Identification and ranking of influential elements of credit guarantees on the customer's market expansion (Case study: Export Guarantee Fund of Iran)

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ABSTRACT

Economic growth and development of a country is dependent upon growth and development of the export department. Accepting the latter, it can be noted that advancement of exports on the one hand needs investment with the purpose of growth and variation in internal products and on the other hand learning about new markets and successful entry within them. This study is a combination of discrecolional and experimental research with causality determination. After review of theoretical aspects of the topic, experimental research in the past, theoretical grounds for the research methodology will be evaluated and modeling is used to calculate correlation between variables. Considering the goals of this research which is identification and ranking of influential factors and also provision of suggestions and practical techniques in this regard, the study is applied research and its method is causality determination and overall is a descriptive-survey study. Method of data gathering is literature review: data under consideration is extruded and evaluated from scientific articles, specialty books, related dissertations, bulletins of related organizations, specialized and scientifically reliable internet sites. In addition by presenting a new model in accordance with the present condition of the organization we are going to discover the closest credit guarantees model and affective factors on them. The proposed study uses factor analysis to extract the most influencing factors and the sample size has been chosen from exporters of Export Guarantee Fund of Iran. The questionnaire was designed in Likert scale and distributed among 311 exporters of Export Guarantee Fund of Iran. Cronbach alpha is calculated as %84, which is well above the minimum desirable limit of 0.70. The study investigates 32 factors and extracts six important ones, which export trends, interactive tools, exporting power, interactive trends, financial risks, and variation in internal products and on the other hand learning about new markets and successful entry within them.

INTRODUCTION

Export Guarantee Fund of Iran (EGFI): As export credit insurance company and one of the firms under the Ministry of Industry, Mine and Trade is responsible for protecting the country's exports and covers political and commercial risks of exporters of goods and services or ensures export credits granted by banks to exporters.

Export Guarantee Fund of Iran's efforts to provide liquidity and working capital for exporters are done, the issuance of credit and bank guarantees for exporters of goods and services. Export Guarantee Fund of Iran is one of the subsidiaries of the Ministry of Industry, Mines and trade with legal personality and financial independence was established in addition to covering the risks of political and trade exports, by issuance types of a credit guarantee, help exporters' financial requirements.

2. Research literature:
2.1. Theoretical foundations of organization citizenship behavior:

Export Guarantee organizations with covering commercial risks, by ensuring exporters to the banking system; help them meet their financial needs. These organizations, in addition to securing and facilitating the financing of export activities through the classification of countries in terms of risk, create a database and
dissemination of Exporters required information, use of the legal – economic facilities and ..., make develop in production - exports operations and protect national assets.

Ichiro Uesugi and et al [1] in an article entitled “The Effectiveness of Public Credit Guarantee in the Japanese Loan Market,” said credit guarantee programs exacerbate the problems related to " Moral hazard" in the credit markets, and this issue is higher for the companies solely financed by guarantee loans.

Generally, making trust in exporters, protection against commercial and noncommercial risks which are not insured by the general insurance companies, improve the competitive position of exporters in various fields, facilitate access to bank financing, facilitating export finance, getting commerce and credit information and political risks, are the major factors that justifying the existence of the export guarantee agencies. (Institute of economics, University of Tarbiat Modarres, 280: 1377)

Arito Onoa and et al [4] Export credit insurance agencies are organizations whose duty is to provide insurance coverage or guarantee for exporters, banks or investors against political and commercial risks which led to the loss in short, medium and long-term.

Stefan Arpingand et al [2], Public credit guarantee programs are commonplace: Gudger (1998) and Beck et al. (2008) document credit guarantee programsfrom both developing and developed countries all over the world. However, it is not clear a prioritathat guarantees necessarily increase welfare: for this to be the case, there must be a failure of private credit markets, and government involvement in credit markets must introduce fewer distortions than it resolves. Public support initiatives for entrepreneurs are unnecessarywhen private markets function effectively. A pre-condition forwelfare-increasing intervention is therefore that entrepreneurswith positive NPV investment opportunities be credit rationed. While the evidence on this point is mixed, a body of literaturesuggests that, in some circumstances, asymmetries of information between borrowers and lenders may restrict the flow of credit.

Thorsten Becka, andetal [3] discussed, credit guarantee schemes canemerge for three main reasons. First, informational advantages of the guarantor over the lender can help overcome information asy-metries and improve access to and/or reduce costs of borrowing of financing for certain borrower groups. Requiring guarantors fornew borrowers was one of the pillars for the success of the coopera-tive banking movement in Germany and other European countries in the 19th century. Second, guaran- tee schemes can help diversify risk across lenders with different sectoral or geographic specialization. Cooperative central banks, ascreted in several European countries, serve to insure individual cooperatives heavily invested in specific regions or sectors. Third, guarantee schemes can emerge to exploit regulatory arbitrage if the guarantor is not subject to the same regulatory requirements as the lender.

Stefan Arpingand et al [2]. Some evidence suggests that, if credit rationing is a prob-lem, it can be ameliorated by credit guarantees. Zia (2008) examines the consequences for Pakistani exporters of cottonyarn of their 2001 withdrawal from the state-sponsored ExportFinance Scheme. He finds that the consequence of this with-drawal was a significant reduction in exports by privatelyowned firms, while those of large publicly quoted exporterswere unaffected. Zia argues that this indicates first that privatefirms were credit rationed, and second that the credit guar-antee scheme reduced their rationing. Hancock et al. find evidence that loans guaranteed by the US Small Busi-ness Administration (SBA) between 1990 and 2000 were lessaffected by adverse economic shocks than non-guaranteed loans.

3. Research methodology:
3.1 Data collection and sample:

This study attempts to find the impact of credit guarantees on the customer’s market expansion. The proposed study uses factor analysis to extract most influence factors and sample size has been chosen from exporters of Export Guarantee Fund of Iran. The questionnaire was designed in Likert scale and distribute among 311 peoples. To analyze the data, descriptive statistics were used to sort the data in the second part of the data analysis is performed based on statistical inference. In this paper for analyze the data use from spss and Amos softwares. Factor analysis and structural equation analysis of the presumptive test was used.

3.2. Assessing reliability:

The reliability of the measurements in the survey was tested using Cronbach’s a. Hair et al. stated that a value of 0.70 and higher is often “considered the criterion for internally consistent established factors” . Cronbach alpha is calculated as 0.84, which is well above the minimum desirable limit of 0.70. The Cronbach’s a coefficients in parentheses indicating the internal consistency reliability of the measures (a = 0.847).

There are 32 variables and using factor analysis, We extract five factors where Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.70(Approx. Chi-Square= 3.066E3 df=496 Sig.= 0 / 0.00),which also confirms the results of our survey.
4. Analysis and results:

The proposed study designs a questionnaire and distributes it among 311 exporters of Export Guarantee Fund of Iran. Chronbach alpha is calculated as 0.84, which is well above the minimum desirable limit of 0.70. Chronbach alpha has been calculated as 0.847 and table 1 demonstrates the results.

Table 1: Reliability Statistics

<table>
<thead>
<tr>
<th>CRONBACHS ALPHA</th>
<th>CRONBACHS ALPHA BASED ON STANDARDIZED ITEMS</th>
<th>N OF ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>.847</td>
<td>.848</td>
<td>32</td>
</tr>
</tbody>
</table>

We extract factors where Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.78 (Approx. Chi-Square= 2.936E3 df=210 Sig.= 0 / 0.00), which also confirms the results of our survey. Table 2 demonstrates the results.

Table 2: KMO and Bartlett's Test

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>Bartlett's Test of Sphericity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approx. Chi-Square</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In this section, research data using scientific methods are investigated and they are analyzed in two parts. First, descriptive statistics are used to sort the data and then part of the data analysis is performed based on statistical inference. Factor analysis and structural equation analysis of the presumpptive test was used and the primary question is to find out about important factors influencing credit guarantees on the customer’s market expansion.

To answer the first question the exploratory factor analysis has been used. Table 3 and Table 4 present the results of analyzing the data.

Table 3: Descriptive Statistics

<table>
<thead>
<tr>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Std. Error</td>
</tr>
<tr>
<td>VAR00001</td>
<td>311</td>
<td>3.00</td>
<td>2.00</td>
<td>5.00</td>
<td>-5.35</td>
</tr>
<tr>
<td>VAR00002</td>
<td>311</td>
<td>3.00</td>
<td>2.00</td>
<td>5.00</td>
<td>-7.59</td>
</tr>
<tr>
<td>VAR00003</td>
<td>311</td>
<td>3.00</td>
<td>2.00</td>
<td>5.00</td>
<td>-6.16</td>
</tr>
<tr>
<td>VAR00004</td>
<td>311</td>
<td>3.00</td>
<td>2.00</td>
<td>5.00</td>
<td>.246</td>
</tr>
<tr>
<td>VAR00005</td>
<td>311</td>
<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-1.18</td>
</tr>
<tr>
<td>VAR00006</td>
<td>311</td>
<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-4.83</td>
</tr>
<tr>
<td>VAR00007</td>
<td>311</td>
<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-3.47</td>
</tr>
<tr>
<td>VAR00008</td>
<td>311</td>
<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-1.03</td>
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<td>5.00</td>
<td>-.532</td>
</tr>
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<td>1.00</td>
<td>5.00</td>
<td>-.513</td>
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<td>1.00</td>
<td>5.00</td>
<td>-.487</td>
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<td>1.00</td>
<td>5.00</td>
<td>-.891</td>
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<td>VAR00013</td>
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<td>1.00</td>
<td>5.00</td>
<td>.084</td>
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<td>-.181</td>
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<td>VAR00015</td>
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<td>2.00</td>
<td>5.00</td>
<td>.173</td>
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<td>1.00</td>
<td>5.00</td>
<td>-.380</td>
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<td>VAR00017</td>
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<td>2.00</td>
<td>5.00</td>
<td>.009</td>
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<td>VAR00018</td>
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<td>5.00</td>
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<td>5.00</td>
<td>-.895</td>
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<td>5.00</td>
<td>-.330</td>
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<td>VAR00021</td>
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<td>2.00</td>
<td>5.00</td>
<td>-.155</td>
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<tr>
<td>VAR00022</td>
<td>311</td>
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<td>1.00</td>
<td>5.00</td>
<td>.097</td>
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<td>VAR00023</td>
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<td>2.00</td>
<td>5.00</td>
<td>-.391</td>
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<td>5.00</td>
<td>-.711</td>
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<td>5.00</td>
<td>-.427</td>
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<tr>
<td>VAR00026</td>
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<td>1.00</td>
<td>5.00</td>
<td>-.193</td>
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<tr>
<td>VAR00027</td>
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<td>3.00</td>
<td>2.00</td>
<td>5.00</td>
<td>-.497</td>
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<tr>
<td>VAR00028</td>
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<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-.075</td>
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<td>5.00</td>
<td>-.258</td>
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<td>VAR00030</td>
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<td>1.00</td>
<td>5.00</td>
<td>-.407</td>
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<tr>
<td>VAR00031</td>
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<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-.290</td>
</tr>
<tr>
<td>VAR00032</td>
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<td>4.00</td>
<td>1.00</td>
<td>5.00</td>
<td>-.595</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>311</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4: Total Variance Explained

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total % of Variance</td>
<td>Cumulative %</td>
<td>Total % of Variance</td>
</tr>
<tr>
<td>1</td>
<td>6.02</td>
<td>18.839</td>
<td>18.839</td>
</tr>
<tr>
<td>2</td>
<td>2.41</td>
<td>7.539</td>
<td>26.378</td>
</tr>
<tr>
<td>4</td>
<td>1.79</td>
<td>5.597</td>
<td>37.977</td>
</tr>
<tr>
<td>5</td>
<td>1.49</td>
<td>4.674</td>
<td>42.651</td>
</tr>
<tr>
<td>6</td>
<td>1.40</td>
<td>4.380</td>
<td>47.030</td>
</tr>
<tr>
<td>7</td>
<td>1.37</td>
<td>4.288</td>
<td>51.318</td>
</tr>
<tr>
<td>8</td>
<td>1.22</td>
<td>3.816</td>
<td>55.134</td>
</tr>
<tr>
<td>9</td>
<td>1.16</td>
<td>3.626</td>
<td>58.760</td>
</tr>
<tr>
<td>10</td>
<td>1.06</td>
<td>3.338</td>
<td>62.098</td>
</tr>
<tr>
<td>11</td>
<td>1.00</td>
<td>3.125</td>
<td>65.223</td>
</tr>
</tbody>
</table>

Fig. 1 demonstrates Eigenvalues for each factor and a special agent with the highest value indicates that after four factors, the curve becomes smooth and we choose six factors for the proposed study.

Table 5: Interpretation of the results of the factor analysis

<table>
<thead>
<tr>
<th>Factor weight</th>
<th>Variable</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.656</td>
<td>Journeywork rate</td>
<td>Environmental Tools</td>
</tr>
<tr>
<td>0.582</td>
<td>Tax on deeds of the first kind</td>
<td></td>
</tr>
<tr>
<td>0.484</td>
<td>Customer credit risk</td>
<td></td>
</tr>
<tr>
<td>0.376</td>
<td>Export financing</td>
<td>Export procedures</td>
</tr>
<tr>
<td>0.692</td>
<td>Fund consultancy activities</td>
<td></td>
</tr>
<tr>
<td>0.362</td>
<td>The number of competitors in the market</td>
<td></td>
</tr>
<tr>
<td>0.387</td>
<td>Trends company exports</td>
<td></td>
</tr>
<tr>
<td>0.450</td>
<td>Fund officials working in the provinces</td>
<td>Export capabilities</td>
</tr>
<tr>
<td>0.414</td>
<td>The requested legal documents</td>
<td></td>
</tr>
<tr>
<td>0.7730</td>
<td>Duration export</td>
<td></td>
</tr>
<tr>
<td>0.747</td>
<td>The role of the government to help fund and raising capital</td>
<td></td>
</tr>
<tr>
<td>0.660</td>
<td>Export risks</td>
<td></td>
</tr>
<tr>
<td>0.700</td>
<td>Trends Fund interact with banks</td>
<td>Interactive procedures</td>
</tr>
<tr>
<td>0.626</td>
<td>Duration of Validation</td>
<td></td>
</tr>
</tbody>
</table>
However, they reject and accept of and ranking of each of the components of the customer’s market expansion. (see tables 6 and 7)

**Table 6: The summary of factor associated with the main hypothesis**

<table>
<thead>
<tr>
<th>The main hypothesis</th>
<th>P-value</th>
<th>Important coefficient based on MCDM</th>
<th>Important coefficient based on Structural Equation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time opportunities</td>
<td>P&lt;0.001</td>
<td>36%</td>
<td>83%</td>
<td>Confirmed</td>
</tr>
<tr>
<td>Export procedures</td>
<td>P&lt;0.001</td>
<td>19%</td>
<td>77%</td>
<td>Confirmed</td>
</tr>
<tr>
<td>Interactive procedures</td>
<td>P&lt;0.001</td>
<td>11%</td>
<td>76%</td>
<td>Confirmed</td>
</tr>
<tr>
<td>Financial risk</td>
<td>P&lt;0.001</td>
<td>5%</td>
<td>73%</td>
<td>Confirmed</td>
</tr>
<tr>
<td>Environmental Tools</td>
<td>P&lt;0.001</td>
<td>13%</td>
<td>87%</td>
<td>Confirmed</td>
</tr>
<tr>
<td>Export capabilities</td>
<td>P&lt;0.001</td>
<td>13%</td>
<td>74%</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

**Table 7: The summary of factor associated with Sub Hypothesis**

<table>
<thead>
<tr>
<th>Result</th>
<th>Important coefficient based on MCDM</th>
<th>Important coefficient based on Structural Equation</th>
<th>P-value</th>
<th>Sub Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>confirmed</td>
<td>%64</td>
<td>%0.11</td>
<td>P&lt;0.001</td>
<td>Journey work rate</td>
</tr>
<tr>
<td>confirmed</td>
<td>%38</td>
<td>%0.42</td>
<td>P&lt;0.001</td>
<td>Tax of Deeds of the first kind</td>
</tr>
<tr>
<td>confirmed</td>
<td>%36</td>
<td>%0.17</td>
<td>P&lt;0.001</td>
<td>Customer credit risk</td>
</tr>
<tr>
<td>confirmed</td>
<td>%26</td>
<td>%5</td>
<td>P&lt;0.001</td>
<td>Export financing</td>
</tr>
<tr>
<td>confirmed</td>
<td>Not confirmed</td>
<td>Not confirmed</td>
<td>.557</td>
<td>The number of competitors in the market</td>
</tr>
<tr>
<td>confirmed</td>
<td>35%</td>
<td>.008%</td>
<td>P&lt;0.001</td>
<td>The company exports</td>
</tr>
<tr>
<td>confirmed</td>
<td>%61</td>
<td>%0.46</td>
<td>P&lt;0.001</td>
<td>Fund officials working in the provinces</td>
</tr>
<tr>
<td>confirmed</td>
<td>%42</td>
<td>7%</td>
<td>P&lt;0.001</td>
<td>The requested legal documents</td>
</tr>
<tr>
<td>confirmed</td>
<td>%48</td>
<td>%8</td>
<td>P&lt;0.001</td>
<td>Duration of validation</td>
</tr>
<tr>
<td>confirmed</td>
<td>%54</td>
<td>4%</td>
<td>P&lt;0.001</td>
<td>The role of the government to help fund and raising capital</td>
</tr>
<tr>
<td>confirmed</td>
<td>44%</td>
<td>%0.11</td>
<td>P&lt;0.001</td>
<td>The fund interact with banks</td>
</tr>
<tr>
<td>confirmed</td>
<td>%47</td>
<td>%0.23</td>
<td>P&lt;0.001</td>
<td>Duration of validation</td>
</tr>
<tr>
<td>confirmed</td>
<td>%48</td>
<td>%0.23</td>
<td>P&lt;0.001</td>
<td>Fund personnel communication with the issuer</td>
</tr>
<tr>
<td>confirmed</td>
<td>%70</td>
<td>%0.27</td>
<td>P&lt;0.001</td>
<td>Damage and recovery processes</td>
</tr>
<tr>
<td>confirmed</td>
<td>%40</td>
<td>3%</td>
<td>P&lt;0.001</td>
<td>Legal Process</td>
</tr>
<tr>
<td>confirmed</td>
<td>%43</td>
<td>%0.11</td>
<td>P&lt;0.001</td>
<td>The working capital Current</td>
</tr>
<tr>
<td>confirmed</td>
<td>%45</td>
<td>%0.07</td>
<td>P&lt;0.001</td>
<td>Interest rate facilities</td>
</tr>
<tr>
<td>confirmed</td>
<td>%49</td>
<td>0.36</td>
<td>P&lt;0.001</td>
<td>Group risk country for foreign buyers</td>
</tr>
<tr>
<td>confirmed</td>
<td>51%</td>
<td>15%</td>
<td>P&lt;0.001</td>
<td>Outsourcing Collateral process</td>
</tr>
<tr>
<td>confirmed</td>
<td>%43</td>
<td>9%</td>
<td>P&lt;0.001</td>
<td>Validation of requested documents</td>
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<tr>
<td>confirmed</td>
<td>%30</td>
<td>12%</td>
<td>P&lt;0.001</td>
<td>Fund managers and personnel accountability</td>
</tr>
</tbody>
</table>

**Conclusions:**

Credit guarantee schemes have become the instrument of choice for policy makers to increase access to lending, especially for con-strained groups such as small or new enterprises. Little has been known, however, about how these schemes vary across countries. Our survey shows an important role of government in partial credit guarantee schemes around the world, but mostly limited to funding and management, and much less in credit risk assessment and recovery. This might be for the better, as we also find that where government is involved in credit risk assessment, default rates are typically higher. Older schemes are also more likely to be government funded and managed and also have higher loan losses, consistent with the notion that the costs and liabilities of a PCG fund become obvious only after some time. We find a surprisingly low incidence of risk-based pricing and limited use of risk management mechanisms. However, there are some indications that funds that take on more risk also compensate for this by better risk management. This paper has presented an
investigation to detect important factors influencing credit guarantees. The proposed study of this paper has extracted six important factors including export trends, interactive tools, exporting power, interactive trends, financial risk and time opportunities. In terms of Important coefficient, Environmental Tools is number one priority. Time opportunities is the second important on credit guarantees. The next factor Export procedures is number three priority.

REFERENCES