# Credit Guarantee Schemes Supporting Small Enterprise Development: A Review

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**Abstract:**

Access to finance has become increasingly difficult, particularly for new and service-based industries without tangible assets to use as security. Globally, credit guarantee schemes (CGS) are seen as important instruments to facilitate achievement of national economic goals, as they enable entrepreneurs to gain access to finance for venture creation and development. We reviewed CGS literature between 1990 and early 2011. We discovered largely descriptive studies on the various conditions of the guarantees, and considerable research gaps. The desirability of CGS appears to be assumed whilst measurement of CGS performance provides ambiguous results. We recommend research in a variety of areas including: identification of factors that minimise risk, the impacts of varying risk sharing ratios, unintended CGS consequences, reporting the social dimensions, valuing intangibles, default rates in Asian countries, and collateral in a knowledge based economy.

**Keywords:** Micro-finance, Loan Securitisation, Small Enterprise finance, Loan Guarantee, Credit Guarantee, Collateral, Micro-credit

**JEL Classification:** G200, G220, G280

## 1. Introduction and background

Small and medium-sized enterprises (SMEs) play an important role in developing and developed economies as they create new business, increase employment opportunities, develop innovative product ideas,

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and raise productivity (Nitani & Riding, 2005). “SMEs represent 99% of enterprises around the world and account for more than half of all private sector employment in the OECD countries” (CPA Australia, CGA, & ACCA, 2009b, p. 8). Their role and need for support in funding has been recognized by Governments globally who have introduced a variety of initiatives including credit guarantee schemes (CGS).

We define a CGS as any formal scheme whereby an independent third party provides an effective guarantee to lenders. Three parties are involved: a borrower who lacks collateral, a lender providing the loan or overdraft facility, and a guaranteeing agency (O’Bryan, 2010).

Boocock and Shariff (2005, p. 428) describe CGS as schemes where

> ...financial institutions are encouraged to make loans available to smaller enterprises, on the understanding that a government or quasi-government body will reimburse a percentage of the loan should the firm default.

CGS started in the Philippines in 1952, followed by Indonesia, Malaysia, Pakistan, Korea, Taiwan, Zimbabwe, Sri Lanka and Peru in the 1970’s and Chile, Colombia, India, and Thailand in the 1980’s (Levitsky, (1997a). Accordingly, Asian countries have had a long experience in operating CGS. Access to SMEs finance is difficult and “unsecured lending is the area that has been most squeezed” particularly since the 2008 global financial crisis (CPA Australia et al., 2009a, p. 13). In response to the 2008 financial crisis, 19 of the 23 countries within the Organisation for Economic Co-operation and Development (OECD) developed policies to create or extend CGS to improve SME access to liquidity (Uesugi, Sakai, & Yamashiro, 2010).

The services sector accounts for seventy-five percent (75%) of small businesses in the major industrial countries (CPA Australia et al., 2009a), and as such, their major assets are intangible. When finance shortages are experienced, “intangibles such as goodwill, cash flow and profitability no longer cut the grade as quality assets” (CPA Australia, 2010, p. 20). Historically, perceived risk has been seen as the main deterrent to banks’ lending to SMEs (Eyiah, 2001; Levitsky, 1997b; Nigrini & Schoombee, 2002). Reported high failure rates (Kang & Heshmati, 2008) and perceived intrinsic high risks associated with SME lending, further exacerbate financial institutions’ reluctance (Eyiah, 2001).

Reviewing the CGS literature is important to identify key issues for future research and provide wisdom borne of experience for potential adopters. In this paper we provide our review of CGS literature. In so doing we discover: Why nations adopt CGS to support business activities; the usual conditions of CGS borrowing; and insights into CGS performance.

## 2. Method

The CGS literature is somewhat fragmented across the fields of economics, finance, entrepreneurship, and government policy. Several different terms are used to describe CGS including: 'loan guarantees', 'loan insurance', 'credit enhancement', 'securitisation' and 'collateral schemes'. Accordingly, thirteen search terms were used in multiple combinations to capture the existing literature. The terms were derived at four levels:

i. Terms to exclude not-for-profit organisations - business, firm and enterprise.
ii. Terms to exclude large organisations - micro, small and small and medium sized.
iii. Terms to reflect the nature of the lending - loan, overdraft, credit, finance.
iv. Terms to reflect the securitisation of the lending - guarantee, collateral, security.

From the years 1990 to early 2011 we gathered 101 papers to review. We used content analysis to identify common themes from the papers. In addition, we classified the 40 papers that reported original empirical studies, according to their major focus.

The numbers of published papers rose sharply in the five years from 2005 to 2009 (see Table 1). For the year 2010, the number of papers published further exceeded the number published in any preceding year. This reflects the growing importance of CGS in supporting the operations of SMEs.

Within the first two months of 2011, three papers were published, of which two provided experiences of emerging nations. One reviews the operation of CGS in the Middle East and North Africa (Saadani, Arvai, & Rocha, 2011), and the other discusses the role of Government in India (Jahanshahi, Nawaser, Khaksar, & Kamalian, 2011). The third article, provides an analysis of Taiwanese guarantee fees based on insurance valuation techniques (Kuo, Chen, & Sung, 2011).

Table 1: Published Papers

| Year(s) | Number of papers | Average per year | Comment |
|---|---|---|---|
| 1990 - 1999 | 14 | 1.4 papers | None in 1998 |
| 2000 - 2004 | 22 | 4.4 papers | |
| 2005 – 2009 | 42 | 8.4 papers | 16 in 2009 |
| 2010 | 20 | 20.0 papers | |
| 2011 (early) | 3 | | First 3 months |
| | Total = 101 | | |

The 101 papers (Table 1) included reports, conference papers, working papers, and theses, in addition to academic journals. Of the 101 papers, 83 were drawn from 59 peer reviewed journals (Table 2). The most frequently sourced journal was *Small Business Economics.*

Table 2: Journal sources

| Number of articles | Academic Journal |
|---|---|
| 12 | Small Business Economics |
| 6 | International Small Business Journal |
| 4 | World Development |
| 4 | Journal of Financial Stability |
| 2 | Development Southern Africa |
| 2 | The Financier |
| 53 | Other journals (one article per journal) |
| Total = 83 | Total number of journals = 59 |

The 59 journals provide differing perspectives of CGS including economics, SME support, finance, social development and alleviation of poverty. We noted that 54 countries are reported to have used CGS (Table 3).

Uesugi et al. (2010) claim CGS have been adopted in at least 100 countries, but unfortunately, they provide no details. The global spread of CGS, embraces both developing countries (e.g. Bangladesh and Bolivia) and developed countries (e.g. France and Germany).

## 3. Literature

This section discusses major themes: multiple objectives, risk sharing, and the performance of CGS. We conclude by classifying the 40 empirical studies.

Table 3: Countries reported to have used Credit Guarantee Schemes

| | | |
|---|---|---|
| Argentina | India | Poland |
| Austria | Indonesia | Portugal |
| Bangladesh | Ireland | Romania |
| Belgium | Italy | Scotland |
| Bolivia | Ivory Coast | Senegal |
| Burkina Faso | Japan | Slovakia |
| Canada | Khula | Solvinia |
| China | Korea | Spain |
| Columbia | Luxembourg | Sri Lanka |
| Conakri Guinea | Madagascar | Switzerland |
| Denmark | Malaysia | Taiwan |
| Ecuador | Mexico | Trinidad & Tobago |
| Egypt | Morocco | Tunisia |
| France | Netherlands | Turkey |
| Germany | Nicaragua | United Kingdom |
| Greece | Pakistan | United States of America |
| Honduras | Peru | Zambia |
| Hungary | Philippines | Zimbabwe |

### *3.1 Multiple objectives*

In his report to the United Nations Development Programme, Burritt (2003, p. 6) discusses finance initiatives (of which CGS is but one), and suggests some may have been “shallow programmes designed to win political favour.” He believes they are now focussed on assisting commercially viable enterprises. CGS objectives differ from country to country (Nitani & Riding, 2005). We classify the objectives at macro or micro levels:

At a macro level, CGSs are designed to assist in achieving national policy goals including:

- Welfare and stability of society (Kang & Heshmati, 2008).
- Job creation and retention (Riding & Haines, 2001).
- Accelerating economic growth and decreasing unemployment (Kang & Heshmati, 2008).
- Reducing poverty generally (Roodman & Qureshi, 2006) or selectively, through the expansion of tiny informal sector income-generating projects (Bateman & Chang, 2009).

- Correcting imperfections in the market for small business loans (De la Torre, Martínez, & Schmukler, 2010).

All these initiatives are intended to assist targeted economic activities. Some are specifically directed towards particular communities or types of investment. For example, agriculture, artisans (De Gobbi, 2003), environmentally friendly investments (Leistner, 1999), and manufacturing (Boocock & Shariff, 2005).

Typically, a government passes its CGS initiative to a Ministry in charge of economic and social development; and sets aside funds to support guarantees for loans made to 'disadvantaged' entrepreneurs (Honohan, 2010). The Ministry may administer the funds itself or appoint another agency to do so. For example, in Malaysia, the Credit Guarantee Corporation guarantees the return of lending by other financial institutions to SMEs (Conroy, 2003).

At a micro level CGS are intended:

a) To assist borrowers by:
   - Increasing loan availability to SMEs (Nitani & Riding, 2005).
   - Ensuring new business formation, development and expansion (Levitsky, 1997b; Nitani & Riding, 2005; Roodman & Qureshi, 2006).
   - Improving access to finance for SMEs (Beck, Klapper, & Mendoza, 2010).
   - Reducing costs of borrowing (Beck et al., 2010).

b) To provide incentives for lenders by:
   - Encouraging financial institutions to lend to SMEs, which are unable to provide adequate collateral or do not have financial records to prove their creditworthiness (Nigrini & Schoombee, 2002).
   - Diversifying risk across lenders (Beck et al., 2010).
   - Overcoming information asymmetries by involving guarantors in the application and monitoring processes (Beck et al., 2010).
   - Allowing lenders to shift loan recovery risks to guarantors (Levitsky, 1997b).

A common theme is lender reluctance, particularly in developing countries:

> Hardly a conference or meeting on SMEs takes place, anywhere in the developing world, where there is not a litany of complaints from representatives of small businesses and from public officials condemning the reluctance of most commercial banks to lend to SMEs (Levitsky, 1997b).

Yet, the majority of national CGS operate through commercial banks (Beck et al., 2010). CGSs must overcome banker reluctance to provide support to the SMEs. The literature identifies a number of perceived deterrents that may explain banker reluctance to lend to SMEs, including risk, collateral and cost:

a) Risk
   - Lack of reliable risk measures (Boocock & Shariff, 2005; Kang & Heshmati, 2008).
   - Little or no credit history (de la Torre et al., 2010)
   - Few or no reliable records (Boocock & Shariff, 2005).

b) Collateral
   - Lack of or inadequate collateral (Eyiah, 2001).
   - Reduced borrower repayment commitment, as a consequence of the limited liability CGS provide (Cowling & Mitchell, 2003).

c) Cost
   - High costs, and conversely, low returns (Boocock & Shariff, 2005; Nigrini & Schoombee, 2002).
   - High transaction costs for relatively small loan amounts that are below banks' normal lending thresholds (Beck et al., 2010; Boocock & Shariff, 2005).

CGSs provide collateral as compensation for potentially uncertain loan repayments (Boocock & Shariff, 2005), and CGS also provide safety nets for lenders whilst they "learn more about SMEs, their problems and their operations" (Levitsky, 1997a, p. 5). Overall, CGSs differ according to their objectives and community needs as perceived by particular governments. An implicit underlying assumption appears to be that CGSs finance to SMEs assists capacity building, whilst maintaining or stimulating business environments. In attempting to do so, governments tend to take on the major burden of risk.

### *3.2 Risk sharing ratios, premiums and fees*

Risk sharing ratios differ from country to country. Their rationale is uncertain and appears to depend on the relative negotiating skills of bankers and of credit guaranteeing agencies. Often risk is shared on the basis of 80% guarantee from the funding agency and 20% on the part of the lending bank (Nigrini & Schoombee, 2002).

Table 4: Risk Sharing: guaranteed portion under a scheme

| Country | Agency Guaranteed portion | Lender Risk portion |
|---|---|---|
| Japan | 100% | 0% |
| United States | 90% | 10% |
| South Africa | 80% | 20% |
| Malaysia | 70-90% | 10-30% |
| Indonesia | 70% | 30% |
| Egypt | 50% | 50% |

The 100% portion borne by the Japanese CGS (Uesugi et al., 2010) removes all risk to lenders. We suggest such an approach may reduce lender incentive to adequately screen potential borrowers. The United States' 504 scheme provides a 90% guarantee for the purchase of fixed assets (Davis & Moon, 1991). Risk-sharing conditions are negotiated between funders and lenders when the CGSs are set up, or arbitrarily determined by the initiating government. For example, in Malaysia the guaranteed portion is varied in accordance with government priorities (Boocock & Shariff, 2005).

Boocock and Shariff (2005) believe that a 90% guarantee is too high and propose a ratio of 80:20. Nigrini and Schoombee (2002, p. 743) prefer a 70:30 ratio but provide no rationale apart from stating "a minimum of 30 per cent of the risk [to the lender] appears to be a reasonable benchmark." This ratio is used in Indonesia (Kuncoro, 2008) where the CGS is operated through government banks, and all losses are borne by the State. Lower levels of guarantee (50-70%) are thought to ensure that lenders take 'reasonable measures' to manage and recover loans as needed (Freedman, 2004). Levitsky (1997a) considers a 50:50 risk sharing would be unattractive to lenders, but notes in Egypt it was successful when other financial incentives were also offered.

Generally however, the rationale underlying any specific risk sharing ratio is not discussed. Rather there seems to be some practice of benchmarking against other countries, regardless of appropriateness. For example, in a report for the World Bank on CGS in ten countries in the Middle East and North African region, Saadani et al. (2011) note that risk sharing ratios are in line with international practice. Yet, they suggest risk sharing ratios should be linked to perceived business risk and not operate as flat rates for all businesses. Overall, there appears to be agreement that part of the responsibility of managing loans should be borne by banks. We suggest, further research should be undertaken to ascertain how the various parties are affected by risk sharing ratios and what factors are taken into account during negotiations (if any negotiations actually take place).

Extra safeguards may be implemented to cover risks of lending to people with little collateral. In this situation some lenders require borrowers to take out insurance policies against loan default (Roodman & Qureshi, 2006). Others require personal items, such as jewellery and household appliances, as collateral (Burritt, 2003). Further, a premium may be applied to interest rates. For example in Malaysia that premium is between 3-5% (Boocock & Shariff, 2005) and in Canada it is 3% (CPA Australia et al., 2009a). Often, the borrower is required to pay an application fee. For example in Japan 1% of the loan amount is charged (Uesugi et al., 2010) and in Australia a 2% 'registration' fee is charged (CPA Australia et al., 2009a). We believe these extra SME charges are unfair, particularly when CGS collateral is provided.

In Malaysia, Korea, and Taiwan, 'guarantee fees' vary according to 'borrower credit' rating, whilst in Hungary, fees are based on a combination of 'borrower credit' rating and loan risk rating (Saadani et al., 2011). A South African CGS requires owners to make 'contributions' but with a special twist! Borrowers have to pay 1% of the loan amount as an application fee and may have to put in 10% of funding – depending on race. Under this scheme, banks apply to the guaranteeing agency on behalf of borrowers (Nigrini & Schoombee, 2002). Whilst this enhances lenders control of their risks, it may also provide opportunities to use guarantees to cover risky loans. Monitoring or regulations need to be in place to ensure lenders do not profit at the expense of borrowers.

### *3.3 Performance*

Government provided CGSs have been widely accepted as desirable, yet, they have not been "fully evaluated, thus it is difficult to identify best practice" (CPA Australia, 2010, p. 13). Meyer and Nagarajan (1996) suggest performance measurement is thwarted by limited clarity regarding: desired outcomes, research methods, and measurement techniques. For example, outcomes are often expressed in general terms, such as "a positive impact on social welfare" (de la Torre et al., 2010, p. 347). Uesugi et al. (2010) suggest there has been little analysis undertaken at firm level. They point out that when new business is generated, no prior-guarantee-period data is available, making it impossible to ascertain tangible CGS-related firm improvements.

Usually CGS performance is evaluated through two measures: default rates and job creation rates. Riding and Haines (2001) estimate that from 1992-1999 the Canadian Small Business Loan scheme average default cost was $2,000 per job created. They conclude that CGS are an "extraordinarily effective means of stimulating job creation and assisting small firms to survive and grow" (Riding & Haines, 2001, p 611). In the US, Craig, Jackson, andThomson (2008) indicate that increased employment occurs principally in low income areas. By contrast, a Korean study concludes that employment did not increase (Kang & Heshmati, 2008).

CGS performance may be inhibited by borrower reluctance. Some SME operators seem to be put off by the CGS application process and unaware of its high applicant success rate (ACCA & CBI, 2011).

> The process of seeking financing can demand many hours of management time, preparation of extensive documents, market or other research to justify risks and satisfy financial institutions and investors (CPA Australia et al., 2009a, p. 6).

Some SME operators believe that CGS are costly (Garcia-Tabuenca & Crespo-Espert, 2010). Some consider debt too risky (Haque & Harbin, 2009). Others lack awareness and interest as in the United Kingdom only 48% of SMEs were aware of their government's CGS initiatives and only 21% were aware of the European Union CGS (ACCA & CBI, 2011). Lack of knowledge and interest in available CGS on the part of the SMEs is disconcerting (Levitsky, 1997a) and could contribute to disappointing outcomes for schemes.

An evaluation of developing country schemes conducted by Meyer and Nagarajan (1996) led them to *suspect* that CGS have a history of collapse. It seems CGS can generate positive short-run outcomes for SMEs, but their long-term developmental outcomes are debatable (Bateman & Chang, 2009). For example, the 1998-2001 Japanese CGS resulted in no overall increase in SMEs loans as banks 'misused' it to substitute their non-guaranteed loans for guaranteed loans (Uesugi et al., 2010). Apparently appropriate measures were not in place. CGSs require monitoring to ensure they are administered for their intended purpose.

In Canada, Germany, Holland, Japan and USA default rates range from a low 2.2% to 6% (Nitani & Riding, 2005). By contrast the UK CGS experienced a default rate of 15% (Nitani & Riding, (2005). We recommend further research to ascertain the underlying factors that contribute to varying default rates in various countries and default rates in Asian countries.

Research suggests that CGS have increased the total availability of finance to SMEs (Boocock & Shariff, 2005; Honohan, 2010; Oh et al., 2009; Riding, Madill & Haines 2007; Uesugi et al., 2010). Research is needed to investigate claims of unintended CGS consequences:

- That CGSs mitigate the exit of inefficient firms (Camino & Cardone, 1999).
- That higher interest rates result in firms undertaking riskier projects (de la Torre et al., 2010; Uesugi et al., 2010).
- That firms use loans to cover operating losses (Uesugi et al., 2010).

And so, support for CGS continues. Some researchers argue that CGSs are preferable to providing lenders with cheap, subsidized funds (Levitsky, 1997b; Vogel & Adams, 1997). Future research could explore CGSs costs and benefits in terms of economic and social development.

### *3.4 Empirical Studies*

This section reports our classification of the CGS paper focus from the 40 original empirical studies, which consist of 28 academic articles, seven government or quasi-governing agency reports, and five others (including working papers and conference papers). Table 5 classifies these works under five topic areas.

The focus of research has been upon measuring CGS outcomes. Little attention has been cast toward lender costs and the perspectives of borrowers. Research into the development and design of CGS is generally prepared for organisations, such as the World Bank. We find discussion in academic literature is relatively undeveloped and tends to focus on measuring outcomes of CGS. Single-country analysis has been conducted in six countries of Southern and South-East Asia - India,

Table 5: Empirical Studies of Credit Guarantee Schemes

| Focus | Journal articles (name of first author only) | | Report prepared for an agency e.g. World Bank | | Others e.g. Conference or working paper |
|---|---|---|---|---|---|
| Design and descriptions of scheme | Honohan (2010)<br>De Gobbi (2003)<br>Haque (2009)<br>Kuncoro (2008) | Leistner (1999)<br>Levitsky,(1997a & b)<br>Nigrini (2002)<br>Nitani (2005) | Beck (2010)<br>Burritt (2003)<br>Conroy (2003) | Freedman (2004)<br>Rocks (2010)<br>Saadani (2011) | O'Bryan (2010) |
| Cost of CGS | Camino (1999)<br>Nigrini (2002) | Vogel (1997) | | | |
| Perspective<br>(a) borrowers<br>(b) lenders<br>(c) agency | (a)<br>Boocock (2005)<br>Garcia-Tabuenca (2010)<br>(b)<br>Cowling (2003)<br>de la Torre (2010) | (c)<br>Davis (1991)<br>Jahanshahi (2011)<br>Nigrini (2002)<br>Ong (2010)<br>Shim (2006) | | | |
| Underlying theories & theory development | Craig (2008)<br>Eyiah (2001)<br>Honohan (2010) | Nigrini (2002)<br>Nitani (2005) | Khandker (1998) | | Bateman (2009)<br>Meyer (1996)<br>O'Bryan (2010) |
| Measurement of outcomes | Boocock (2005)<br>Cowling (2003)<br>Craig (2008)<br>Gurses (2009)<br>Haque (2009)<br>Honohan (2010)<br>Kang (2008)<br>Kuo (2011) | Levitsky (1997a & b)<br>Nitani (2005)<br>Oh (2009)<br>Ong (2010)<br>Riding (2007)<br>Uesugi (2010)<br>Zecchini (2009) | | | Olu (2009) |
| Number of papers | 28 | | 7 | | 5 |
| Asian studies (south & south-east) | India - Jahanshahi (2011)<br>Indonesia - Kuncoro (2008)<br>Japan - Uesugi (2010)<br>Korea - Kang (2008) and Oh (2009)<br>Malaysia - Boocock (2005) and Ong (2010)<br>Taiwan - Kuo (2011)<br>Asian - Shim (2006) | | Bangladesh - Khandker (1998)<br>Asian - Conroy (2003) | | |

Indonesia, Japan, Korea, Malaysia and Korea. Four academic articles have focused on outcomes in Korean and Malaysia.

In summary, the literature focuses on banker reluctance to lend to SMEs, purported economic benefits of supporting SME finance, and 'benefit measurement' difficulties. Much of the literature provides descriptions and objectives of the terms and conditions of various CGSs. Practical advice is provided in government or World Bank reports which focus on CGS set up and implementation considerations. Most of the literature accepts without question that CGSs are both desirable and necessary.

## 4. Discussion and Recommendations

Generally CGSs are implemented by local governments to enhance social and economic development. CGS assistance provides opportunities for human development – such as job creation and enhanced self-respect. Whilst the schemes enable certain disadvantaged entrepreneurs to obtain formal business loans, this brings challenges. Haque and Harbin (2009), question whether those who require CGS loans have sufficient social relations, self-confidence, and assets to provide loan collateral. Accordingly, CGS staff at the Grameen Bank "work as constant cheerleaders" for borrowers (Haque & Harbin, 2009, p. 9). By contrast, those operating in Zambia tend to focus on ensuring that repayments are met as agreed. (Siwale & Ritchie, 2010).

CPA Australia (2010, p. 13) notes that CGS predominately "are designed to solve immediate liquidity issues only, and have a limited life." Due to the short term, target-driven nature of CGS, it is difficult to map the feature of schemes over time and across countries. Additionally, there is limited discussion in the literature regarding the assumptions underlying the provision of support through CGS. Two writers identified assumptions that underlie CGS. Arun (2005) notes that micro-financing institutions assume the poor need access to credit, not cheap credit. Whilst Acs (2010) argues that enhanced credit equity is needed. A welcome and refreshing addition to the literature would be a robust discussion regarding the impact of CGS access to finance, including an examination of assumptions underlying such initiatives.

In many countries CGS are provided alongside other SME incentives including subsidies, grants, taxation deferrals and concessions. Boocock and Shariff (2005) suggest high risk activities should be supported and encouraged by incentives such as grants or equity contributions, rather than by CGS. They believe such incentives would be less costly to set-up, operate and manage. Taxation deferrals and concessions could operate through existing taxation authorities and agencies. Incentive regulations could be established by governments through normal legislative processes, without alterations to extensive agreements necessary to operating CGS.

The move from industrial and technological based economies, to knowledge economies, shifts the emphasis from tangible products to intangible products. This shift brings a corresponding increase in reliance on knowledge as the principal asset for many SMEs. Presently, intangible assets and products are not considered adequate collateral. It seems a lender mindset change is required (Levitsky, 1997b). We encourage research into a broader range of collateral alternatives and risk minimalisation strategies. The early financial supporters of firms such as Microsoft and Google had to wrestle with such issues, but, what a pay-off!

Globally, CGSs are being used to support SMEs in different situations. For example, the 2007-13 European Union Competitiveness and Innovation Framework Programme, offers CGS to SMEs to encourage new businesses and to stimulate economic growth (European Community, 2011), and following the 2011 earthquake, the Japanese government, offered guarantees for small firms to borrow from commercial banks (Reuters, 2011). We contend that the importance of CGS will grow.

CGSs are deemed necessary to assist SMEs overcome limited finance availability, perceived risk, limited tangible collateral, changing global business environments, and tightening credit conditions. Freedman (2004, p 23) argues:

> Loan guarantees are an additional tool for building robust credit markets, and they will prove more effective when implemented together with technical assistance or policy reform that alleviates barriers to credit.

Research suggests suitable legal and regulatory frameworks are required to create business environments that are conducive to entrepreneurial efforts (Amorós, 2009; De Gobbi, 2003; Rocks, 2010). For example, in the Philippines, regulations had to be modified to allow banks to secure loans on clients' cash flow, rather than on traditional collateral (Conroy, 2003). CGSs need monitoring to check that national regulations are supportive, and to avoid unintended consequences.

Further, we recommend monitoring of CGS so that lenders may not unfairly profit through additional fees, high interest and loan premiums. These seem unnecessary for two reasons. CGS loans are guaranteed by governments and SMEs tend to be good payers. Strategies need to be developed to prevent the kinds of actions that occurred in Japan where banks used CGS to cover their existing non-guaranteed loans. Policies need to be in place to ensure that appropriate CGS performance measures, and adequate administrative monitoring, are in place to ensure CGS are being used for their intended purposes. Further, efforts are needed by policy makers to correct erroneous perceptions by SMEs that loan applications will most likely be rejected, and by lenders that without collateral SMEs are likely to default or default at a higher rate than 'normal' credit applicants.

Overall CGSs provide lenders with opportunities to enhance their client base, and potentially their reputations. Research suggests that on CGS completion, many clients remain with their CGS bank as commercial customers (Camino & Cardone, 1999). However, some governments did not provide adequate support when CGS loans defaulted (Levitsky, 1997a), thus placing pressure on financiers. This may be due to CGS design faults, or inadequate debt-collection and judicial processes – offering more room for future research.

A number of accounting issues are not discussed in the literature, such as: how CGS agencies can measure the value of their guarantee, and how stakeholders could report the social dimensions of CGSs? Further, at an operational level, there appears to be room for discussion regarding elements common to various schemes around the globe, such as: the level of contribution and fees to be borne by applicants and the proportions of guarantees to be borne by borrowers, guarantor agencies and lenders.

Additionally, further research is recommended to examine and better understand CGS effectiveness. For example, research to:

i. Ascertain how various parties are affected by risk sharing ratios and what factors are taken into account during negotiations (if any negotiations actually take place).
ii. Gather data on borrowers' and lenders' perspectives on CGS successes (and failures)

iii. Develop methods to evaluate intangible products and services for collateral.
iv. Ascertain setup costs, and operating agency costs, in CGS provision.
v. Measure the effects of CGS against their stated objectives.
vi. Examine and report unintended consequences as a result of CGS activities.
vii. Test the claims that
    a. CGS mitigate the exit of inefficient firms, and
    b. Higher interest rates in CGS result in borrowers undertaking riskier projects in comparison with non-CGS projects.

In our view, for the most part, the literature does not take a critical perspective. In the main, it provides descriptive case studies. Therefore, more empirical and independent critical research is required. Particularly, research into factors that minimise risk and maximise positive CGS impact (Beck et al., 2010). It would also be interesting to research the effects of long-term reliance on CGS. In so doing, researchers could develop reliable risk measures that protect all parties. Our review of 101 papers has provided a rich tapestry of various CGS operating around the globe. At the same time we note that these works generally are independently compiled with little debate between writers on issues we believe are important to the implementation and performance of CGS. Accordingly, our discussion has emphasised a need for further research for more informed strategies to be implemented by policy makers.

## 5. Conclusion

Our contribution is a review of the recent CGS literature to promote enhanced decision-making and public policy formation in Asia and the rest of the world. We find multiple objectives operate, at both the macro and micro levels. CGSs are used globally, and increasingly they are being used to provide support to developing small enterprises. Overall, CGS providers assume that increasing the access to finance is desirable for 'disadvantaged' SMEs.

A number of writers provide insight into the design and nature of schemes. However, CGS research and outcome measurements are inconclusive. In some papers ambiguous results are provided without supporting financial data. We do not find literature that compares CGS with other finance access schemes. Scheme input costs are only partially reported, and setup and operating costs are not discussed.

A new mindset regarding collateral is necessary for lenders offering finance to entrepreneurs' whose principal assets are intellectual capital. We see the move to knowledge based economies, with the production of many intangible products and services, will force a re-examination of traditional ways of assessing business risk. We recommend new ways of assessing risk via credit worthiness and the ability of borrowers to repay loans. More, and newer forms of, CGS may be necessary to enable entrepreneurs to access finance; along with new ways to measure and monitor CGSs costs, benefits and success, especially in terms of achieving national targets.

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