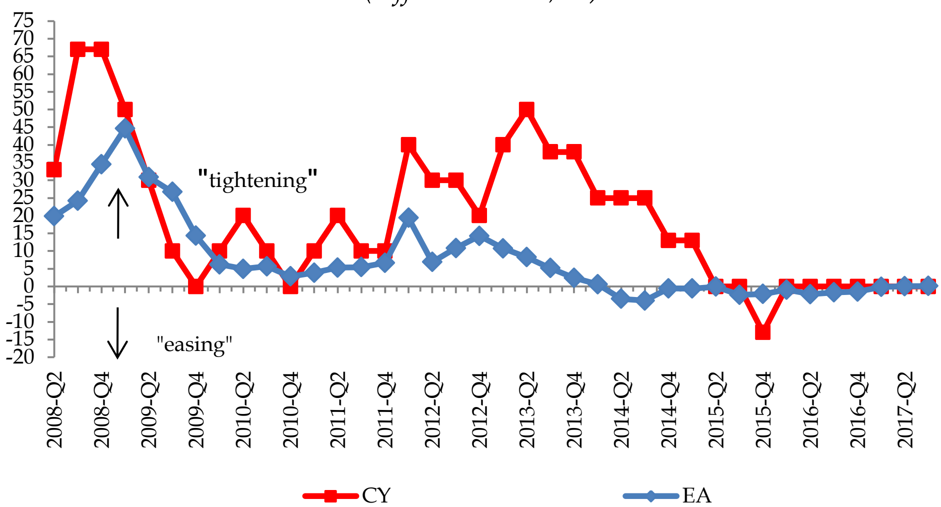
Source: SDW.

The economic situation and outlook as well as the risk related to the value of collateral demanded,[10] were the factors that contributed to the tightening of credit standards. In relation to the former factor, trends between Cyprus and the euro area for SMEs moved broadly in line until 2014Q1 whilst, thereafter, they moved in opposite directions until 2015Q3 (Figure 7). Regarding the risk on collateral demanded, trends are different from 2014 and thereafter (Figure 8). Overall, it should be noted that the general economic situation clearly had a severe impact on credit conditions, both in Cyprus and the euro area, with the risk on collateral demanded increasing significantly in the run-up to and after the financial crisis.

FIGURE 7

Impact on SME credit standards due to general economic situation and outlook

(diffusion index, %)



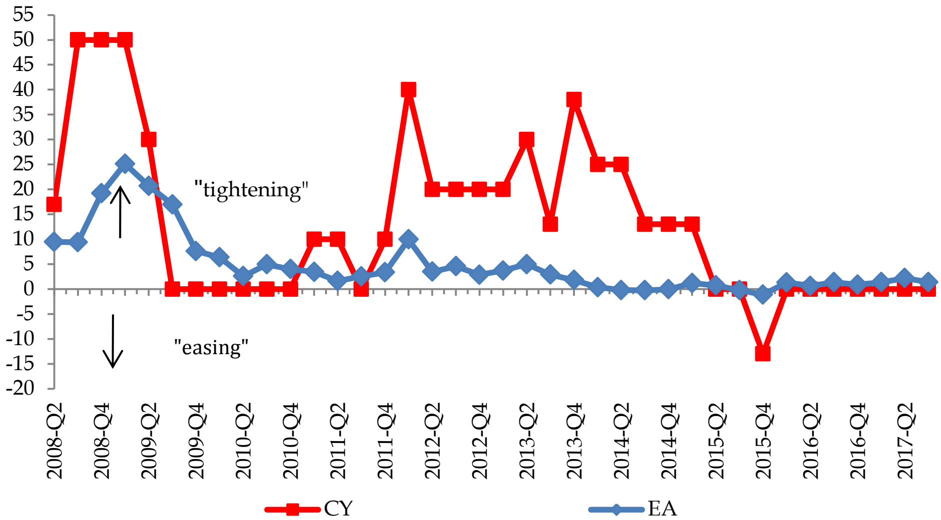
Source: SDW.

[10] In the BLS, collateral is defined as the security given by a borrower to a lender as a pledge for the repayment of a loan. This could include certain financial securities, such as equity or debt securities, real estate or compensating balances.

FIGURE 8

Impact on SME credit standards due to risk on collateral demanded

(diffusion index, %)



Source: SDW.

In line with the BLS, the WDN3 survey results show that a large number of SMEs in the realised sample reported that credit was not available to finance working capital, new investment or to refinance debt. In those cases where it was available, it was available with strict credit conditions[11] (Figure 9). Despite this, as previously noted, a significant number of SMEs which responded to the survey assessed financial constraints not to have been relevant, a result which is surprising given the unprecedented circumstances faced at the time. Given the tightening of credit standards during the crisis and the high probability of not obtaining a loan in light of their highly leveraged position, it appears that SMEs exhibited great flexibility by shifting from bank credit to other sources of external credit (e.g. trade credit,

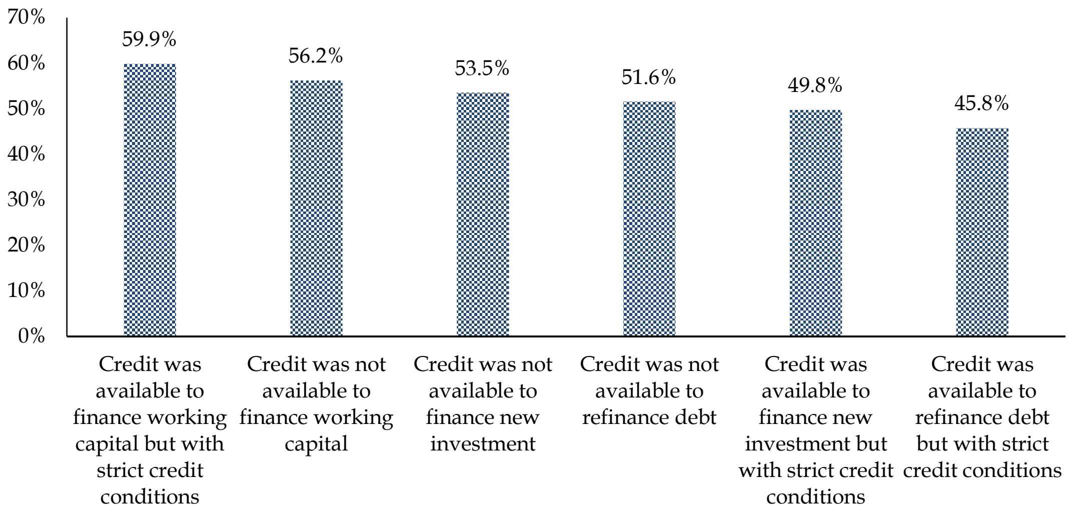
[11] The relevant question in the WDN3 survey sought an average response associated with the period 2010-2013 and not just for borrowing costs (i.e. lending rates) but also other contractual obligations. Note that a decrease in lending rates was observed towards the end of 2013, but still remaining at high levels especially when compared with the euro area. The decline towards the end of 2013 occurred after the CBC announcement in April 2013 that additional capital requirements would be imposed on credit institutions offering deposit rates higher than EURIBOR + 300 b.p. (Central Bank of Cyprus, 2014).

loans from family/friends, etc.) as well as by maintaining adequate liquidity for operational purposes via significant cost and price reductions. In particular, reductions in operating costs, including wages, as well as price reductions possibly generating adequate revenues emanating from a higher sales volume to compensate for the shift in demand from smaller to larger firms (price and cost reductions together led to an overall compression in profit margins), could have allowed SMEs to overcome obstacles related to the tighter financing conditions following the crisis.

FIGURE 9

Credit constraints relevant to firms during 2010-2013

(% of respondents)



Source: CBC, WDN3 survey.

4.2 Methods and size of adjustment

As already mentioned, given the continuous tightening of credit standards, Cypriot SMEs proceeded with other ways of financing their business, albeit the pool of alternative sources was rather limited. For the most part, Cypriot SMEs proceeded with adjustments in both wages and prices of products/services in order to maintain operational cash flows. By contrast, euro area SMEs - though still largely dependent on bank-related products –

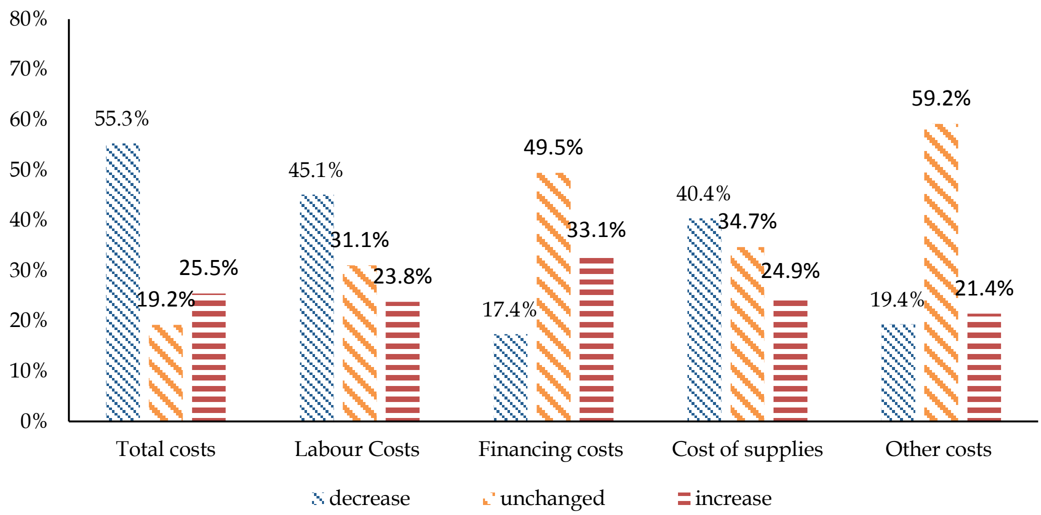
were in a relatively more favourable position as they could use a comparatively broader variety of financial instruments depending on the age and size of the firm (e.g. debt securities, leasing and factoring, trade credit, etc., see ECB, 2017). Even today, Cypriot SMEs are in a relatively less favourable position than their euro area counterparts in terms of financing sources, given the characteristics of the Cyprus economy (European Commission, 2016). In particular, other than bank loans, SMEs in Cyprus (constituting the majority of NFCs) have basically no other source of external financing (the capital market is very thin). As a result, they appear to be relatively highly leveraged when compared with other euro area NFCs.

In more detail, and on the basis of the WDN3 results, Cypriot SMEs proceeded with decreases in total costs to address the difficult economic environment, with cuts in labour costs (about 45%) and cost of supplies (about 40%) being the main drivers (Figure 10). The most commonly used strategies to reduce labour costs included reductions in the number of permanent employees (about 48%) as well as cuts in base wages (about 45%) and flexible wage components (e.g. bonuses, fringe benefits, etc., about 41% of respondents) (Figure 11).

FIGURE 10

Evolution of total costs and sub-components during 2010-2013

(% of respondents)

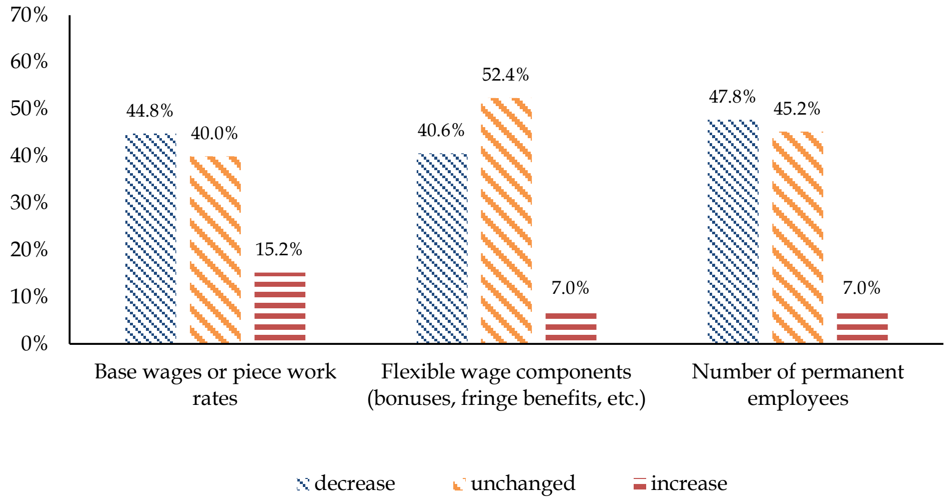


Source: CBC, WDN3 survey.

FIGURE 11

Evolution of labour cost components during 2010-2013

(% of respondents)



Source: CBC, WDN3 survey.

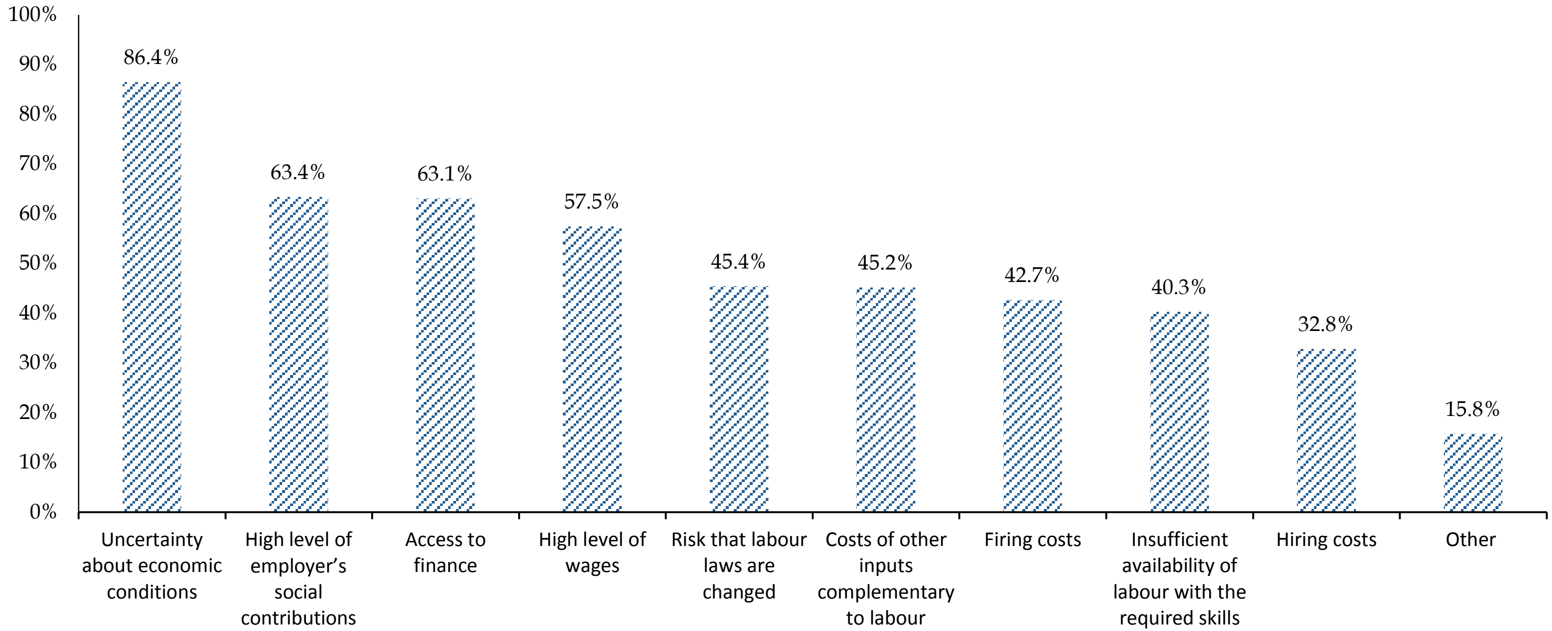
It is noteworthy that SMEs reported access to finance to be one of the main obstacles to the hiring of workers with a permanent contract (about 63% of respondents). Uncertainty about economic conditions and the perception of high social contributions (86% and 63% of respondents, respectively) were also considered to present obstacles in hiring workers with a permanent, open-ended contract during the period under review (Figure 12).

Other than wage adjustments, SMEs proceeded with price reductions for their products and services (about 67%) in the face of a large decline in domestic demand (Figure 13).

FIGURE 12

Factors hindering the hiring of workers with a permanent contract

(% of respondents)

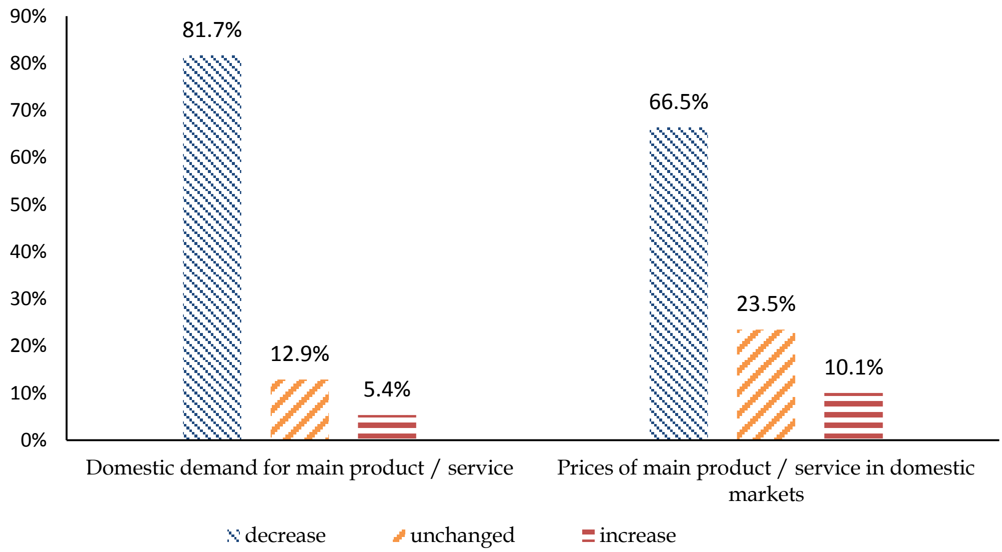


Source: CBC, WDN3 survey.

FIGURE 13

Evolution of prices and demand during 2010-2013

(% of respondents)



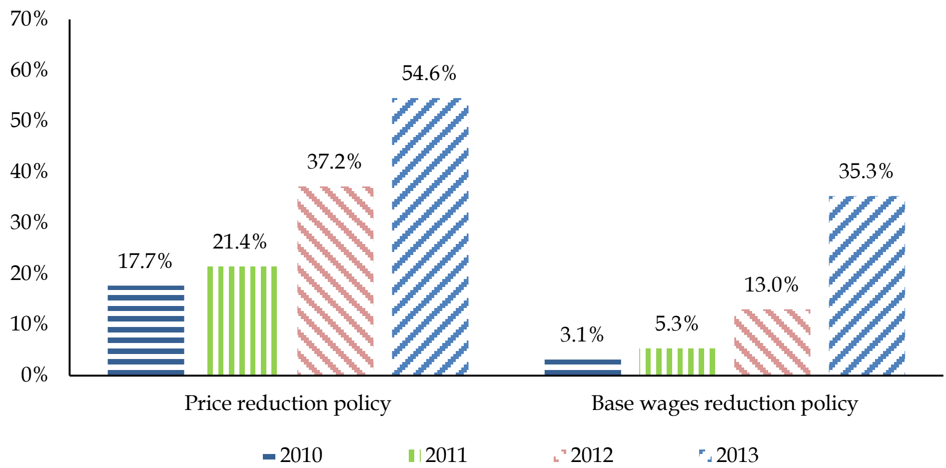
Source: CBC, WDN3 survey.

It is interesting to focus on the prevalence of the aforementioned wage and price adjustments. During the period under review, the responses to the WDN3 survey suggest that SMEs primarily used price reduction policies, followed by wage reductions (Figure 14). Also, the use of each of the price and wage policy tools has increased over time. This is expected as SMEs operate in an increasingly competitive environment, and their main focus was to maintain their cash inflow by reducing prices in the hope of keeping up or increasing their volume of sales. Nevertheless, even though SMEs initiated price reductions in order to compete with larger firms, domestic demand for the main product/service shifted from SMEs to larger firms (given that their product/services still remained cheaper), as reported in the WDN3 country report for Cyprus published in 2016. As the crisis evolved and demand continued to drop, SMEs resorted to cuts in base wages. In fact, as the economic difficulties continued and escalated, an increasing number of SMEs pursued the latter policy. More importantly, the magnitude of price reductions was much higher than that of wage reductions during the period 2010-2011 but as the crisis progressed the two were equalised. In fact, as from 2012, the average cut in base wages implemented by SMEs matched the average cut in prices (Figure 15).

FIGURE 14

Firm's reducing prices/base wages during 2010-2013

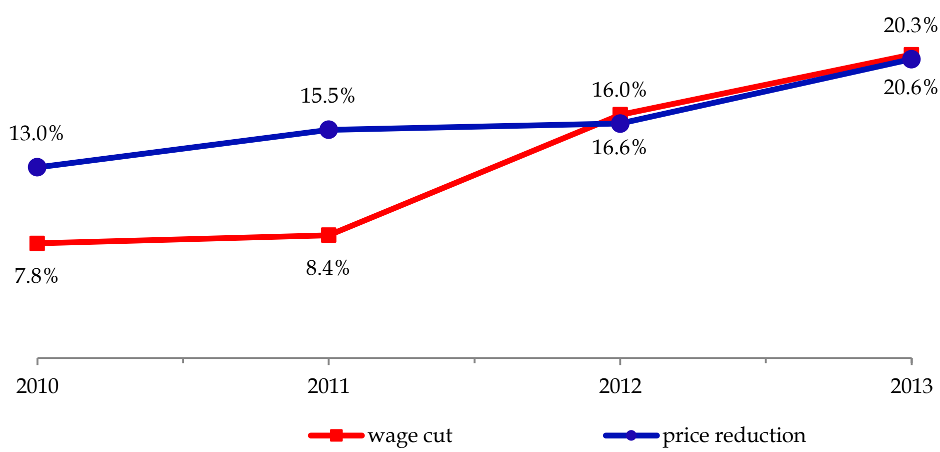
(% of respondents)



Source: CBC, WDN3 survey.

FIGURE 15

Weighted average base wage and price reduction (%)



Source: CBC, WDN3, survey

Overall, WDN3 results on price developments corroborate those on wage developments, where both channels of adjustment were used as important response mechanisms to economic developments in the run-up to and, in particular, immediately following the unprecedented Eurogroup decisions of March 2013. Given that the adjustment of prices was even more pronounced than wages initially, this signals that firms were quick on their feet to strengthen their competitiveness in order to adjust to changing economic conditions. More importantly, and in line with the so-called "Phoenix miracle" phenomenon (Calvo et al., 2006), it appears that SMEs' ability to maintain adequate liquidity for operational purposes via significant price and cost reductions, including wage cuts, allowed a share of SMEs to overcome the obstacles related to tighter financing conditions following the crisis.

5. Conclusions

The research focus of WDN3 was to assess the reaction of domestic firms to various shocks, including access to finance, over the period 2010-2013 and to gauge their impact on their wage and price setting policies. Utilising results from WDN3, this paper focuses on the response of SMEs following changes in financing conditions. The focus on SMEs arises due to their importance for the Cyprus economy given their number, employment capacity and value added. The attention paid to SMEs responses on account of changes in financing conditions stems from the unprecedented shock to the banking system following the March 2013 events and the associated observed tightening of credit standards.

As a response to the crisis, SMEs primarily used price reduction strategies in an attempt to increase or maintain their volume of sales as a response to a shift in demand from SMEs to larger firms. SMEs also used cost reduction strategies, including cuts in labour costs (decreases in base wages, flexible wage components and number of permanent employees). It is worth mentioning that SMEs increased the average wage cut in 2012 to broadly match the cut in prices. Overall, during the period 2010-2013, there was an increase in the number of SMEs implementing both wage and price reduction policies as well as an increase in the magnitude of the average wage and price cuts. In fact, it appears that the impact of changes in financing conditions has been relatively limited over the sample of SMEs, mainly due to their ability to maintain adequate liquidity for operational purposes via the aforementioned significant price and cost cuts.

To conclude, WDN3 results demonstrate the flexibility of the Cyprus economy as well as the rapid response of SMEs via cuts in wages and prices, especially following the stricter banking framework that has been set in place following the March 2013 events. This process of internal devaluation assisted a share of SMEs in terms of financing their activities and thus minimised the adverse effects of the decline in demand and the tightening of bank credit standards.

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