



Evaluating Publicly Supported Credit Guarantee Programmes for SMEs

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Evaluating Publicly Supported Credit Guarantee Programmes for SMEs

by

Sebastian Schich, Jessica Cariboni, Anna Naszodi and Sara Maccaferri*

This report examines the approaches adopted in 23 OECD and EU countries for evaluating the performance and cost-effectiveness of publicly supported credit guarantee programmes for SMEs. It finds that some evaluations are conducted using rigorous state-of-the-art policy evaluation approaches which include an appropriate measurement of the counterfactual. Such approaches, however, are rare. Not all countries evaluate the performance of their programmes and, when they do, they often focus only on financial and not economic additionality. The issue of financial sustainability is typically neglected. Data availability remains a key impediment to the conduct of rigorous evaluations.

The report has benefited from comments by the OECD Committee on Financial Markets (CMF) and from the Steering Group of the Working Party on Small and Medium-Sized Enterprises and Entrepreneurship. Jean Boissinot, Sahidur Rahman, Marco Petracco Giudici, Silvia Vori, and Matthew Wicks also provided comments.

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Executive summary

Small and medium-sized enterprises (SMEs) are perceived to face difficulties in accessing finance and numerous public support programmes have been set up to facilitate their access to finance. This report examines how the performance of these programmes is assessed in OECD and EU countries based on 32 survey responses received from 23 countries. The report presents a synthesis of approaches adopted to evaluate the performance and cost-effectiveness of publicly supported credit guarantee programmes for SMEs. The synthesis is complemented by findings from a review of the literature, mostly academic, relating to the evaluation of the performance of publicly supported credit guarantee schemes (CGSs).

The literature provides evidence that credit guarantees are positive for company access to debt finance, i.e. the arrangements provide *financial additionality* by increasing the availability of credit and/or reducing its costs. Less is known about the *financial sustainability* of these programmes. Results are mixed, however, with respect to *economic additionality*. There is some evidence that CGS have positive effects on employment levels while there is a lack of evidence for improved company performance in terms of investments and productivity. Some studies suggest that loan guarantees are associated with increased default risk of beneficiary companies.

Survey responses suggest that public authorities rarely assess the performance of CGSs and, in particular, their potential economic costs in a rigorous manner. Responses highlight a wide range of different approaches adopted across countries and credit guarantee schemes. The report finds that some evaluations are conducted using rigorous state-of-the-art policy evaluation approaches, which include an appropriate measurement of the counterfactual. Such an approach is rare, however. Not all countries evaluate the performance of their programmes and, when they do, they often focus only on financial and not economic additionality. The issue of financial sustainability is typically neglected. Some assessments rely exclusively on self-evaluation and/or are one-off evaluations rather than part of regular assessments undertaken to improve design features of the CGSs. Many evaluations are not rigorous, in the sense that they do not undertake an analysis of what would have occurred in the absence of the programme (“the counterfactual”), which makes it difficult to judge the economic costs and benefits of policy intervention through public support for CGSs. A key finding of the report is that the limited availability of appropriate data continues to be a major impediment to the conduct of rigorous evaluations of the performance and cost-effectiveness of CGSs. More efforts are needed to collect, and make available, additional data and to combine the already existing relevant data from different sources.

1. Introduction

To help reinvigorate policy support initiatives for SMEs, the OECD Committee on Financial Markets (CMF) decided to examine practices to assess costs and benefits of financial support programmes for SMEs. The initial focus was on national credit guarantee programmes, as opposed to other financial support programmes and international initiatives. These credit guarantee programmes aim to help overcome market failures and the lack of collateral that some SMEs may encounter when attempting to finance their activities. To assess whether credit guarantee programmes achieve their scope effectively periodical evaluations are important, especially as they could help policy makers improve design elements of these programmes. In terms of facilitating access to finance, the potential benefits of support programmes need to be weighed against their potential costs. The latter includes the possibility that they might keep companies alive that would otherwise exit the market in the medium term, crowd out non-guaranteed bank lending, hinder the development of alternative forms of financing (venture capital, crowdfunding, etc.), and create substantial contingent fiscal liabilities.

The need to evaluate the performance and cost-effectiveness of SME support arrangements has been recognised. This is acknowledged, for example, in high-level principles on SME financing (OECD, 2015) and in public credit guarantee arrangements (The World Bank and FIRST Initiative, 2015). Despite this agreement among policy makers, in practice it is not known to what extent national authorities undertake rigorous evaluations of CGS activities and/or exploit their findings to improve the functioning of the arrangements. There is no internationally agreed set of good practices on methods to evaluate the performance and cost-effectiveness of CGSs (see also Box 1). To find out more about national approaches in this regard, the "OECD/EC Survey on Evaluating Publicly Supported Financial Guarantee Programmes for SMEs" (the Survey) was circulated to CMF members and partner country authorities.¹ The goal was to enable participants to learn what approaches others are using and what specific characteristics of evaluation methodologies are considered particularly helpful.

Section 1 of this paper provides a synthesis of the responses obtained. Section 2 explains why the evaluation of the performance of CGSs is timely and Section 3 describes the results of a review of the emerging body of literature, mostly academic, on CGS evaluations. Section 4 identifies the approaches used to evaluate national CGSs, the objectives against which the evaluations are undertaken, and the data being used. Section 5 identifies areas for improvement and concludes.

2. The need to evaluate CGS activities

2.1. Expected benefits

SMEs are considered the backbone of the economy and, in many countries, they represent the overwhelming share of companies. In terms of numbers, they typically account for well over half of the employment workforce and slightly less in terms of turnover and investment. They are often considered a key engine of technological innovation, productivity, growth and employment creation. SMEs are, however, not a homogeneous group. Rather, they span a wide range of enterprises in terms of activities and structures, and in particular for their contribution to employment, growth and technological innovation.

SMEs tend to have access to several types of potential benefits, such as fewer requirements or reduced fees for administrative compliance and eligibility for support under national or regional business-support programmes.² The most common support arrangement is a credit guarantee scheme (CGS), which typically provides a partial guarantee for bank credit to SMEs that are triggered in the event of debtor default. The remarkable proliferation of CGSs worldwide, many of which are publicly supported, indicates that policy makers perceived a market failure regarding credit provision to SMEs, and considered it significant enough to justify public intervention. Also, in response to the effects of the global financial and economic crisis, CGSs were used as a counter-cyclical policy tool and the scope of CGS activities was extended in several countries where they had existed.

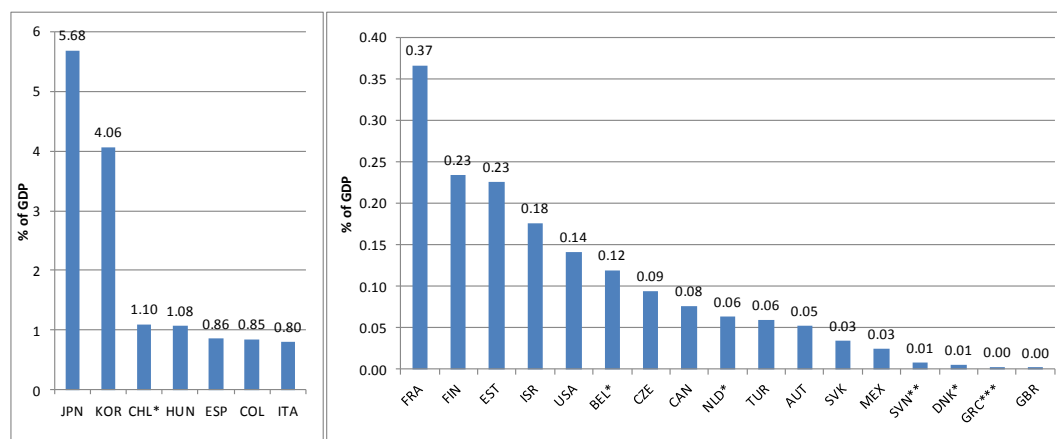
CGSs have become so commonplace that an OECD (2013a) survey of such arrangements qualifies them as a “structural element of financial systems”. Figure 1 provides a recent estimate of the amount of government loan guarantees for bank lending to SMEs across selected OECD countries, expressed as a percentage of GDP. The figure highlights that the measured relative importance of CGSs differs from country to country, although it should be noted that the numbers shown are not strictly comparable, given that the definition of guaranteed loans is heterogeneous across countries.

Box 1. High-level principles related to SME financing and public support programmes for SMEs

In 2015, the World Bank, in collaboration with the FIRST Initiative, developed high-level principles for the design, implementation, and evaluation of public CGSs for SMEs. The principles ask for systematic and regular evaluations to be conducted and published, in particular on the additionality and sustainability of CGSs. In addition, the principles suggest the need to collect relevant data and information and to adopt a transparent methodology. No recommendation is made about the choice of any specific evaluation method.

Similarly, the G20/OECD High-Level Principles on SME Financing, also developed in 2015, emphasise the need for public SME support programmes to be assessed in order to ensure their additionality and cost effectiveness. The principles recognise that CGSs can play a positive role and help SMEs access bank credit. They also suggest that there is a need to complement SME bank financing with a broad range of non-traditional financing instruments, although they do not explore to what extent there might be any interactions between traditional and alternative sources of SME funding (i.e. complementarity or substitutability). The principles suggest the need for monitoring and regular evaluation of public programmes against their specific target objective(s) and that the results should feed back into the policy-making process.

Figure 1. Government loan guarantees for SMEs, 2014



Note: Data refers to stocks. *Data for 2013 for countries where 2014 data is unavailable. ** Slovenia: Data for 2012. *** Authors' adjustment of OECD Scoreboard data for Greece and the United Kingdom, assuming loan guarantees equal to EUR 600 million in 2013 in the case of Greece and to GBP 800 million in 2014 in the case of the United Kingdom (obtained as part of comments received in writing from the UK Treasury).

Source: OECD (2016a) and authors' adjustments.

The main benefit of public intervention in lending to SMEs consists of overcoming a diagnosed market failure. In the case of SMEs, market failure is generally considered to be due to sub-optimal resource allocation. SMEs in general, or certain types of them such as those with high growth potential, are seen as receiving fewer funds than they could productively use -- and are requesting. While such a situation might arise in the case of both large and small firms, problems of information asymmetry are likely to be more relevant in the case of small firms. This is due to the disproportionality between the cost of assessing a small company's need for finance and its capacity to repay a loan on the one hand and the potential financial return on the other. This issue can arise as a result of the existence of considerable fixed costs associated with such credit assessment.

The situation is potentially further complicated by SMEs lack of collateral, limited credit history and lack of expertise in producing financial statements. As a result, there is a difference between the demand for finance and the supply of funds to SMEs, which is generally referred to as the "financing gap for SMEs". Of particular concern is the "financing gap" for those SMEs that have a high potential for future growth and, possibly, for increasing overall productivity and creating new employment. Unfortunately, in practise, such SMEs can only be imperfectly distinguished from SMEs with lower growth potential. Standardised information on past performance and growth prospects of SMEs seeking funding is often unavailable, or only partially available, or only for short periods, or at a high cost. The usual reaction of banks to such situations is to charge higher interest rates, as well as demand collateral to cover losses in the event of a default on the loan. A SME's borrowing ability and willingness to provide collateral signals a certain degree of creditworthiness and validity of growth prospects. SMEs, however, especially young ones, that may have viable business prospects typically lack a track record and also collateral. They can thus find themselves rationed out of the credit market. The provision of a publicly supported guarantee for bank credit effectively substitutes for the collateral that is lacking.

2.2. Potential costs of CGS activities

While the economic benefits of having CGSs in place are rather intuitive, e.g. these guarantees tend to increase credit availability to SMEs, which in turn may foster growth

and employment opportunities, their economic costs are not always evident (abstracting from operating, etc.). Economic costs may include: channelling funds to companies that cannot make productive use of them; keeping companies alive that otherwise would exit from the market; crowding out alternative financing sources; creating deviations from the level playing field between companies that benefit from credit guarantees and those that do not; creating contingent fiscal liabilities.

Diversifying the source of financing for SMEs from bank financing to other sources is a declared policy goal, and the existence of CGSs may hinder the achievement of this objective. Admittedly, banks continue to be the most important source of external financing for SMEs. The European Central Bank (ECB)/ European Commission (EC) survey on access to finance of enterprises (EC, 2014) confirms that bank loans and overdrafts are still the dominant source of external finance for SMEs in the European Union. There is, however, also evidence that lending has been trending downward in some economies following the outset of the global financial crisis. The cause of this decline continues to be disputed, although a number of analytical studies suggest that both supply and demand factors are at work. For example, there is empirical evidence that during a downturn, such as the one observed recently in many economies, SMEs and other riskier parts of bank loan portfolios tend to face both increased prices for credit, as well as credit supply constraints (OECD, 2013a). At the same time, SME demand for credit tends to fall during these periods (Ares, 2013). Policies focusing squarely on the supply of credit to SMEs thus might not be the most efficient way to increase SME financing under all circumstances, especially if constraints are on the demand side. Policy measures that facilitate SMEs making more productive use of finance, rather than increasing the amount of finance available to them, might be more efficient under these circumstances.

In assessing the performance of CGSs, special emphasis needs to be placed on detecting situations where the availability and conditions of support mechanisms might, in part, explain the dominance of conventional bank lending. While bank lending is expected to remain a key source of SME funding, the existence of subsidised guarantees for bank loans might limit the development of private alternatives. In other words, strengthening the role of CGSs might not be fully consistent with other policy efforts in relation to SME funding, such as securitisation of small business loans. In fact, the relative role of SME funding through guaranteed bank loans tended to be strengthened as guarantee arrangements have been used as countercyclical policy tools in some countries, as a response to the global financial crisis (OECD, 2010). The OECD Scoreboard 2016 shows that the amounts of loan guarantees for SMEs have increased in many OECD countries, although not in all, and that the median increase from 2007 to 2014 amounted to more than 45%. While the mobilisation of credit via CGSs might have beneficial effects, it also creates costs, some of which might only become visible after a considerable delay. For example, it might take several years to see the effect of the increase in guarantee activities on the levels of non-performing loans.

The continuing pressure for measured fiscal consolidation in a large number of countries highlights the need for fiscal authorities to manage both explicit and implicit contingent liabilities, and it puts a premium on the effective use of resources. In this context, assessing the cost-effectiveness of the various existing publicly supported SME support arrangements would appear to be a prerequisite to allow well-informed policy decisions on effective spending of (limited) resources in support of that sector.

3. Emerging literature on evaluating policy support through CGSs

3.1. Some methodological considerations

Considerable progress has been made in academic literature on the empirical evaluation of policy interventions. The availability of rigorous evaluations of SME support programmes continues, however, to be rather limited although it is growing. As regards developments in both *policy inputs* (e.g. amount of loan guarantees) and *intermediate outcomes* (e.g. number of firms having received loan guarantees), national systems to monitor CGSs have improved considerably. This is also due in part to international efforts, including the OECD Scoreboard and complementary efforts at the World Bank, European Investment Bank and European Commission. In 2013, the OECD presented an international overview of key characteristics of CGSs, including their functioning, funding, and performance judged by intermediate outcomes (OECD, 2013b; Beck et al., 2010).

By contrast, evaluation of *policy outcomes* (e.g. new employment created as a result of loan guarantees) continues to be challenging. In terms of methodology, the key challenge consists of robustly assessing the *causal* impact of policy interventions. A recent review of evaluation studies of a number of different SME support programmes to ease access to finance (not only CGSs but also other forms of financing, e.g. alternative micro-finance lending or venture capital) is provided by the What Works Centre (2014); the remainder of this report draws in part on this review and updates and expands its analysis.

Establishing causality between policy inputs and outcomes requires the construction of a valid *counterfactual*. In other words, what would have happened to SMEs benefitting from support if they had not received that support? One method that provides an answer to this question relies on an experiment where the guarantee is granted to a sample of randomly selected SMEs. If selection is independent of SMEs characteristics, then the difference between the outcomes for the “treated group” (enterprises benefitting “by chance” from the support measure) and the “control group” (enterprises not benefitting from the programme) can, in principle, be attributed to the treatment, and not to pre-existing differences between the two groups. In reality, guarantees are not assigned randomly. First, only those SMEs that apply for a loan guarantee have the possibility of obtaining it; second, applicants have to meet certain criteria to be selected for the guarantee programme. As better managed SMEs, with higher growth potential, are in general more likely to get the guarantee, any detected difference between the outcomes for the “treated group” and the “control group” cannot be attributed to the programme only, but should be attributed also in part to intrinsic differences between the groups. If these differences are not controlled for, then the estimated effect of the programme is subject to the so-called *selection-into-treatment* bias.

In the absence of randomised selection to the programme (which, however, would be an “ideal” setup from the programme evaluator’s point of view), analysing the counterfactual requires more sophisticated statistical methods than the simple comparison of the outcomes in the two groups. Such statistical methods have been developed to control the *selection-into-treatment* bias discussed above. One of these methods is the *control variable technique*, where data on some observable characteristics of the firms are used in order to control for the effects attributable to pre-existing differences between the firms in the treated group and the control group.

It is also important to note that comparing the pre-intervention period and post-intervention period levels of a target variable (such as employment, turnover, or a measure on gender inequality or regional income inequality, etc.) for the group of SMEs receiving guaranteed loans does not provide information about the value added of the programme, as a change in

performance can be affected either by the policy intervention or by other factors. Without development of a proper counterfactual, evaluation studies that exploit data covering treated firms only can test whether the performance of the SME has improved or not after receiving the guaranteed loans, but not whether that improvement is due to the policy intervention.

A guidance on the design of evaluation studies of policy intervention is available from the Maryland Scientific Methods Scale (MSMS, see Sherman et al., 1998), which ranks policy evaluations from level 1 (least robust) to level 5 (most robust). Madaleno and Waights (2014) adjusted the MSMS and developed a classification of assessments of policy interventions based on 5 categories, according to the robustness of the modelling of the counterfactual, the identification of the control group and the dealing with the selection bias.³ This classification is adapted here to the specific case of the evaluation of the effects of policy intervention through CGSs. A summary of the characteristics of the different categories is shown in Table 1.

Table 1. **Criteria for classification of evaluations of effects on SMEs of the activities of CGSs**

Level	Building of the counterfactual		Quantitative tools
	Treated vs control group	Control variables	
1	Either no distinction, or distinction but without proper counterfactual	None or inappropriate choice	More sophisticated analyses (e.g. regression, OLS, DID, RDD, ...)
2			
3	Distinction between treated and control groups to build a counterfactual	Basic regression on control variables to build counterfactual (age, sector, geographical location, etc...)	
4		Statistical tools or evaluation designs allowing <i>near-randomisation</i> to build the counterfactual (e.g. natural experiments)	
5	Fully randomised experiment		

Source: Authors' assessment based on the Maryland Scientific Methods Scale.

3.2. Selected lessons from an emerging (mostly academic) literature

In identifying studies assessing the performance and cost-effectiveness of CGS activities, the present review gives priority to assessments with a level of 3 and 4 under the categorisation described in the previous section (quasi-randomisation or, at least, construction of a valid counterfactual). Studies with a score of 5, based on full randomisation of programme participation, treatment and control groups, are unavailable. The present review considers 23 evaluation studies. We identified one level 4 and 14 level 3 studies. To ensure a broader coverage in terms of countries and types of relationships investigated, we also considered six studies with a level of 2 and two studies with a level of 1. It is worth noting that some of the studies classified as level 2 make use of fairly sophisticated quantitative tools but they do not adequately construct the counterfactual and thus cannot be classified as level 3. A majority of studies are published in scientific journals or in thematic series of international/financial organisations (e.g. the Bank of Italy's occasional papers series or the EC's European Economy discussion papers). The complete list of studies considered is in Table 3.

As regards country coverage, five studies focus on Italy, four on Canada, three on the United States, two on Japan, and one each for Germany, France, Korea, Malaysia, Portugal, Switzerland, Turkey, United Kingdom and a group of Central, Eastern and South-Eastern European countries. All evaluated CGSs provide partial guarantees, except two Japanese programmes, which provide full guarantees.⁴ The remainder of the present section discusses the results of these studies against the background of five questions:

- Who is undertaking or commissioning the evaluation?
- Against what objective is the evaluation being undertaken?
- What data is being used?
- What policy inputs and outcomes are considered as factors in the evaluation, with what results?
- What is the overall assessment regarding net benefits of the support arrangement?

3.2.1. *Who is undertaking/commissioning the evaluation?*

This question is relevant given the insight gained by Venetoklis (2000) in an analysis of evaluation studies of business subsidy programmes. The analysis concluded that studies commissioned by agencies that administered the business subsidy programmes themselves tended to produce more favourable results than studies conducted independently by “outside” organisations/research institutes.

Most of the reviewed studies were undertaken by researchers from academia (14 out of 23 studies), while other studies included staff from Central Banks (five studies), national governmental entities (three studies) and international institutions such as the European Commission, the European Investment Fund or the Bank for International Settlements (two studies), and only three involved staff from a CGS administering loan guarantees.⁵ Thus, we expect that the sample of studies considered should be less affected by a potential bias towards positive results due to self-assessments. It should be noted, however, that it was not always possible to identify who had *commissioned* the study.

3.2.2. *Against what objective is the evaluation being undertaken?*

Three concepts are typically identified as possible objectives against which evaluations are undertaken (OECD, 2013b): financial sustainability, financial additionality and economic additionality, although the dividing line between the three concepts is not always clear-cut.

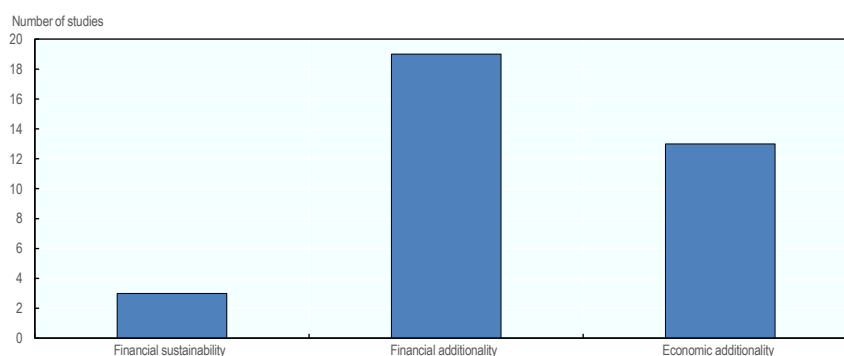
- *Financial sustainability* refers to the ability of the programme to cover the costs of its operations and defaults.⁶
- *Financial additionality* is reflected in incremental credit flows to SMEs and/or improvements in terms and conditions. This concept relates to *intermediate outcomes* (see section 3.1 above).
- *Economic additionality* refers to economic effects, e.g. to the effects on variables such as employment, turnover, sales and probability of default, which might have been influenced causally by the credit guarantee. This concept relates to *policy outcomes* (see section 3.1 above).

As illustrated in Figure 2, 19 out of the 23 studies considered here focus on financial additionality and 13 on economic additionality. Only three studies evaluated financial sustainability. Thus, the overwhelming number of studies focus on the question of how policy intervention affects intermediate outcomes. Among the 13 studies also focusing on economic additionality, more emphasis is placed on benefits as opposed to costs. The three bars add up to more than 23 as some studies evaluate more than one objective: eight studies evaluate both economic and financial additionality, two studies evaluate both financial

sustainability and additionality and one study evaluates financial sustainability and economic additionality. Only one study assesses all three objectives.

It should be noted that the specific mandates of CGSs may not neatly follow the above-mentioned concepts, although most mandates make reference to some interpretation of economic additionality. An extension of the work covered in the present report could consist of carefully matching the performance results of the studies considered in this section with the specific declared objectives of the CGS concerned. Of course, the latter is the most relevant reference point for a performance evaluation.

Figure 2. Objectives against which the CGS was evaluated



Note: The bars sum up to more than 23 because some studies evaluate more than one objective.

Source: Authors' assessment and calculations based on 23 evaluation studies.

3.2.3. What data is being used?

Lack of adequate data complicates analysis of SME financial choices and the success of policies to overcome potential difficulties. For example, the OECD Brasilia Action Statement for SME and Entrepreneurship Financing in 2006 concluded that “a lack of data impedes a complete analysis of the financial situation of SMEs in OECD and non-OECD economies.” It urged the OECD “to take the lead in developing better data and statistical information, thereby allowing the establishment of international benchmarks to facilitate comparisons of the relative performance of markets in providing financing to SMEs and entrepreneurs; and to shed light on outstanding financing gaps and issues.” The OECD Scoreboard is one such initiative; it was launched in 2010 to contribute to filling the data gap in the SME sector and aims, among other things, to monitor effects of policy measures to facilitate SMEs access to funding. The OECD Scoreboard reports data related to the activities of CGSs and facilitates the monitoring of several policy inputs (e.g. amount of loan guarantees) and intermediate outcomes (e.g. number of firms that received loan guarantees) at an aggregate, country level. By contrast, its usefulness to assess policy outcomes (e.g. employment created by SMEs having benefitted from guaranteed loans) is more limited, as it is not specifically designed to assist in the development of evaluations of policy interventions.

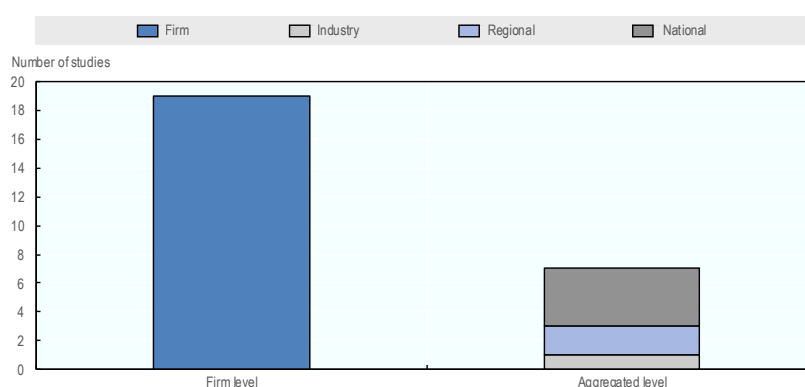
The present literature review confirms that the limited availability of appropriate data continues to be a major impediment to the proliferation of rigorous studies on the performance and cost-effectiveness of SME support programmes in general and CGSs in particular, as also suggested recently by Asdrubali and Signore (2015). There are two main issues in relation to data needed for the assessment of guarantee arrangements. The first relates to the level of (dis)aggregation available, i.e. data at the SME level versus data at a

more aggregate level, e.g., at the industry or regional/national level, or considering the CGS itself. The second relates to the data sources for the analysis, since individual datasets are, in general, insufficient to perform a robust assessment and some rich data sources are not publicly available (see also Table 2).

Most of the studies considered in the present literature review (19 studies) base their analysis on data collected at the SME level, as shown in Figure 3. Figure 4 summarises the level at which analyses of the evaluation studies are conducted: 15 studies developed their analysis at the SME level only, five studies at the macro level and three studies developed their analysis at both the micro and macro level.

In terms of the data sources used, five categories are distinguished here, as listed in Table 2. Table 3 shows, for each study considered in the present review, what data source was used. The table illustrates that administrative databases and data from CGSs seem to be the most widely used data sources. In this context, it should be noted that data coverage and other aspects of seemingly similar databases differ from one country to another. As a result, comparing results across studies for different countries is not easy, and it seems difficult to reproduce the results of a study obtained in *one* country for *another* country.

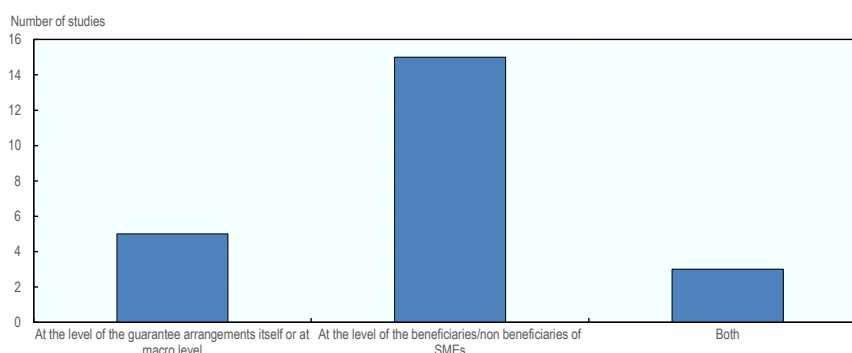
Figure 3. Level at which data was collected for the evaluation



Note: Authors' assessment and calculations based on 23 evaluation studies.

Source: The two stacked bars sum up to more than 23 because some studies use data at different levels.

Figure 4. Level at which the evaluation was conducted



Note: One study makes use of data at SME level to run an analysis at macro level. As a result, the number of studies conducting the evaluation using firm-level data is 18 (sum of middle and right-hand bar), while 19 studies collected firm-level data (see Figure 3).

Source: Authors' assessment and calculations based on 23 evaluation studies.

Table 2. Summary of the main data sources employed in the studies covered by the literature review

Commercial databases	An example of a commercial database is Orbis, a proprietary database produced by Bureau van Dijk which contains balance-sheet data on private companies worldwide. There are also commercial databases with national coverage such as AIDA for Italy, Nikkei Financial QUEST for Japan. The main advantage of this type of data source is that it provides harmonised information on company balance sheets and financial statements. However, it does not include any information on the guarantee, and thus it always needs to be combined with other datasets so as to allow the construction of treated versus untreated firms.
Credit registers	Italian studies often rely on information collected by the Central Credit Register, a source maintained and managed by the Bank of Italy which contains detailed firm level information on credits granted to companies. A similar data source for Italian firms is CERVED, which collects data on firms' solvency and creditworthiness. An evaluation of a Portuguese CGS makes use of the national Credit Register to obtain SME data. Unfortunately, credit register data is not fully publicly available. Moreover, although credit registers are in place in other countries, they are not harmonised and practices used to collect data (e.g. type of variables and definitions, frequency of observation) can vary. This observation complicates comparability of results across different countries.
Administrative databases	National statistical offices, tax offices, or central banks maintain databases that include micro and macro data. One reviewed evaluation used an ad-hoc database created by the European Investment Fund for Central and Eastern Europe countries. Japanese studies obtain data on banks involvement in guaranteed credit from databases on Japanese regional banks and on credit cooperatives. A study for the United States uses data on deposits from the Federal Deposit Insurance Corporation. One advantage of this type of data source is that it provides harmonised information on balance sheet and financial statement data. However, data is often aggregated at regional/national levels and does not include information on the guarantee obtained by SMEs. Thus it needs to be combined with other datasets to allow a rigorous evaluation.
CGS databases	Some reviewed studies use data from CGSs on credit guarantees and the identities of SME beneficiaries or on the operational performance of CGS activities. Such databases have the advantage that they can refer to a specific programme, which could then be subjected to the assessment. However, such datasets are generally not publicly available, typically lack information on non-beneficiary SMEs, and rarely include comprehensive information on the "treated" enterprises.
Surveys	Some reviewed evaluation studies base their analyses on the outcomes of either ad-hoc surveys designed for the evaluation itself or more general surveys that were designed for other purposes (in some cases by other entities than those undertaking the evaluation). Such surveys are sometimes performed only once, and the information collected is not always comprehensive enough (often limited to self-assessments in response to questions) to allow a rigorous analysis of the effects of CGS activities.

Source: Authors' assessment.

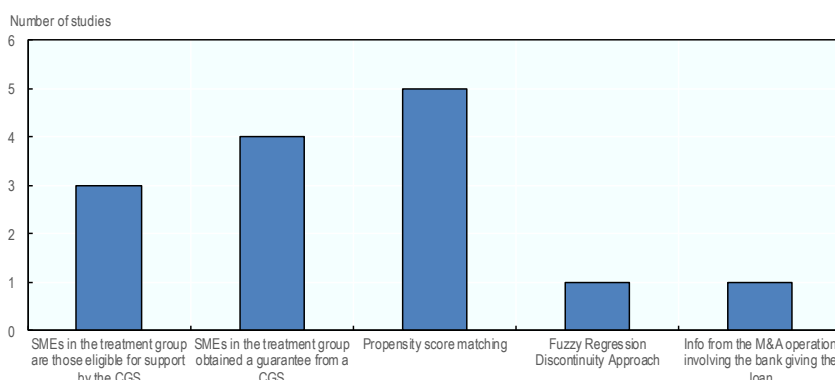
Data availability strongly affects the ability to construct a reasonable counterfactual and to identify treatment and control groups. Figure 5 summarises the different approaches taken in studies that have constructed a counterfactual. The most common approach taken is to divide SMEs into treated and control groups using information from the CGS on i) which SMEs are eligible or not for credit guarantees or ii) which SME is, or is not, granted the guarantee (coupling this information with some control variables). Other studies refine the basic distinction that the two types of information allow by applying statistical techniques to reduce the selection bias. Examples include propensity score matching and regression discontinuity approaches.

Table 3. Main data sources used by the evaluation studies considered in the present review

Authors (year)	Commercial databases	Credit registers	Administrative databases	CGS databases	Surveys
Zecchini and Ventura (2009)	•			•	
Columba et al. (2010)		•			•
De Blasio et al. (2015)		•		•	
D'Ignazio and Menon (2013)		•		•	
Mistrulli and Vacca (2011)		•	•		
Seens (2015)			•	•	•
Chandler (2012)					•
Riding et al. (2007)					•
Seens and Song (2015)			•		•
Hancock et al. (2007)			•	•	
Craig et al. (2007)			•	•	
Brown and Earle (2015)			•	•	
Uesugi et al. (2010)	•		•		
Ono et al (2013)	•		•	•	•
Schmidt and van Elkan (2010)				•	•
Lelarge et al. (2010)			•	•	
Kang and Heshmati (2008)				•	
Boocock and Shariff (2005)					•
Farinha et al. (2016)		•	•		
B.S.S. Volkswirtschaftliche Beratung (2013)			•	•	•
Tunahan and Dizkirici (2012)				•	
Allinson et al (2013)					•
Asdrubali and Signore (2015)	•		•		

Source: Authors' assessment.

Figure 5. Techniques used to construct the counterfactual



Note: Propensity scores matching pairs units in the treated group with those in the control groups that show similar values on the propensity score discarding all the unmatched units. The propensity score is the conditional probability of being assigned to a particular treatment given a vector of observed variables. A regression discontinuity setup identifies a threshold that divides units into either the treatment or control groups, selecting units lying closely on either side of the threshold. “Info from M&A operation involving the bank giving the loan” stands for an approach that attempts to detect the exogenous source of treatment from the features of the guarantee scheme, combined with the merge and acquisition (M&A) of a local bank by a large banking group.

Source: Authors’ assessment and calculations based on 23 evaluation studies.

3.2.4. What policy inputs and outcomes are considered in the evaluations, with what results?

When focusing on studies developed at the level of the SME, the most widely considered factors are the amounts of aggregate and individual bank debt and the cost of credit (as intermediate outcomes), employment, probability of default, profit and sales (as policy outcomes). Figure 6 lists the factors employed the most: the total length of the bar indicates the overall number of studies including that factor; the three colours distinguish the share of studies where the factor is found to have an effect in the desired direction (dark blue slices), in an undesired direction (light blue slices), or no clear effect (grey slices).

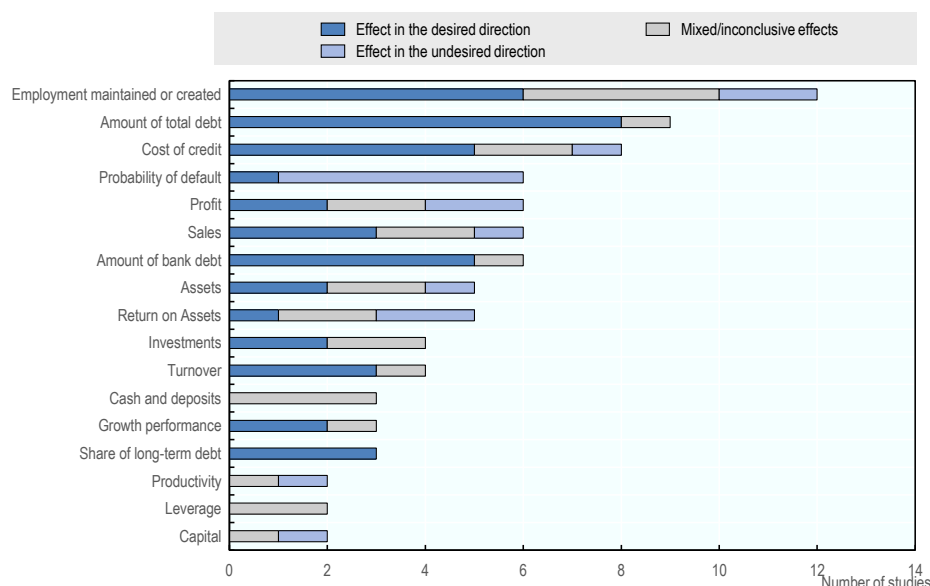
The amount of total and bank debt are almost always found to be affected in the desired direction by the intervention of the CGS, as the availability of credit guarantees tends to increase the debt of beneficiary SMEs. Also, the cost of credit is often affected in the desired direction by the guarantee, i.e. the existence of a credit guarantee is associated with lower interest rates. Employment maintained or created is another variable that is typically found to be affected in the desired (positive) direction by credit guarantees; six studies document a positive link, while two studies find the effect to be negative and four find no effect.

While the impact of the guarantee on profits and sales is mixed, it is worth highlighting the evidence in relation to the impact of the CGSs on the probability of default of beneficiary SMEs. Five studies⁷ out of seven considering this variable suggest a positive relationship between the guarantee and the default probability. Their most common explanation for this adverse effect is that public intervention may distort banks’ incentives leading to moral hazard problems. For instance, Allinson et al. (2013) found that when the CGS in the UK was reformed so that the government could lower the limit on its losses,⁸ the surviving proportions of the number of subsidised loans improved. Although comparability is hampered by the fact that the reform also effected other terms and conditions for participating businesses, the finding suggests that the government cap on lender default payments may encourage lenders to better target the programme at viable businesses.

Similarly, D’Ignazio and Menon (2013) found that a programme in Italy slightly affected the risk of moral hazard: the probability of default for a treated firm becomes larger than that of an otherwise identical untreated company in the two years following the treatment. Finally, Ono et al. (2013) found a deterioration of credit scores of those participating firms that are granted subsidised loans from their main bank. At the same time, the treatment effect estimations showed no similar deterioration for firms receiving loans from a bank other than the relationship lender. Ono et al. (2013) explain these findings by the strategic behaviour of banks: an informed relationship lender may extend guaranteed loans to risky firms in order to redeem its existing non-guaranteed loans, thus transferring the credit risk to the public credit guarantee program. In contrast to the above studies, Farinha et al. (2016) found that the effect of an unprecedented large increase in the volume of loan guarantees granted to Portuguese SMEs in 2009 consisted of a decrease rather than increase in the probability of firm exit and loan default. Kang and Heshmati (2008) found mixed results regarding the effect of credit guarantee volumes on survival rates of SMEs in the Republic of Korea: the short-run (contemporary) effect is to decrease the SME survival rate, while the more medium-term effect is to increase such a rate.

Productivity is considered as a factor in two studies only and results show that there is no firm evidence of a positive effect on this factor.⁹ In fact, there is some limited evidence of a negative effect. Asdrubali and Signore (2015) detect a negative impact in the short run, followed by a negligible effect in the medium run. In particular, the authors observe that a negative impact on productivity does not constitute a novel finding in the assessment of CGSs (Asdrubali and Signore, 2015, quoting Oh et al., 2009), and also note that there are issues related to the estimation of the productivity itself and that their findings might reflect the existence of an “adaptation period” after having obtained the loan. Mixed effects of CGS activities on productivity were detected by Riding et al (2007).

Figure 6. **Main factors considered in the evaluations of the performance of CGS activities (at SME level)**

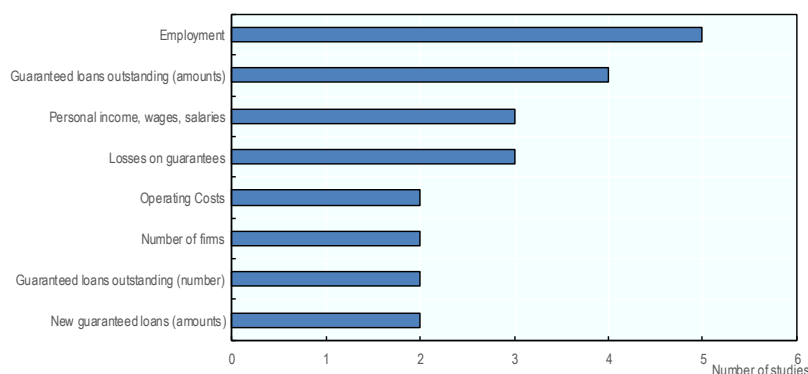


Note: Factors considered in a single study only and control variables considered in several studies are not shown in the chart. Control variables, i.e. variables that help to reduce the potential ‘selection-into-treatment’ bias, include the age of the firm and the owner, sector and geographical location and the type of relationship with the lending bank.

Source: Authors’ assessment based on the factors considered in 23 evaluation studies.

The number of studies considered in the literature review developing an analysis at the level of the CGS is rather small (eight studies out of 23) which prevents general conclusions being drawn. Figure 7 shows that the level of employment, amount of guaranteed loans, income, wages and salaries are the most common factors in these studies.

Figure 7. **Factors considered in the evaluations of the performance of CGS activities (evaluation conducted at level of CGS)**



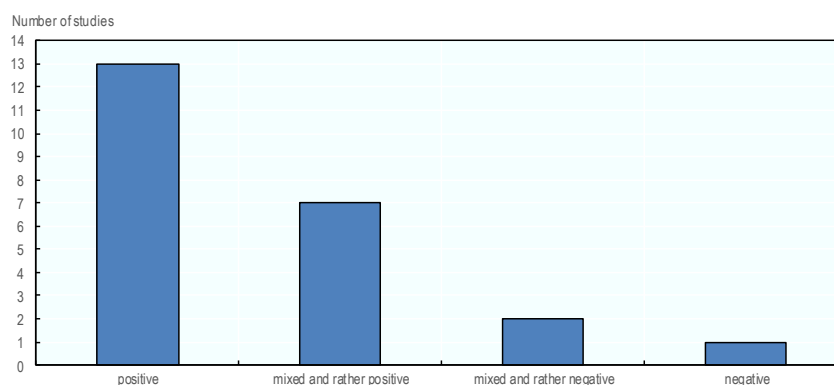
Note: Factors considered in a single study only and control variables are not considered in the chart.

Source: Authors' assessment based on 23 evaluation studies.

3.2.5. What is the overall assessment of the performance of support arrangements?

This report classifies evaluation studies into four categories according to the overall conclusions of the analysis. Figure 8 shows the result of this broad classification and suggests that the overall assessment of the contribution of CGSs is positive. Altogether 13 studies demonstrated that the existence of a CGS leads to some benefits for the SMEs and/or the economy in general. However, about half of the studies suggest that the assessment is not unequivocally positive and that results are mixed, at least with regard to some factors.¹⁰ Some undesirable effects are identified, such as increases in the default probability of the beneficiary SMEs.¹¹

Figure 8. **Overall outcome of evaluation studies of CGSs**



Source: Authors' assessment based on 23 evaluation studies.

This simple classification, based on the overall results of the studies, can be combined with information on the authors' affiliation to see whether any systematic relationships appear, as shown in Table 4. Each row corresponds to a specific type of affiliation of the authors of the evaluation study. Column headers indicate the overall results obtained by the individual study under consideration. A black bullet in a cell indicates that there is at least one study conducted by the entity indicated in the row header that obtained the outcome indicated by the column header. The table suggests that studies undertaken by research institutions generate results that span over the entire range of possible results. By contrast, studies performed by other authors tend to generate more favourable results.

Table 4. Authors' affiliations and overall outcome of evaluation study

		General outcome of the study			
		Negative	Negative/mixed	Positive/mixed	Positive
Authors' affiliation	Research institution	•	•	•	•
	Central bank			•	•
	Research institution and government			•	
	International institution				•
	Government				•
	CGS				•

Note: A bullet indicates that there exists at least one study by the entity undertaking it with results specified in the column. International institution - includes a joint study from an international institution and central bank. *Source:* Authors' assessment based on 23 evaluation studies. Updated from Schich, Maccaferri and Cariboni (2016), which used 17 evaluation studies.

Classification is based upon authors' affiliation as indicated in the publication.

4. OECD/EC survey on national approaches to evaluate CGSs for SMEs

4.1. Coverage of the survey

The CMF, in collaboration with the European Commission's JRC, developed and circulated a questionnaire to collect information on how OECD, EU members and partner countries evaluate the performance of their domestic CGSs. The survey was distributed to national competent authorities through the CMF and also via the European Commission SME Envoy Network.¹² Survey responses were discussed by the CMF at its meeting in October 2016; a synthesis of responses to the OECD/EC survey and the results of CMF discussions are provided in this and the subsequent section.¹³

Altogether 33 responses were received from 24 countries. Responses were invited from countries with or without CGSs, although Iceland was the only country without a CGS that provided a response to the questionnaire (see Box 2); incidentally, some countries have no CGSs including, for example, Australia, China, New Zealand and Sweden.¹⁴ 32 responses from countries with a CGS and 31 completed questionnaires were received, covering 23 countries.¹⁵ Table 7 includes the list of responses, organised by country and CGS. Figure 9 distinguishes whether the responses refer to CGSs that have been subjected to evaluations or not and, if they have, at what frequency.¹⁶

Table 5. Responses received to the OECD/EC survey

Number of Responses	Number of countries	Country name	Name of credit guarantee arrangement
1	1	Austria	Austrian Wirtschaftsservice (AWS)
2	2	Belgium	Participatie Maatschappij Vlaanderen NV (PMV NV)
3	3	Canada	Canada Small Business Financing Program (CSBFP)
4			Export Guarantee Program (EGP)
5	4	Chile	Corporación de Fomento de la Producción de Chile (CORFO), Banco Estado
6	5	Czech Republic	Czech-Moravian Guarantee and Development Bank
7	6	Estonia	KredEx Credit Insurance (KredEx)
8	7	Finland	Finnvera
9	8	France	Bpifrance
10	9	Germany	German Guarantee Banks
11	10	Greece	Entrepreneurship Fund - Guarantee Fund (ETEAN)
12			Working Capital Program (ETEAN)
13			Raw Material Guarantee Program (ETEAN)
14			Tax and Insurance Guarantee Program (ETEAN)
15			Guarantee Program for Issuance of Letters of Guarantee (ETEAN)
16	11	Hungary	Garantiqa, Agrár-Vállalkozási Hitelgarancia Alapítvány (AVHGA)
17	12	Italy	Fund for Guarantee of SMEs (SGS)
18			Confidi
19			Istituto di servizi per il mercato agricolo alimentare (ISMEA)
20	13	Japan	Credit Guarantee Corporation
21	14	Korea	Korea Credit Guarantee Fund (KODIT)
22	15	Lithuania	Investiciju ir verslo garantijos (INVEGA)
23	16	Mexico	Nacional Financiera (NAFISA)
24	17	Portugal	SNGM (Sistema Nacional de Garantia Mútua) - assessment commissioned by the CGS, henceforth 'Portugal1'
25			SNGM (Sistema Nacional de Garantia Mútua) - assessment commissioned and conducted by researchers, henceforth 'Portugal2'
26	18	Romania	National Credit Guarantee Fund for SME (FNGC IMM S.A.-IFN)
27	19	Spain	Sociedades de Garantía Recíproca (SGR)
28	20	Switzerland	Gewerbeorientiertes Bürgschaftswesen
29	21	Turkey	Kredi Garanti Fonu
30	22	United Kingdom	Enterprise Finance Guarantee - assessment in 2009, henceforth UK(2009)
31			Enterprise Finance Guarantee - assessment in 2013, henceforth UK(2013)
32	23	United States	Small Business Administration (SBA)

Note: Multiple responses from individual countries were invited, where relevant. Altogether 32 responses were obtained from 23 countries. Iceland provided a response but is not listed in the table as no CGS exists in the country. The United States is listed in the table although it provided only general information and did not answer specific survey questions.

Box 2. Response received from a country without a CGS

Responses were also invited from countries that do not have CGSs, and one such response was received, from Iceland. That response included a short explanation on why a CGS has not been established there. In Iceland growth is considered sufficiently dynamic and any additional publicly supported stimulus is not considered helpful at this point in time. More generally, investment growth is balanced and driven both by larger and smaller firms. On a specific issue, in the aftermath of the financial crises and the resolution of three large Icelandic banks, SMEs benefited from loan restructuring, which was made possible during the establishment of new banks that received the loan portfolios at estimated market value, considering likely losses incurred during the crises. The response also explains that the implied significant debt relief for firms in the country allowed them to remain healthy, with historically high equity ratios and low leverage.

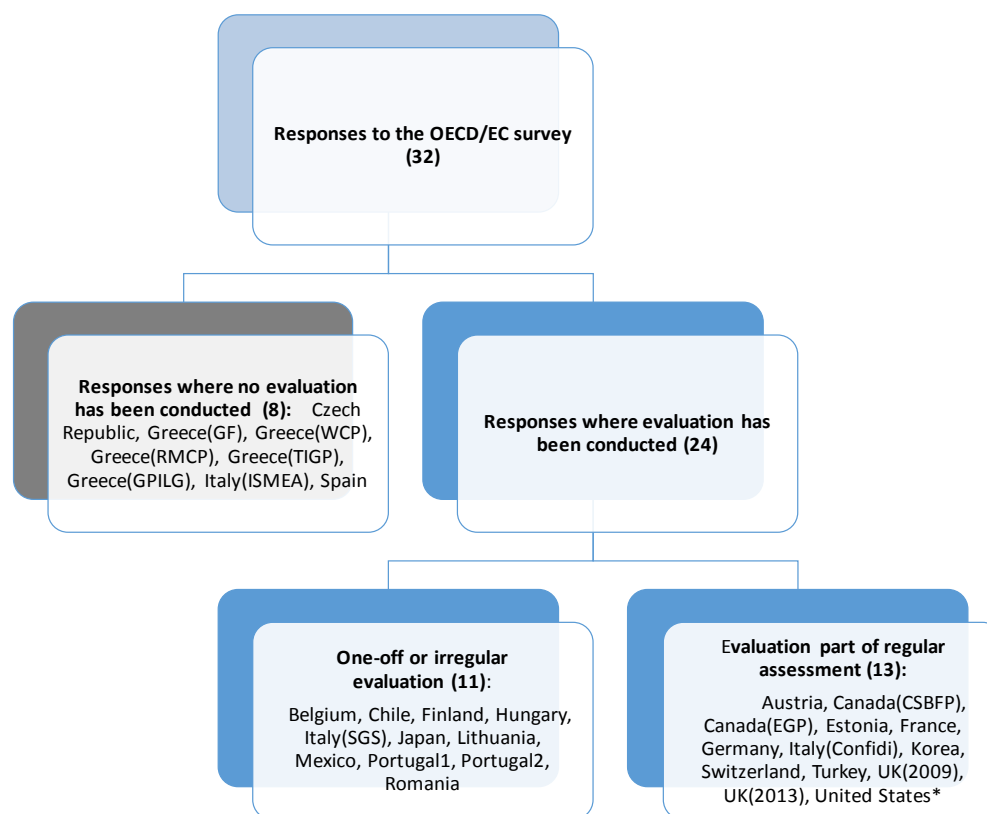
This response is consistent with the view that the perceived need for establishment of CGSs to overcome any potential or diagnosed SME financing constraints differs from one country to another. CGSs typically aim to address the lack of SME bankable collateral. The most common response to the OECD/EC survey question “What particular identified weakness is the CGS targeting?” was “lack of sufficient collateral”. Against this background, it is of interest to investigate whether the perceived shortage of collateral is lower in countries where CGSs do not exist.

Cross-country estimates of such perceptions are available from surveys such as the Survey on the Access to Finance of Enterprises (SAFE) undertaken by the European Commission and the European Central Bank (ECB, 2015).¹ For example, the SAFE 2015 survey reports that the majority of respondent firms indicate “insufficient collateral” as the main reason for the financial constraints they are experiencing (question 22: “what do you see as the most important limiting factor to get this financing?”). Conversely, in Iceland, less than 6% of the firms responded “insufficient collateral or guarantee” in 2015.¹ Similarly, in 2015, the share of responses from firms in Sweden (which also does not have any CGSs), was low at 11%. By contrast, the EU28 average for that share (i.e. quoting “insufficient collateral or guarantee” as the response to “what do you see as the most important limiting factor to get this financing?”) was 15%. Of course, it is difficult to say anything about causality, not least because the sample size is very limited. Also, unfortunately, the SAFE survey did not cover countries outside Europe, such as Australia and New Zealand, which also do not have CGSs.²

1. Alternative answers offered included “interest rates or price too high”, “reduced control over the enterprise”, “financing not available at all”, “too much paperwork is involved”, “there are no obstacles”, and “other”.

2. The OECD/EC questionnaire clarified that export credit guarantee arrangements, which may or may not have special programmes targeted at SMEs, are not part of the coverage of the present work on CGSs for SMEs.

Figure 9. Overview of OECD/EC Survey responses



Note: Assessment based on responses to OECD/EC survey (and also including the United States response related to SBA for completion). The two evaluations provided by the United Kingdom and the two provided by Portugal are shown separately and are referred to as United Kingdom (2009), United Kingdom (2013) and Portugal1 and Portugal2 respectively. In two cases, responses were ticked both “regular” and “irregular” evaluations, and these responses are included under “evaluations that are part of regular assessments”. * The United States did not provide answers to the specific questions of the OECD/EC questionnaire but instead provided a written explanation of a more general nature.

4.2. Selected lessons from the survey

This section draws some tentative lessons from the results of the OECD/EC survey, also taking into account insights gained from the literature review of Section 3 and the existing high-level principles. As in the previous Section, the discussion is developed around some key features of the evaluation practices in relation to: (i) the identity of the entity conducting the evaluation; (ii) objectives against which the programme is evaluated and the construction of the counterfactual; (iii) the data used; (iv) the use of the outcome of the assessment for operational decisions.

4.2.1 Who should undertake the evaluation and how often?

Responses from national authorities to the OECD/EC survey do not reveal evidence of a bias of self-assessment towards positive outcomes, unlike the literature survey discussed in Section 3 and Venetoklis (2000). In fact, all responses identified either “positive” or “positive/mixed” effects of the programmes, *regardless* of who conducted the analysis. Table 6 links the overall outcomes of the evaluations covered by respondents with the identity of the entities undertaking them. Only five evaluations are self-assessments and the majority of evaluations are performed by independent research institutions. The table shows

that none of the evaluations identifies negative (or mixed-negative) effects. It also fails to show any clear and systematic links between the identity of the entity conducting the evaluation and the overall outcome. For example, the last row shows that self-evaluations result in either positive or mixed-positive results. In this regard, self-evaluations do *not* differ from other types of evaluations that were submitted to the OECD/EC survey.

That said, it is nonetheless useful to “pre-emptively” consider employing practices that can help minimise any potential bias toward positive outcomes in self-assessments. The involvement of *independent* researchers in the evaluation can help to limit the existence of such bias. This practise has already been adopted by many respondents to this survey, and is also consistent with the commentaries of the explanatory notes to the World Bank/FIRST Initiative Principles. In this context, it should also be noted that evaluation results of independent researchers might also be subject to a bias, although of a slightly different type -- selection bias. Easterbrook et al. (1991), analysing 487 research projects of which 52% had been published, found that studies with statistically significant results were more likely to be selected for publication in peer-reviewed journals.

To the extent that the CGS is involved in the assessment, a robust governance framework also helps to limit potential bias. This framework might involve appropriate “Chinese walls” separating evaluators from the operational arm, as is the case in at least one self-evaluation covered by this survey. Yet another helpful practice is to increase transparency and availability of relevant data, e.g. by making them accessible to third parties, including research institutions, to enable them to conduct their own assessment. The data should be sufficiently disaggregated, and ideally should include information both on successful and unsuccessful credit guarantee applicants. In this context, it should be noted that the US Small Business Administration makes a considerable amount of data publicly available that could and does form part of such analyses.¹⁷

Table 6. **Outcome of the study and entity undertaking the evaluation**

		Overall outcome of the CGS evaluation				
		Negative	Negative / mixed	Positive / mixed	Positive	
Who conducted the study?	Research institution/university			Belgium, UK (2013)	Chile, Finland, Germany, Japan, Portugal1, Portugal2, Switzerland, UK (2009)	10
	Research institution/university with CGS			Austria		1
	Research institution/university with CGS and public authority			France		1
	Public authority			Estonia, Italy (SGS)	Korea, Canada (CSBFP), Italy (Confidi)	5
	Public authority with CGS				Turkey	1
	CGS			Canada (EGP), Hungary, Romania	Lithuania, Mexico	5
TOTAL		0	0	9	14	23

Note: Based on the responses to the OECD/EC survey. ‘Portugal1’ and ‘Portugal2’ refer to evaluations of SNGM (Sistema Nacional de Garantia Mútua) undertaken by two different evaluators, ‘United Kingdom (2009)’ and ‘United Kingdom (2013)’ refer to the assessments of the Enterprise Finance Guarantee 2009 and 2013, respectively. See also Table 5.

Concerning assessment frequency, the survey suggests that evaluations are in many cases undertaken regularly, although in some cases they are not. In other cases, only one-off evaluations are performed and, in a few cases, no evaluations are available. According to the two sets of high-level principles, evaluations should be undertaken regularly (G20/OECD Principles) or at least periodically (World Bank/FIRST Initiative Principles). Thus, there is scope in several countries to increase the frequency of evaluations undertaken.

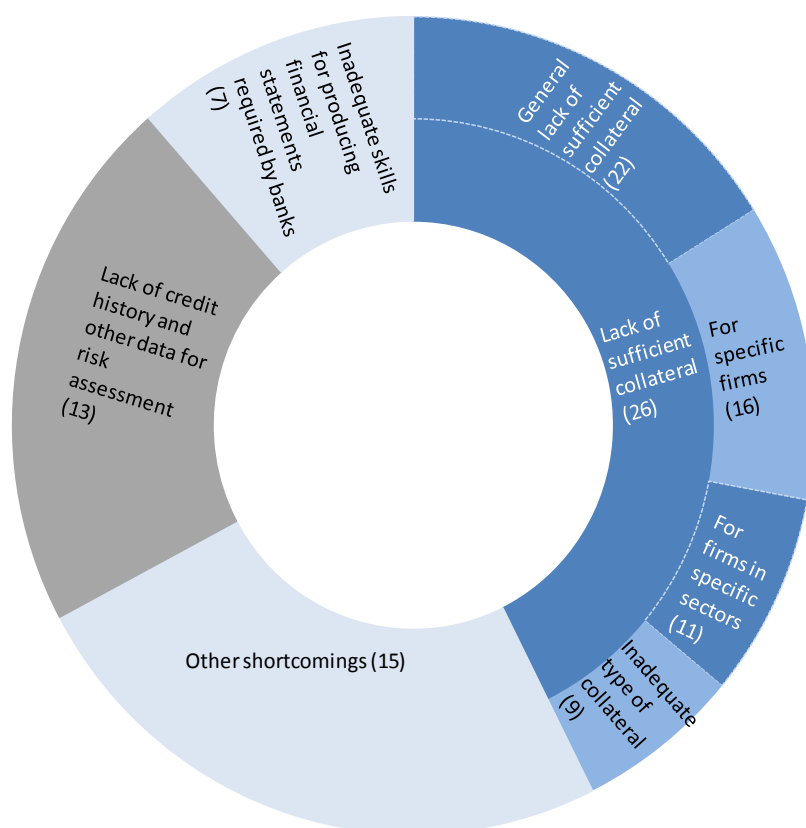
4.2.2. Against what objectives to conduct the evaluation and how to construct the counterfactual?

The G20/OECD High-Level Principles on SME Financing suggest evaluations should be performed based on “clearly defined, rigorous and measurable policy objectives”.¹⁸ When asked about what specific weaknesses were targeted by the CGS, almost all respondents referred to the lack of sufficient collateral on the part of SMEs, suggesting that the guarantee would substitute for a diagnosed lack of collateral. Figure 10 shows that most of the responses indicated that there was a *general* lack of collateral (26 out of altogether 32 responses), while other respondents suggested that the lack of collateral was confined to either *specific firms* or to firms in *specific sectors* (16 and 11, respectively), with other respondents suggesting that the CGS was meant to address the issue of the inadequacy of the *type of collateral* available (9).

Other shortcomings were also identified, although they seem to play a much less prominent role. Some of these shortcomings refer to social goals, the achievement of which tends to be more difficult to measure as part of an evaluation of the performance of CGS activities. Compared to economic variables that are more or less straightforward to estimate, the role of such social objectives seems to be quite limited overall.¹⁹

In terms of the objective of the evaluation, most respondents are assessing financial additionality (16 respondents) and economic additionality (15 respondents), and much less financial sustainability (9 respondents). Circle sizes in Figure 11 are proportional to the number of respondents indicating the objectives against which the CGS activities are being evaluated. The figure also shows that many evaluations consider economic additionality in combination with financial additionality; some also consider the former in combination with financial sustainability. Compared to the (mostly academic) studies reviewed in Section 3, respondents to the OECD/EC survey seem to place relatively more emphasis on the evaluation of economic additionality as opposed to financial additionality.

Figure 10. Weaknesses targeted by the CGS

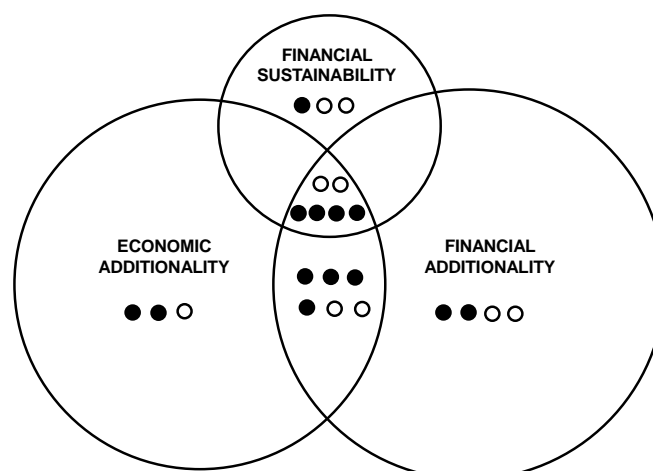


Note: Multiple choices were allowed; numbers of responses for the given choice are in parentheses. The numbers in the outer ring do not necessarily sum up to the number in the inner ring given that multiple choices were allowed. Answers from the United Kingdom and Portugal are counted only once, even though two survey responses were provided by both. For information, survey respondents were given the option to name "other shortcomings" targeted by the CGS. Responses included "lack of finance for start-ups due to high risk", "export performance", "value added", "lack of motivation for investment and for funding", "high interest rate", "high cost of raw material", "downturn and credit crunch", "SME competitiveness" and "local employment opportunities", which could be taken as a form of economic shortcoming. Responses also included "social and territorial cohesion", "disadvantaged areas", "natural disasters" and "female entrepreneurship", which could be taken as identified social shortcomings. Finally, "insufficient means for funding documents for public procurement" was named by one respondent.

Source: Responses to OECD/EC survey.

More than half of survey responses reveal that a counterfactual analysis is conducted as part of evaluation studies (indicated by black, as opposed to empty, dots in Figure 11). Typically, a counterfactual is constructed in evaluations where economic additionality is assessed. In principle, counterfactual analysis can also be developed in cases where the objective of CGS evaluation is to identify financial sustainability or financial additionality. For instance, the Korean CGS is evaluated only against the objective of financial sustainability and the Swiss CGS is evaluated only against the objective of financial additionality; both CGS evaluations are, however, based on an analysis of the counterfactual.

Figure 11. Objectives against which the CGS has been evaluated



Note: Each dot represents one evaluation. Circle sizes are proportional to the number of evaluations falling under the given category. Black (white) dots indicate that the evaluation (does not) include a counterfactual analysis.

Source: Responses to OECD/EC survey.

4.2.3. What data should be collected for the evaluation?

Survey responses confirm that no single database is sufficient to conduct a rigorous evaluation of the performance of CGS activities. Combinations of databases, e.g. administrative and commercial, as well as those maintained by CGS need to be used, and are being used. Ideally, the CGS should ensure that it collects and keeps relevant data pertaining to its own operations, to facilitate future evaluations (World Bank/First Initiative, 2015). In practise, this is not always the case, as highlighted by the OECD/EC survey responses, and already confirmed in the literature review.

Firm-level data, as opposed to data at higher levels of aggregation, allows more rigorous evaluations and their use has multiple advantages. First, considering firm-level data facilitates efforts to redesign existing programmes, which are essentially targeted at firms. Considering firm-level data could facilitate the understanding of which specific parts of programmes work and which parts do not, and what firms should be targeted or not. Second, the programme's impact is easier to detect using firm-level data, especially as analysis at a more aggregated level might fail to identify significant effects, as a result of measurement problems.²⁰ Third, conducting counterfactual analysis on firm-level data provides more reliable estimates, given the potentially larger number of observations available. In fact, the assumption that the entities in the "treated" and "untreated" group are identical is more plausible if made at the level of a firm for data at higher levels of aggregation, e.g. at the level of regions or countries, etc.

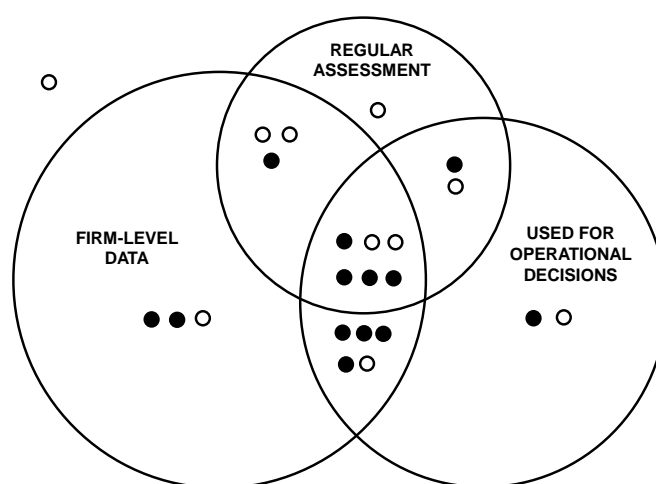
Survey responses reveal shortcomings in data collection for control groups. For example, data on firms that are not beneficiaries of CGS programmes are rarely collected. It would, however, be useful for CGSs to collect information on *unsuccessful applicants*. Lacking such data, an alternative approach is to construct the control group using data for firms that have *not benefitted from the programme*, although this approach does not allow differentiation between unsuccessful and successful applicants. It is important to differentiate between these two groups to facilitate the redesign of the programme, taking into account information regarding previously unsuccessful applicants. For instance,

deciding on the size of a new programme could be a function of the interest shown by unsuccessful applicants for a previous programme.

4.2.4. To what extent can evaluation results be used for operational decisions?

The final aim of any policy intervention evaluation is to provide policy makers with sound evidence on the effectiveness of the programme in different dimensions. It should also support informed operational decisions on the design elements of the programmes, potentially adjusting them as a function of the outcomes of the evaluation. The OECD/EC survey reveals that most of the assessments are being used for such types of operational decisions (15 out of 23). Combining responses to the question on whether the evaluation generated operational changes with responses to the question on frequency of evaluations and level of data considered, Figure 12 suggests that important pre-conditions for employing assessment results for operational decisions could be that evaluations are being conducted regularly and that firm level data is considered. That said, two responses suggest that well-informed operational decisions can be taken, even in the absence of regular assessments and not using firm-level data.

Figure 12. Evaluation used for operational decisions, use of firm-level data and frequency of assessment



Note: Each dot represents one evaluation. A black dot indicates that an evaluation includes a counterfactual analysis; a white dot indicates that an evaluation does not. One evaluation does not: i) conduct a counterfactual analysis; ii) use firm-level data; iii) take part in a regular schedule; iv) foresee its results being used for operational decisions. This evaluation is captured in the figure by a white dot that falls outside of all three circles. Circle sizes are proportional to the number of evaluations in the respective category.

Source: Responses to OECD/EC survey.

5. Conclusions

In this report, we have presented state of the art approaches developed in academic literature or employed by national authorities to evaluate the performance and cost-effectiveness of their Credit Guarantee Schemes (CGSs) for SMEs. Results are based on a literature review of 23 academic studies and on a survey taken by OECD/EC members and partner countries. Survey responses were received by 23 countries and covered 32 studies. One finding is that considerable progress has been made recently in evaluating CGS activities. That said, continuing challenges remain, especially the limited availability of appropriate data to conduct rigorous evaluations.

Summarising the literature, there is evidence that CGSs are positive for firm access to debt finance, i.e. the arrangements provide *financial additionality* by increasing the availability of credit and/or reducing its costs. Perhaps less is known about the *financial sustainability* of these programmes. As regards *economic additionality*, results are mixed:

- While there is some evidence that CGSs can have positive effects on employment levels, there is generally mixed evidence for improved firm performance in terms of investments; there is also no strong evidence of a positive effect on productivity, and only very few studies consider this factor as part of their empirical analysis.
- There is also some evidence that loan guarantees could be associated with increased default risk of beneficiary firms. This important observation underscores the need for a careful evaluation of credit guarantee arrangements, as the benefits of higher employment would need to be weighed against any potential increase risk of default potentially brought about by CGS activities.

Survey responses highlight the wide range of different evaluation approaches across evaluated CGSs and across countries. Also, taking into account results of the above-mentioned literature review and the recently developed high-level principles (G20/OECD and World Bank/FIRST Initiative), this report suggests that evaluations of CGS activities should be undertaken regularly and that key features of a rigorous evaluation should include:

- *A clear objective against which the added value of the programme is measured.* Perhaps the most straightforward is financial additionality, which captures the added value of CGS activities in terms of increasing flow of funds (or reducing their costs). More importantly, the effect of these activities on the economy (e.g. change in employment, investment, growth, etc.) should be considered. Also, it is important to assess whether the programme is financially sustainable, i.e., are CGS activities designed and managed in such a way that substantial financial losses (e.g. where premiums collected are not sufficient to cover claims) will be avoided. A more ambitious evaluation would also verify whether the initially diagnosed market failure that the CGS is supposed to address still persists, as well as what the effect of alternative policy choices might be.
- To ensure effectiveness, *independent evaluation* is preferable to self-evaluation. However, self-evaluation effectiveness can be ensured by having an appropriate governance framework in place. Collaborative efforts with independent research or other institutions can also be conducive to evaluation effectiveness.
- *Counterfactual analysis* should be developed to understand *what would have happened in the absence of the CGS*. In this context, it is key to collect detailed data not only on firms benefiting from guarantees, but also on unsuccessful applicants. In addition, data needs to be collected not only on the variables of key policy interest (e.g. employment, growth), but also on additional variables capturing pre-existing heterogeneity across firms in the treated group and in the control group. Micro data (i.e., firm-level or contract level data) is preferred to aggregated data, as this facilitates a more rigorous analysis and the results lend themselves more naturally to changes in programme design.

The synthesis of questionnaire responses and the literature review suggest that several evaluations follow such “good” practises and that results can be used to put forward operational changes in the design of the programmes - in particular, those based on firm-level data, involving the construction of a counterfactual and being conducted regularly. Some data from the OECD/EC survey highlight that improvements in the assessment of the performance and cost-effectiveness of national programmes may be envisaged since:

- Some countries do not yet evaluate their CGS activities and some evaluations represent a one-off or are undertaken at irregular intervals.
- Financial sustainability of the programmes is considered only in few studies.
- The construction of a sound counterfactual remains a critical challenge, the main reason being that the required data is either unavailable or not available from one single database, thus necessitating the time-consuming and challenging ‘matching’ of different data sets.
- Individual databases tend to be insufficient and cannot be relied upon solely for a rigorous evaluation. The costs involved in merging separate databases are presumably significant.

The Committee made various suggestions for the directions that future work in this area could take. One suggestion was to more carefully identify the costs of activities of publicly supported CGSs, including potential interaction with, and perhaps crowding-out of, alternative market-based bank and non-bank sources of SME financing. There was widespread agreement that assessing the net economic benefits of CGS activities remains challenging and, in particular, the identification of economic, as opposed to financial, additionality, but that further progress would be helpful. Given the current outlook for real activity, the issue of financial sustainability or better, fiscal or budgetary neutrality, also remains an important issue. A key finding of the report is that the limited availability of appropriate data continues to be a major impediment to the conduct of rigorous evaluations of the performance and cost-effectiveness of CGSs. More efforts are needed to collect, and make available, additional data and to combine the already existing relevant data from different sources.

Notes

1. The European Commission also distributed the survey to European Union countries that are not members of the OECD. The questionnaire is based on a draft survey that was developed in collaboration with the Joint Research Centre of the European Commission (EC JRC) and presented to, and discussed by, the OECD’s CMF and the OECD’s Working Party on SME and Entrepreneurship (WPSMEE); the current version reflects the comments and suggestions made at these meetings and those obtained in writing. It was developed by Sara Maccaferri, Jessica Cariboni (both EC JRC) and Sebastian Schich (OECD), while the write-up of synthesis results reported in Section 3 was produced by Anna Naszodi, Jessica Cariboni (both EC JRC) and Sebastian Schich. The literature review also benefitted from comments received at a presentation on evaluating publicly supported financial guarantee programmes for SMEs at the OECD-ADBI Tokyo Roundtable on Capital Market and Financial Reform in Asia, Tokyo, 22 to 23 March 2016.
2. SMEs are targeted not only by national or regional programmes, but also by supranational organisations, such as the European Commission. While our report focuses on evaluation practices of national and regional CGSs, the literature review covers the study by Asdrubali and Signore (2015) that assesses the European Commission Multi-Annual Programme Small and Medium-sized Enterprises, since this represents an example of best approaches employed.
3. Among the studies reviewed here, there are some that analyse data collected at the level of the CGS or at a national or regional aggregated level (as opposed to the level of the SME). While in principle one could build a counterfactual also at the aggregate level, such assessments are more difficult to make and, in fact, no such an attempt has been made as part of the selected studies reviewed here. The studies analysing data at the aggregate level that are reviewed here are either level 1 or level 2 evaluations.

4. In three studies, the information available was not sufficient to determine whether the evaluated CGS provides either full or partial guarantees.
5. Numbers do not add up to 23 as there are some reports written by several authors belonging to different entities.
6. An alternative presentation of the latter concept involves budget-neutrality, which tends to be used less frequently.
7. These five studies are Allinson et al. (2013), D'Ignazio and Menon (2013), Blasio et al. (2015), Lelarge, Sraer, and Thesmar (2010) and Ono et al. (2013).
8. The Small Firms Loan Guarantee (SFLG) was a UK government loan support scheme for small businesses that ran from 1981 to January 2009. It was replaced by the Enterprise Finance Guarantee (EFG) on 14 January 2009. Under the SFLG scheme, the government covered 75% of the outstanding balance of all loans that defaulted, while under the EFG scheme the government put a cap at 9.75 % of the lending amount on default payments. Once the cap is exceeded, the government bears no more risk and any further risk falls entirely onto the lender.
9. The present literature review focuses on empirical studies of the performance of credit guarantees for SMEs on productivity; a range of other studies has focused more broadly on productivity determinants, including the effects of policy intervention, such as McGowan, Andrews and Millot (2017) for a range of countries and OECD (2016b) for the example of one country, which is characterised by sizeable government support in the form of credit guarantees for SME.
10. All CGSs are treated here in the same way regardless of their operative features (e.g. eligibility criteria, types of loans guaranteed, etc.), although the latter may be very different from one CGS to another. The observation that mixed effects are identified by an evaluation study in the case of some variables might reflect these specific operative features characterising the CGS concerned. For instance, the less restrictive the eligibility criteria for a credit guarantee, the higher one would expect the default probability of the firms benefitting from the guarantee to be
11. Although the reviewed papers in the literature interpret the increased default probability to be undesirable in principle, there can be legitimate reasons for policy intervention targeting riskier SMEs with high growth potential.
12. https://ec.europa.eu/growth/smes/business-friendly-environment/small-business-act/sme-envoys_it
13. More detail on responses received is provided in Annex I. As background, the survey was structured into three parts: (i) contact information, (ii) main characteristics of the CGS (e.g. type of SME supported, type of guarantee provided, target of the programme, changes implemented during the crisis); (iii) details on the evaluation practices (frequency of the evaluation, who performed/conducted the analysis, data and methods, use of the results).
14. See Scoreboard (2016). The list of countries without CGSs presented here as part of the main text does not include Malaysia, as we consider the Credit Guarantee Corporation Malaysia Berhad (CGC), founded in 1972, as a CGS (thus differing from the OECD Scoreboard 2016 assessment on page 71). In Sweden, credit guarantee programmes were introduced in response to the global financial crisis, but subsequently discontinued.
15. The United States provided general information and references to publicly available documents, but did not fill in the detailed questionnaire. More than one CGS exists in some countries (Canada, Greece, Italy) and two evaluation studies were received in the case of the United Kingdom and Portugal for the same CGS, although covering either different time periods or evaluation approaches.
16. Information available from the literature review and the survey responses partially overlap, as some of the studies in the literature review were suggested for inclusion by the respondents. In addition, we cannot rule out that some studies contained in the literature review have informed

the answers given to us by survey respondents, even if the responses did not explicitly reference the studies.

17. Data are very detailed at loan level and cover the name and address of the beneficiary company, name of the bank granting the loan, amount of the loan together with the amount covered by the guarantee, the interest rate and maturity of the loan. The data is published with only a few months of delay (<https://www.sba.gov/content/sba-7a-504-loan-data-reports>).
18. See Principle 11 “Monitor and evaluate public programmes to enhance SME finance”.
19. This assessment is consistent with responses received to a question asked towards the end of the survey. The question clearly asks whether CGSs, in addition to the extent to which they successfully addressed identified market failures, were also evaluated in terms of their impact on the attainment of a wider set of public policy goals. Response choices included: “social cohesion” and “distribution of income and wealth”. It is notable that no respondent opted for either of these two choices but several respondents identified public policy goals such as “job creation”, “competitiveness” or “financial stability” that tend to be somewhat easier to measure.
20. An example illustrates this point: consider firm A that has some old machinery with book value reduced to zero that is bought by firm B. As a result, there will be an increase in fixed assets on firm B’s balance sheet, while no disinvestment will be recorded for firm A, given that the book value of the asset was already zero. As noted by Endresz et al. (2015), such reallocation might lead to increased overall efficiency as existing capital is better employed. This transaction would not appear, however, at the level of macro data, as only new investments are measured. Thus, if the acquiring firm financed the acquisition of machinery with guaranteed credit, the potentially positive effect on investment would not appear in investment data collected at the macro level.

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Annex I

Synthesis of responses to selected OECD/EC survey questions

This annex presents a synthesis of answers provided to the OECD/EC survey questions, although it is limited to selected questions for reasons of parsimony. Respondents were asked to select relevant answers among multiple choices offered and, in several instances, to provide additional information. Where the additional information contradicted the answer selected among multiple choices, the information in the written answer was considered. The current synthesis is descriptive, motivated by the view that there are no "good" or "bad" answers *per se*. In particular, evaluation practises likely reflect the specific legal frameworks surrounding the CGS, specificities of domestic banking and financial systems and their state of development and sophistication, as well as the development and structure of SMEs and their historical financing patterns. Arguably, the larger the size and scope of CGS activities, e.g. as compared to domestic GDP or other variables, the higher the necessity of conducting comprehensive and thorough evaluations of the effects of CGS activities. By contrast, relatively smaller programmes may require somewhat less sophisticated evaluations.

- *Question: Do specific initiatives exist in your jurisdiction to address the credit financing needs of SMEs by providing credit guarantees (and under what ownership are such initiatives)?*

Among respondent countries, 23 countries reported that at least one CGS exists in their jurisdiction and 22 provided a detailed questionnaire response (excluding the United States). Regardless of the specific legal aspects surrounding the management of CGSs, for the purposes of the present synthesis report all CGSs are considered to be "publicly supported" in the sense that they serve a valid public interest. Reflecting this interest, they are supported by public authorities in a variety of ways, either through special regulatory treatment granted, direct regular financial contributions, the provision of counter guarantees or financial contributions in exceptional circumstances (see also Honohan, 2010). However, legal ownership and management characteristics vary from one CGS to another; some are publicly owned and managed, some privately, and there are public-private initiatives as well.

- *Question: What particular identified weaknesses are targeted by the CGS?*

SME credit markets are typically considered to be characterised by market failures and imperfections, including information asymmetries, inadequacy or lack of recognized collateral, high transaction costs for small-scale lending, and perceptions of high risk, all of which lead to suboptimal allocation of credit. As shown in Figure 10, SMEs failure to provide sufficient bankable collateral was the most frequently reported identified weakness targeted by CGSs in the OECD/EC survey. Lack of sufficient collateral can be specific to certain firms or to firms in specific sectors, it can result from the lack of an adequate type of collateral (immovable versus movable), or it can represent a *general* lack of sufficient collateral. Besides the lack of sufficient collateral, "Inadequate skills for producing financial statements of the quality and detail required by lenders" and "Lack of transparency or sufficient historical data to arrive at standard credit risk assessments" were also marked by some respondents as identified weaknesses targeted by the CGS.

- *Question: Following the beginning of the global financial crisis, were changes to the existing CGS made (e.g. to their objectives) or new ones introduced?*

Following the beginning of the global financial crisis, volumes of guaranteed loans have increased in many countries (e.g. OECD, 2016). In addition to volume changes, the design of some credit guarantee programmes has also been changed. In particular, 17 out of 29 responses reported that programmes have been modified in response to the global financial crisis. The most commonly reported changes included: i) increasing the capital of the CGS; ii) broadening the set of companies eligible for the guarantee; iii) introducing new guarantee products; iv) temporarily increasing the cap on guarantees; and v) launching a new CGS or similar arrangement. For example, in the United Kingdom, the Enterprise Finance Guarantee (EFG) was launched in 2009. In France, two CGSs were set up in 2008 to specifically address the issue of short-term credit constraints facing SMEs. An overview of a range of policy measures taken in different countries to improve SMEs' access to finance is provided in Table 1.20 of the OECD Scoreboard 2016 (OECD, 2016). To summarise, CGSs were used in many countries as a countercyclical policy tool.

- *Question: As regards the success of the CGS in addressing identified market failures, has any evaluation of the CGS ever been conducted?*

Twenty-nine different CGSs are covered by the survey. Among these, 21 were subjected to a cost-benefit analysis. CGSs that have never been subject to an evaluation include CGSs in the Czech Republic, Spain, all five CGSs in Greece, and one Italian CGS (ISMEA). Respondents reported that they lacked adequate data, faced "difficulty in conducting the analysis", or quoted the lack of a legal requirement as the reason for not considering a cost-benefit analysis. The remainder of this Section presents a synthesis of responses provided in 23 answers covering 21 CGSs.¹

- *Question: What SMEs, meeting either specific criteria in terms of characteristics or sectors, are covered by the evaluated CGS arrangement?*

Criteria for the types of SMEs covered by the evaluated CGS differ from country to country.² That said, the evaluated CGS typically provides support to enterprises that meet a specific size criterion, while sectoral characteristics tend to be less relevant. In particular, SMEs are most often eligible for CGS support due to their size in terms of employment, turnover or balance sheet size. In fact, a combination of the three size criteria is provided by the EU definition of SMEs. This definition is used by the largest number of respondents as the criterion to identify the types of SMEs covered by the CGS.³ By contrast, the evaluated CGSs do not differ much in terms of which specific sectors are covered, such as manufacturing, services, export-oriented, high-tech, research, etc. Many evaluated CGSs cover all sectors, although several do not cover the agricultural sector, where separate support arrangements exist.⁴

- *Question: What forms of support are granted by the evaluated CGS?*

CGSs make support available to SMEs by providing: i) partial individual guarantees; ii) full individual guarantees; iii) overall guarantees to loan portfolio; or iv) guarantees under specific programmes. The most common forms are partial individual guarantees (Figure A.1). CGSs in some countries, including Canada, Estonia, Japan, Korea and Lithuania have also provided full individual guarantees. The Estonian, Italian (SGS), Mexican, Portuguese and Swiss CGSs provide overall guarantees to loan portfolio.

- *Question: What is the frequency of evaluations?*

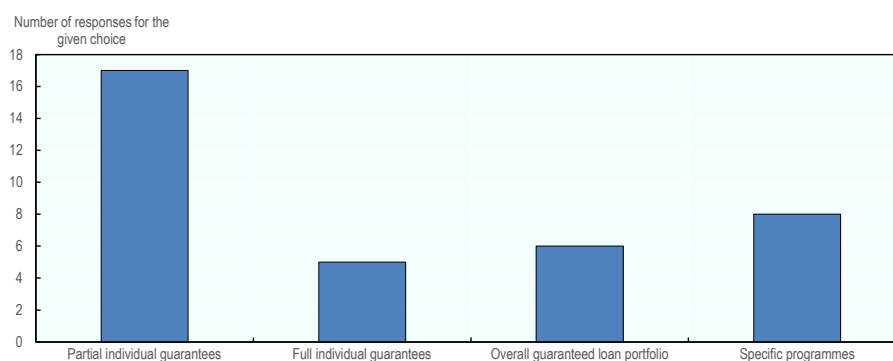
About half (13 out of 24 responses) of the assessments, including the one from the United States, are reported to be part of evaluations carried out on a regular basis. Another five responses are part of evaluations performed on an irregular basis (Figure A.2). Eight

assessments however constituted one-off evaluations. Thus, not all evaluated CGSs are being evaluated periodically.

- *Question: Who commissioned and conducted the evaluations?*

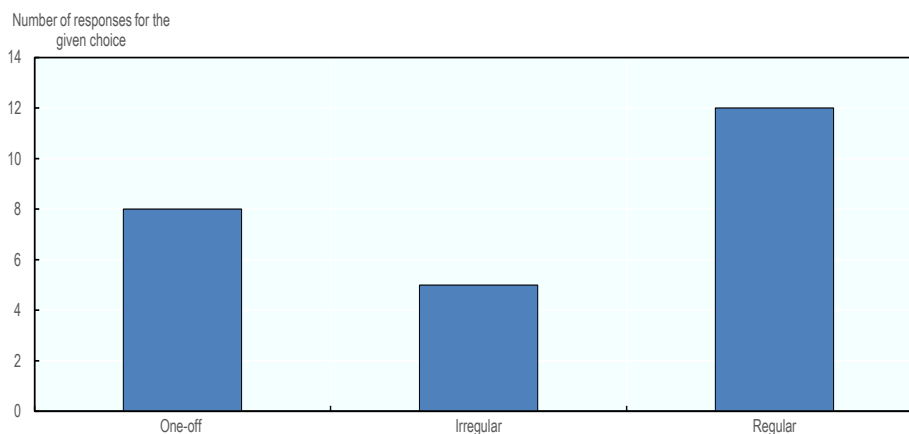
Figure A.3 shows that in most cases the government commissioned the evaluation, either alone or in collaboration with partners (in 16 out of 23 cases). In the remaining seven cases either the CGS, research institution, or central bank initiated the evaluation itself, or commissioned the evaluation jointly, without directly involving the government. The most common answer to the question regarding who conducted the evaluation was that the study was undertaken by a research institution, university or independent researcher. Another, although somewhat less common response, was that the entity being evaluated undertook the evaluation itself, i.e., a self-assessment was /carried out.

Figure A.13. **Forms of support granted by the evaluated credit guarantee scheme?**



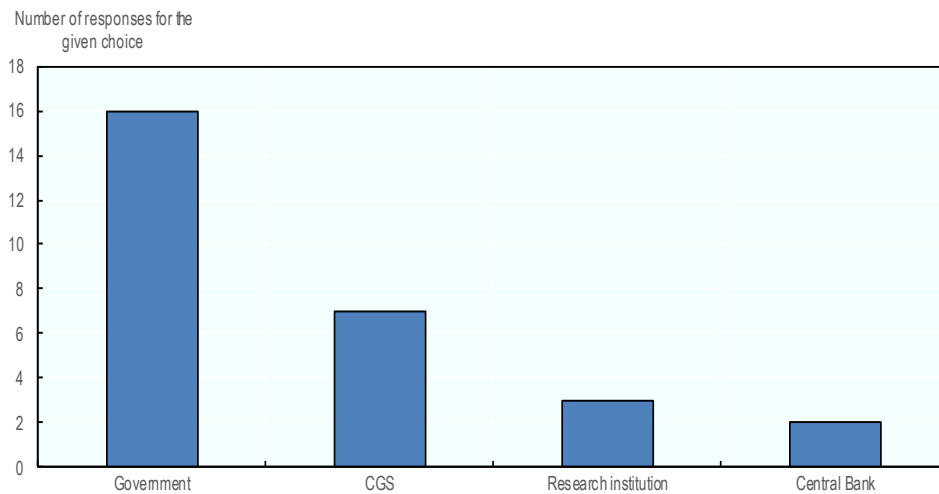
Note: Number of responses for the given choice. Multiple choices were allowed.

Figure A.14. **Frequency of evaluation**



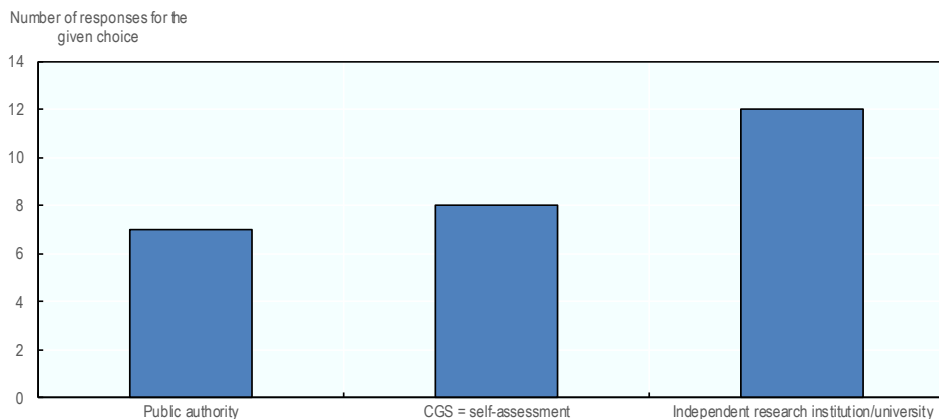
Note: Number of responses for the given choice. Multiple choices were allowed.

Figure A.15. Who commissioned the evaluation?



Note: Number of responses for the given choice. Multiple choices were allowed.

Figure A.16. Who conducted the evaluation?



Note: Number of responses for the given choice. Multiple choices were allowed.

- *Question: Against which of the objectives (financial sustainability, financial additionality or economic additionality) was the CGS evaluated?*

The performance of a CGS is typically evaluated against one or more of three types of objectives (e.g. OECD, 2013b), which are: (i) financial additionality, (ii) economic additionality and (iii) financial sustainability. Financial additionality refers to the potentially improved access to credit of eligible SMEs and/or reduced borrowing costs as a result of CGS activities. For example, it can be measured by incremental credit volumes due to the guarantee programme or by the difference between the cost of the subsidised loan and the cost of borrowing from the market in the absence of the existence of the programme (or, if possible, by the amounts or costs of beneficiary as opposed to non-beneficiary firms). Economic additionality refers to the macroeconomic welfare-increasing effect of the programme, typically captured empirically by the number of jobs generated and/or maintained as a result of the activity of the CGS. As discussed in more detail in the next Section, such concepts are difficult to estimate in practise. Financial sustainability refers to whether the programme is sustainable in a self-financing manner

or if it relies on continuous public support. For example, financial sustainability can be judged by comparing the fees collected by the CGS with its claims paid, which should match in the long run. Most evaluations are conducted against the objective of "financial additionality" or "economic additionality" (16 and 15, respectively), while "financial sustainability" is considered in less than half of the evaluation studies (9 out of 21 responses received in response to this specific question). 12 out of 22 evaluations assess the activity of the CGS against more than one objective.⁵ Six of these 12 evaluations consider all three objectives.

- *Question: What has been the outcome of the evaluation regarding the performance of the CGS (positive, mixed and rather positive, mixed and rather negative or negative)?*

Four options were offered (with one choice allowed), which included "positive", "mixed and rather positive", "mixed and rather negative", and "negative". 14 out of 23 evaluations concluded that the outcome was "positive" and another nine evaluations concluded that the results were "mixed and rather positive". None of the evaluations considered the CGS performance to be either "negative" or "mixed and rather negative".

- *Question: What type of data and approaches were used in the cost-benefit evaluations (with sub-questions distinguishing as to the level at which the analysis was conducted, e.g. firm-level, etc.)?*

Figure A.5 shows that firm-level data is widely used in the cost-benefit evaluation of CGS activities. In fact, firm-level data is considered as part of the empirical analysis in 17 out of 23 evaluations. In the case of eight of these 17 evaluations, data was considered for both SMEs benefitting from support and those that do not. In all eight studies, it was feasible to distinguish whether or not an SME benefitted from support which, in principle, enables the evaluation to be based on the construction of a valid counterfactual. In nine of 17 evaluations, however, a distinction between beneficiary and non-beneficiary SMEs was not feasible because either only data for supported SMEs was available (four cases) or data for both was available covering both beneficiary and non-beneficiary SMEs, but it was not possible to discriminate between the two groups (five cases).

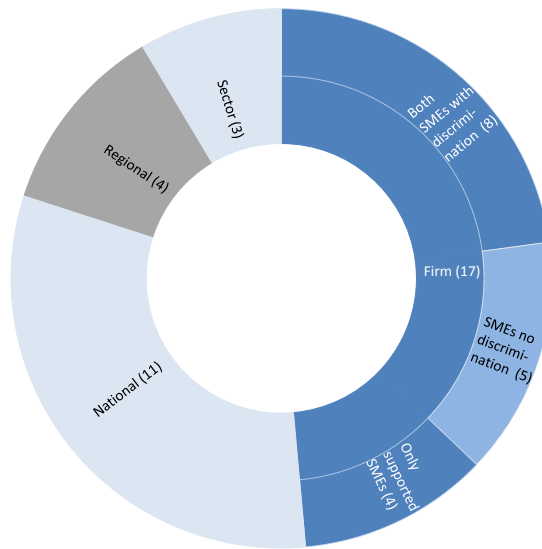
Out of the 23 evaluations, 17 used both primary and secondary data. Primary data is obtained as part of regular data collection. Administrative databases are the most common source for secondary data but commercial datasets are also used. The vast majority of evaluations apply either a quantitative analysis or a combination of quantitative and qualitative analyses. Most evaluations carry out analysis at the micro level using firm-specific data (Figure A.6). The second most common approach to evaluations is to combine micro data with data collected at a more aggregated level, i.e., either at the macro-level or at the CGS level.

- *Question: If the analysis was conducted i) at the level of the guarantee arrangement (i.e. considering data describing the guarantee arrangement itself) or ii) at the level of SMEs or the wider economy, what factors were considered in the evaluation?*

Respondents were invited to specify what factors, i.e., what specific types of variables, they considered in their cost-benefit evaluation (with multiple choices allowed). Depending on the level of aggregation of the data used (i.e. firm-level data versus data collected at the macro level or at the CGS level), different sets of multiple choices were offered as part of the questionnaire. Table A.1 and A.2 list the factors and number of responses identifying the respective factor considered in their evaluation. Table A.1 refers

to data collected at the CGS level (operating results) or at the macro level. It shows that the most widely considered factors are the number and amount of newly guaranteed loans. Losses on guarantees (amounts paid out to lenders) are also widely considered in the evaluations, as well as the number and amounts of guaranteed loans outstanding. By contrast, operating profits and the return on assets at the level of the CGS are rarely considered as factors in the analysis.⁶ Table A.2 refers to data collected at the firm level. It highlights that the most widely considered factors when using firm-level data include employment, the amount of bank debt, investments, the probability of default, growth, turnover and sales.

Figure A.17. Level and type of data used for the cost-benefit analysis



Notes: Multiple answers were allowed. Numbers of responses for the given choice are in parentheses. "Both SMEs with discrimination" = data are available for both SMEs that benefitted from support and those that applied for, but were not granted, support. "SMEs no discrimination" = data are available for SMEs, but without discriminating whether they benefitted from support or not. "Only supported SMEs" = data are available (only) for SMEs that benefitted from support.

Figure A.18. Level of data used in the cost-benefit analysis

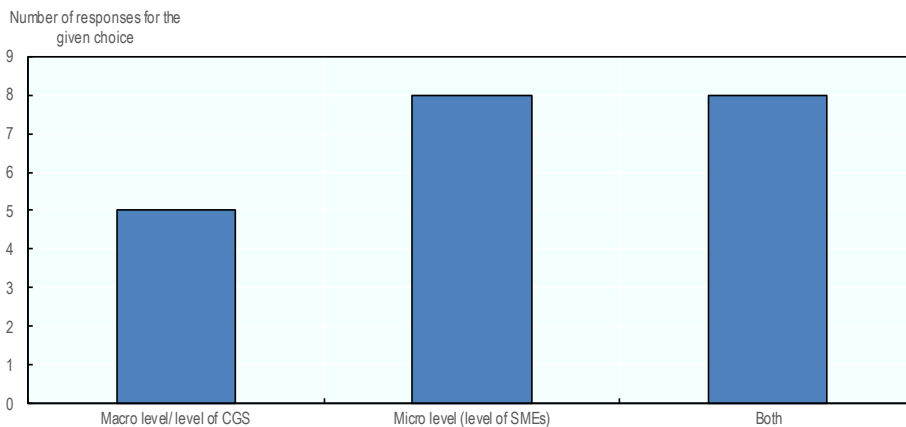


Table A.1. Factors considered in the cost/benefit evaluation (where data is collected at the level of the CGS)

Category	Factors	Number
(1) Operating results of CGS	New guaranteed loans (amounts)	14
	New guaranteed loans (number)	14
	Guaranteed loans outstanding (amounts)	11
	Guaranteed loans outstanding (number)	11
	Claim expense payments	9
	Return on financial investments	6
	Return on assets	3
	Employment	8
	Personal income, wages, salaries	6
	Number of firms	11
	Recovery	8
	Operating profits	4
	Cost-of-fund measures	2
	Losses on guarantees (amount paid out to lenders)	12
	(2) Contributions to operating cost of CGS	Public sector contributions to funding
Private sector contributions to funding		7
Public sector guarantees or counter-guarantees to loan arrangements		10
(3) Potential effects of CGS activity at macro level	On SMEs, e.g. SMS's growth, employment, etc...	11
	On economy, e.g. GDP growth, export performance, etc...at macro level	8
	1 2 3 4 5 6 7 8 9 10 11 12 13 14	15

Note: Multiple answers were allowed.

Table A.2. Factors considered in the cost/benefit evaluation (where data is collected at firm level)

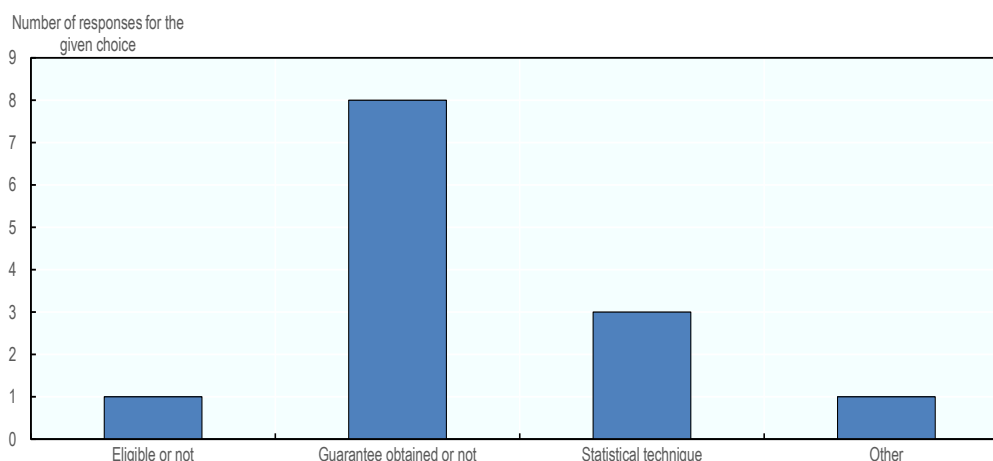
Category	Factors	Number
(1) Potential effects of activity of guarantee arrangement on SMEs	Amount of bank debt	11
	Amount of total debt	6
	Share of long-term debt	4
	Cost of credit	7
	Investments	11
	Total assets	7
	Employment maintained or created	13
	Growth performance	10
	Turnover	10
	Sales	9
	Probability of default	12
	Other, especially measures of moral hazard	1
	(2) Potential effects of CGS activity on economy	On economy, e.g. GDP growth, export performance
	1 2 3 4 5 6 7 8 9 10 11 12 13 14	15

Note: Multiple answers were allowed.

- *Question: Does the evaluation approach measure the counterfactual? If so, what technique is used to divide the sample into the treated group and the control group (so as to allow for measurement of the counterfactual)?*

Counterfactual analysis provides an answer to the question of what would have happened to the programme participants had the programme not existed. Constructing the counterfactual typically implies considering two groups of firms. The two groups should ideally be identical in all respects except that one is "treated" (i.e. benefitting from the guarantee) and the other is not (i.e. not benefitting from the guarantee). By comparing characteristics of the two groups before and after treatment, one can infer the effects of the guarantee on these specific characteristics. Put simply, when firms in the two groups are identical before the treatment, any differences in characteristics after the treatment can be attributed to the treatment, i.e., the provision of a credit guarantee. 13 out of the 23 evaluations include efforts to measure the counterfactual. Figure A.7 shows that the most frequently used technique to divide the sample of SMEs into treatment and control groups is the criterion of whether the SME obtained a guarantee or not. In the case of three evaluations, the treatment and control group are divided by using robust statistical techniques.

Figure A.19. **Technique adopted to divide the sample of SMEs into treatment and control groups**



Notes: Multiple answers were allowed. i) "Eligible or not": SMEs in the treatment group are those eligible for support by the CGS, SMEs in the control group are those not eligible. ii) "Guarantee obtained or not": SMEs in the treatment group obtained a guarantee from a CGS, SMEs in the control group did not receive any guarantee. iii) "Statistical technique": Treatment and control groups are built by means of robust statistical techniques. One response identifies "other", noting that suggesting the estimation methodology was too complex to fit any of the more traditional categories already specified.

- *Question: Does the assessment evaluate the adequacy of the premium received by the CGS (e.g. if the collected premia are sufficient to cover CGS expenditures)?*

According to survey responses, 11 out of 23 evaluations assessed the adequacy of the premium received by the CGS (which could be received either from the SME or from the bank that extended the credit). Evaluations that report assessing the performance of the CGS against the objective of financial sustainability should be expected to have assessed the adequacy of the premium. In fact, 16 out of 23 pairs of responses are fully consistent, i.e., they responded that they had either evaluated both the performance of the CGS

against the objective of financial sustainability and the adequacy of the premium charged, or neither of the two. That said, four respondents reported that the evaluation considered the adequacy of the premium, but it had not conducted against the objective of financial sustainability; two respondents reported that the assessment was conducted against the objective of financial sustainability, although without assessing the adequacy of the premium.⁷

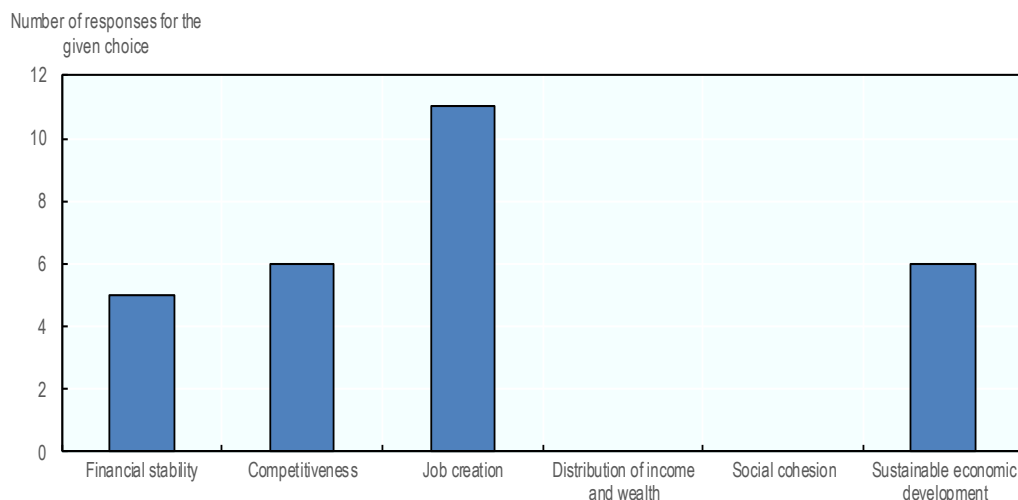
- *Questions: In addition to assessing to what extent a CGS has been successful in effectively overcoming identified market failures, was the broader impact of the CGS on the attainment of a wider set of public policy goals evaluated? How did the evaluations establish how the CGS contributed to that goal?*

Eleven out of 23 evaluations also assessed the broader impact of credit guarantee arrangements on the attainment of a wider set of public policy goals. In particular, the contribution of CGSs to job creation was considered in many cases. Also, respondents reported that the effect of CGS activities on financial stability, competitiveness and sustainable development were assessed (Figure A.8). By contrast, no evaluation considered the effect of CGS activities on either distribution of income and wealth or social cohesion. Obviously, measuring the attainment of such broader policy goals is difficult, and more challenging than the evaluation of the effect of CGS activities on some of the factors considered in Tables A.1 and A.2.

- *Questions: Have the results of the evaluation been used for operational decisions?*

The majority of the respondents reported that the results of the studies on the performance of CGSs have been used for operational decisions. In particular, evaluation results provided guidance with regard to the design of the regulatory framework surrounding the CGS, induced the government to increase the capital of the CGS, or contributed to refocusing its strategy, influenced the design of new programmes, induced the CGS to review its methodology of evaluating borrower creditworthiness, helped the CGS developing new products, or induced a diversification of CGS activities across segments and sectors.

Figure A.8. **Broader impact of evaluated CGSs on wider set of policy goals**



Note: Multiple answers were allowed.

Annex notes

1. In the case of both Portugal and the United Kingdom, two different evaluations of the same CGS were covered by two separate questionnaire responses.
2. This variation can be due to the differences in definition of SME across countries, the differences in the eligibility criteria for credit guarantees, or differences in the focus of the evaluation studies.
3. The EU defines an enterprise as an SME if: the staff headcount is lower than 250 and, either turnover does not exceed EUR 50 million or the balance sheet total does not exceed EUR 43 million.
4. For example, in some countries, there are specific loan guarantee programmes to support primary agricultural businesses.
5. Only 22 (rather than 23) answers were received to this question.
6. Respondents were also asked to identify whether factors were considered either as costs or as benefits, but the interpretation of responses received is complicated by apparent inconsistencies in most of the answers. Some respondents failed to provide information on whether the marked factor is a cost or a benefit, some marked both.
7. One additional respondent only provided a response to one of the two questions.

Evaluating Publicly Supported Credit Guarantee Programmes for SMEs

This report examines the approaches adopted in 23 OECD and EU countries for evaluating the performance and cost-effectiveness of publicly supported credit guarantee programmes for SMEs.

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