Bhagirath Prakash Baria\textsuperscript{1} and Ms Devanshi Mehta\textsuperscript{2}

\textsuperscript{1}Department of Banking and Insurance, Faculty of Commerce, The Maharaja Sayajirao University of Baroda  
\textsuperscript{2}Department of Business Economics, Faculty of Commerce, University of Baroda

May 16, 2024

Abstract

This paper examines three issues on the financial inclusion of SME firms in India and Indonesia while drawing meaningful comparatives. The first issue addressed in this paper is the extent of the SME financing gap wherein appropriate econometric exercises are conducted to model the potential demand for formal credit by the SME sector at the aggregate level. Thereafter, the wedge between the potential demand for credit and the actual consumption of credit is worked to arrive at alternative measures of the SME financing gap. The second issue is the assessment of how far the SME firms have been experiencing access to formal credit markets in India and Indonesia while digging into the comparative performance of both economies on this dimension. The third matter examined in this study pertains to the financial access constraint faced by SME firms both in terms of the unserved and underserved sectors. The Financial Access Survey of the International Monetary Fund, Global Enterprise Surveys for formal SMEs by the World Bank, and data from official agencies of India and Indonesia are taken into consideration. Both economies have displayed quite different dynamics in terms of the time path of the SME financing gap. With regards to the extent and constraint dimensions, there is a large scope to reach not only the unbanked SME firms but also those that are currently consuming sub-optimal quantum of credit.
Abstract

This paper examines three issues on the financial inclusion of SME firms in India and Indonesia while drawing meaningful comparatives. The first issue addressed in this paper is the extent of the SME financing gap wherein appropriate econometric exercises are conducted to model the potential demand for formal credit by the SME sector at the aggregate level. Thereafter, the wedge between the potential demand for credit and the actual consumption of credit is worked to arrive at alternative measures of the SME financing gap. The second issue is the assessment of how far the SME firms have been experiencing access to formal credit markets in India and Indonesia while digging into the comparative performance of both economies on this dimension. The third matter examined in this study pertains to the financial access constraint faced by SME firms both in terms of the unserved and underserved sectors. The Financial Access Survey of the International Monetary Fund, Global Enterprise Surveys for formal SMEs by the World Bank, and data from official agencies of India and Indonesia are taken into consideration. Both economies have displayed quite different dynamics in terms of the time path of the SME financing gap. With regards to the extent and constraint dimensions, there is a large scope to reach not only the unbanked SME firms but also those that are currently consuming sub-optimal quantum of credit.

Keywords: Development Economics; Econometrics; Finance Constraints; Financial Inclusion; Hodrick-Prescott filter; Regression; SME Financing Gap.

JEL Codes: C10, C50, E10, O10.
1. Analytical Background

The ability of firms to access finance provides the foundation for efficiently utilizing physical, human, and technological resources. Firms are production units engaged in transforming inputs into outputs to meet consumer demand within the market constraints facing them. One of the fundamental inputs in any production process is finance. Firms rely on reliable and affordable finance to fund their business processes and further expand their scale and scope of operations. This is particularly important for Small and Medium Enterprise (SME) firms as their ability to procure funds from the capital and money markets is very weak, given the nature of their operations and the scale constraints engulfing them.

The SME sector occupies a large proportion of industrial and agricultural production in emerging economies, including in India and Indonesia. Their contribution to the Gross Domestic Product (GDP) is also sizeable and particularly the employment dependency on this sector is large in emerging economies. This dual nexus of production-employment dependency on the SME sector necessitates their uninterrupted growth to enable the economic growth process inclusively. SME firms face several constraints in their quest to grow (World Bank Group, 2022). Issues ranging from production bottlenecks and corruption to financial resource constraints impact a very large proportion of these firms in emerging nations. Despite the concrete efforts of the policymakers to systematize this sector and enable it to grow unhindered by any structural constraint, there seems to be a large gap between what this sector needs to scale efficiently and the actual business environment surrounding it. One key constraint faced by SME firms across emerging economies has been access to formal finance (World Bank Group 2022; 2023).

Formal finance allows access to stable, reliable and affordable funds of which there exists a large dearth in the SME sector across the emerging world. In particular, the credit gap for the SME sector is still large and remains persistent despite a rich institutional environment being created in developing economies\(^1\). The persistent credit gap for the SME sector indicates the inefficiencies in the formal financial markets and perhaps the informal markets. Their inability to clear the market suggests a large scope for market corrections. In this context, policymakers have been playing a pivotal role in enabling the formal financial markets to improve their availability for the unserved and underserved sectors. SME firms occupy a large portion of these sectors. Hence, relying on pure market mechanisms to fund their credit gap has generally not been a successful strategy. The market mechanism plays a dual role in emerging economies concerning enabling access to finance. On the one hand, there is a large informal market for finance dominated by largely unregulated or under-regulated suppliers, there is also the formal market for finance driven by large financial institutions such as commercial banks which are actively regulated. The wedge between the institutional environments facing the informal and formal markets for finance has created frictions that are

\(^1\) Commercial Banks, Cooperative Banks, Non-Banking Financial Companies (NBFCs), and a host of other institutions have been built to meet the needs of the SME firms. However, the credit gap in emerging economies is still estimated to be more than US $ 2 trillion (Stein et al., 2010). Clearly, formal financial markets are unable to fulfil this gap under the present institutional arrangements. This explains, in part, the large dependency of SME firms on the informal sources of finance.
difficult to overcome unless optimal policy interventions are designed. A typical SME firm in an emerging economy like India or Indonesia remains under the tussle of seeking funds from the informal versus the formal markets. The necessity to choose between these two forms of financiers – the well-regulated formal financier versus the loosely regulated informal financier, is a critical barrier to the flourishing of a well-regulated finance source for SME firms.

SME firms are a diverse set of production units spread across heterogeneous industries and economic enterprises. Their contribution from both – the real and the monetary perspectives, remains important. They are a large source of employment in developing economies with more than 50% share in aggregate employment (World Bank Group, 2019; Amoah et al., 2022) and contribute more than a quarter of the Gross Domestic Product (GDP) in the upper-middle and lower-middle-income economies (International Finance Corporation, 2014). An inclusive and sustainable growth process needs to account for the growth of these firms, which are largely credit-constrained. Access to finance is essential for SME firms not only for sustainable survival in a competitive environment but also for a stable growth path over time. Scale expansion is a critical challenge and also a requirement for SME firms to continue their real and monetary contributions to expanding economies. However, scale expansion necessitates access to stable finance, i.e. finance where the flow of funds and the repayment of the liability are well-structured and free from uncertain shocks such as abrupt recoveries. Informal sources generally lack these important elements of stability and hence can cause financial stress for small-scaled firms. Access to formal finance is perhaps the only way in which the SME sector can experience a stable growth path and continue to play a pivotal role in the macroeconomic development of the economy.

With these fundamental ideas in the background, this paper presents a broad perspective on the status of three dimensions of the financial inclusivity for SME firms achieved in two of the leading emerging economies – India and Indonesia. The first dimension that is examined in this paper is the extent of differentials in the level of financial inclusion achieved by both these economies since 2004-05 when consistent time series data were available. The second concern is to assess the intensity of constraints faced by SME firms in accessing formal finance. The third and final aim of this note is to trace the policy responses to the ‘financial inclusion challenge’ being faced by the SME sectors in India and Indonesia while drawing comparatives on the policy responses to this challenge.

2. Exploring the SME Financing Gap in Emerging Economies

The primary reason that financial inclusion of SME firms has been a policy concern in emerging economies is due to the persistent SME finance gap\(^2\) despite active interventions to improve their access to formal credit markets (Stein et al., 2013). Theoretically, under competitive financial/credit markets for SMEs, market-clearing interest rates will prevail and supply shall equal the demand for finance (International Finance Corporation, 2017). However, when markets fail due to price distortions or due to non-price distortions such as information

\(^2\) A compact survey of the policy perspective on the concept of the SME financing gap is contained in Stein et al. (2010), and International Finance Corporation (2017).
asymmetries, there could be a wedge between the demand and supply forces causing a gap to arise.

Alternatively, one could conceptualize the financing gap in a state-space framework where a state of potentially better institutional and economic environments would have permitted higher consumption of credit, which could be termed as the potential demand for credit by the SME sector. Quantitatively, any form of economic gap measures the difference between the potential demand for a good (e.g., formal finance) and the actual demand for that good observed through actual data. The empirical challenge lies in locating the correct measure of the potential demand. Econometrically, this concept presents diverse approaches. The broad schema of the empirical strategies on this account is captured in Figure 1.

**Figure 1**: Summarizing the extant wisdom on the SME financing gap measurement

A large body of literature has evolved on how to estimate the potential values of an economic variable, such as potential demand or potential output, in the econometric literature. This literature is dispersed across voluminous articles in journals and handbooks. However, a broad schema of the kind of methods primarily employed is portrayed in Figure 1. There are at least three approaches on this account. The first is a qualitative method that either uses already available estimates of the SME financing gap or proposes the degree of the financing gap without engaging in estimating the extent of the gap. This approach is generally observed in narrative articles, exploratory notes and descriptive papers that provide an overview of this issue while not engaging in the empirics of the same.

The second approach is the econometric approach which engages in parametric estimation of the potential demand for SME finance, i.e., potential credit demand using linear and nonlinear methods. The linear methods employ some form of filtering techniques such as the Kalman filter or the Hodrick-Prescott filter to extract the potential demand for credit using actual credit data (OECD, 2019). Generally, the extracted values are the long-term trend values and these are assumed to proxy potential demand for credit. The ‘gap’ between these estimated trend values and the actual values are proxied for the financing gap. In time-series econometric framework, these are cyclical estimates of the credit disbursement to the SME sector. The

---

3 One of the most frequently employed and well-established estimate of the SME credit gap has been the US $2.1 – 2.6 trillion estimate of the IFC based on its Enterprise Finance Gap database. However, the database has not been updated since and the gap has only increased over time due to an enlarging SME sector and the continued informational asymmetries in the SME credit market between the formal lenders and the SME borrowers.
nonlinear methods are rarely used. Herein, the parameters of a well-defined credit demand function could be estimated nonlinearly using some form of nonlinear regression or other econometric method. The estimated credit demand would then form the potential demand and the ‘gap’ between these estimated values and the actual values would constitute the financing gap.

Finally, the more prevalent approach in the policy domain is the use of benchmarking whose compact survey is contained in International Finance Corporation (2017). Here, the credit consumption in a benchmark economic and institutional environment, generally from developed economies, is superimposed on the SME firms in emerging economies, to derive the potential demand for credit by the SMEs. The resultant estimates are compared with the actual demand for credit and the difference between both constitute the SME financing gap. Each of these three approaches has its own merits and problems. Assessing them in this paper will take the narrative beyond its scope.

The present section adopts three methods within the econometric method of filtering. The variable used is the outstanding loans to the SME sector as a proportion of GDP in percentage terms\(^4\). The first is a linear trend regression approach wherein the estimated linear trend is used as the projection for the potential demand for credit by the SME sector in India and Indonesia. The second is a quadratic trend regression approach wherein both the linear and quadratic trend variables are considered to proxy the potential demand for credit. The third and last approach is the celebrated and much-criticized Hodrick-Prescott filter to extract the long-term trend projection of potential demand for credit by SMEs. The equations underlying these three methods are explained below.

\[
CREDGDP_t^i = \beta_0 + \beta_1(t) + \varepsilon \quad \text{[1]}
\]

\[
CREDGDP_t^i = \beta_0 + \beta_1(t) + \beta_1(t^2) + \varepsilon \quad \text{[2]}
\]

Where ‘\(i\)’ is the economy under consideration at time ‘\(t\)’, \(\varepsilon\) is the white-noise residual term.

Equations 1 and 2 portray the underlying Data Generating Process assumed for estimating the potential demand for credit by SMEs as a proportion of the nominal GDP. The first equation incorporates only a linear trend while the second equation accounts for the endogeneity of potential credit demand to the time element itself, taking into account possible curvatures in the potential demand for credit over time. The third approach is to extract a trend component from the observed credit to the SME sector normalized for the nominal GDP. This is undertaken via the H-P filter method proposed by Hodrick and Prescott (1997). The H-P filter decomposes a given time series into a trend and a residual (generally termed as cyclical) components. The residual is what proxies the financing gap if the underlying variable is the actual credit consumed by the SME sector as is the case in this study. Equations 3 and 4 signify the H-P filter mechanism.

\(^4\) Literature has generally used the actual amount of loans outstanding to the SME sector rather than its proportion to the GDP. However, recent literature, such as Drehmann and Yetman (2018), has found several theoretical and methodological advantages of normalizing the data in order to lend them useful for cross-country comparisons. As this study engages in comparing both the Indian and Indonesian financing gaps for SMEs, normalization is necessary.
\[ Y_t = T_t + C_t \] ----[3]

Where \( Y_t \) is the outstanding loans to the SMEs as a proportion of nominal GDP, \( T_t \) is the estimated potential demand for credit as a proportion of the GDP, and \( C_t \) is the financing gap.

\[
\min_{\{T_t\}} \{ \sum_{t=1}^{t} (Y_t - T_t)^2 + \lambda (T_{t+1} - T_t)^2 \} \] ----[4]

As evident in Equations 3 and 4, the H-P algorithm extracts the potential demand for credit by minimizing a sum of two components, namely the deviation of actual credit from its trend as well as the curvature of the estimated trend. This trade-off is governed by the smoothing parameter \( \lambda \). Depending on the frequency of the time series data, the value of \( \lambda \) is specified. The higher this value, the smoother would be the estimated trend. The smoothing parameter is set to 100 adopting the traditional approach\(^5\).

**Figure 2**: Time path of the SME financing gap for India since 2004-05 under alternative econometric methods

![Figure 2](image)

**Note**: Variables gap_india_lin, gap_india_quad, and gap_india_hp represent the estimated SME financing gaps using the linear trend regression, quadratic trend regression, and the H-P filter methods respectively; Values are in percentage terms. **Source**: Authors’ estimation using the Financial Access Survey country-level data of the International Monetary.

Figures 2 and 3 provide the time-path of the SME financing gap emerging from the frictions of the formal SME credit markets in India and Indonesia. The dynamics of the SME finance/credit gap are widely different in case of both the economies. Figure 2 shows that the time-path of the gap is sensitive to the econometric method adopted. From the linear time regression perspective, the SME financing gap persisted till 2008-09 and thereafter re-emerged since 2016-17, between which the gap had become negative, signifying credit over-consumption. Based on the quadratic method, however, the timelines are shifted and it was till 2012-13 that the gap persisted but contracted and re-emerged twice thereafter; first in 2015-16 and then in 2020-21. Perhaps the COVID-19 pandemic hit the Indian SMEs hard and the re-emergence of the financing gap since then indicates strong challenges for the SME sector going forward in terms of financial inclusivity. From the H-P filter perspective, the dynamics are

\(^5\) There is a debate on the correct value for the smoothing parameter in annual data. See Razaak (1997), and Drehmann and Yetman (2018) for more details. This study has not delved into these important econometric debates and has adopted the traditional value of 100 which is a frequently employed value for the smoothing parameter in the literature.
widely different. Since 2010-11, the SME financing gap has persisted in India, while gradually increasing to 1% of the nominal GDP.

**Figure 3**: Time path of the SME financing gap for Indonesia since 2004-05 under alternative econometric methods

Note: Variables `gap_indon_lin` and `gap_indon_hp` represent the estimated SME financing gaps using the linear trend regression, and the H-P filter methods respectively; Values are in percentage terms. **Source**: Authors’ estimation using the Financial Access Survey country-level data of the International Monetary Fund (IMF).

Similarly, Figure 3 portrays the time path of the SME financing gap for Indonesia using two of the three methods. The dynamics represented in Figure 3 are at wide divergence with similar dynamics for India in Figure 2. Considerable breaks in the series are evident indicating fundamental regime shifts that could be taking place in Indonesia concerning the formal credit markets. From 2009-10, the finance gap has largely persisted in Indonesia while contracting till 2019-20, after which it has again emerged perhaps due to the adverse economic impacts of the COVID-19 pandemic. Evidence has pointed out that the pandemic was disproportionately harsher with the SME sector compared with the larger firms (Sarker et al., 2022; Yao and Liu, 2023). While the time-paths provide a visual perspective, Table 1 quantifies the estimates of the gap.

**Table 1**: Average SME financing gap as a proportion of nominal GDP for the period 2004-05 to 2022-23 under alternative econometric frameworks

<table>
<thead>
<tr>
<th>Economy</th>
<th>Linear Trend</th>
<th>Quadratic Trend</th>
<th>Hodrick-Prescott Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>0.69%</td>
<td>0.30%</td>
<td>0.48%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1.98%</td>
<td>-</td>
<td>1.61%</td>
</tr>
</tbody>
</table>

**Notes**: 1. For India, the linear trend regression coefficient is positive and statistically significant at a 1% level and estimated at 0.266; In the case of quadratic trend regression, the linear trend coefficient is 0.77 while the quadratic trend coefficient is -0.025, and both are statistically significant at 1%. 2. For Indonesia, the linear trend regression coefficient is negative and significant at a 1% level with a value being -0.31; In the case of the quadratic trend regression, the results are statistically insignificant. 3. Averaging has been performed only for the years where the gap was positive. **Source**: Authors’ estimations.

Table 1 indicates two important facts. First, the size of the financing gap differs depending on the econometric method employed. Second, Indonesia has experienced a larger SME financing gap as against India. Only a detailed empirical assessment of how SME financing gap is determined can rationalize this comparative analysis. However, it is clear that
the Indonesian policymakers are facing a much larger challenge of fostering financial inclusivity for SME firms. At the same time, they have a larger scope to expand the reach of financial services, particularly formal credit, to their SME sectors.

3. **Contrasting the extent of financial inclusion for the SME sector between India and Indonesia**

While the previous section laid a macro picture of the problem of financial exclusion facing India and Indonesia in terms of their SME sectors, a more granular view is necessary to derive concrete observations. This is undertaken in the following sections. One of the fundamental priorities in emerging economies that are experiencing rapid growth coupled with structural changes, such as frequent policy regime shifts, is to enable a stable growth trajectory. A stable growth process is necessitated to reduce the negative impacts of unforeseen shocks and macroeconomic vulnerabilities.

Generally, the weaker sectors are prone to the worst and deepest impacts from macroeconomic instabilities. SMEs occupy one such sector which remains vulnerable to macroeconomic uncertainties such as cyclical contractions. The ability of SME firms to absorb and overcome such challenges is in large part driven by the stability of their financial resources. With reliable, consistent and contractually well-defined financial arrangements with formal institutions such as commercial banks, SME firms can reduce uncertainties of accessing financial resources, can better plan their future business plans, bring stability in the production process, and ensure smooth repayments unhindered by abrupt repayment demands. These factors indicate that using formal finance can lead to better economic outcomes for the SME sector. Hence, this section looks at the extent to which the SME sector is using formal finance through the credit channel in India and Indonesia. The metric employed for this assessment is the outstanding loans of the SME sector from commercial banks as a proportion of the Gross Domestic Product (GDP).

---

6 Enabling a balanced and stable growth process requires the weaker and vulnerable sections to be able to offset negative impulses originating from macro instabilities such as growth shocks, international shocks via exchange rates, domestic labour market shocks, and others. SME sector is largely vulnerable to such events and its ability to absorb and overcome instabilities is in large part dependent on the stability of its financial resources. Accessing finance from formal markets can provide better stability than relying upon informal sources. This is in large part due to prudent regulatory mechanisms overseeing the formal financial sector as against the informal markets that are dispersed, disparate, and generally not monitored through active policy interventions.

7 A major issue in informal markets for finance is the lack of well-defined repayment structure. Theoretically, due to higher risks and volatility in the demand for informal finance, informal lenders may engage in abrupt repayment demands from SME borrowers to offset market volatilities facing them. However, formal institutions need to honour the pre-defined contracts and cannot engage in smoothing their risk by changing repayment schedules due to stronger regulatory oversight.
Figure 4 visualizes the extent to which the SME sector is financially included in the formal credit markets in India and Indonesia. The period of analysis ranges from 2004-05 to 2021-22 based on the availability of comparable data. The comparative representations are starkly different for both economies. While there is an increasing trend in the case of India, there has been a contraction of the extent of financial inclusion for the SME sector in Indonesia between 2009-10 and 2010-11. Since 2010-11, the momentum of financial inclusion again picked up but remained slower compared to the pre-2009 period\(^8\). Even in the case of India, the increasing trend has become range-bound since 2012-13, hovering from 6% to 8% of the GDP. Such a range-bound behaviour could indicate structural bottlenecks in the Indian economy that could be preventing the expansion of the SME credit market and hence a bridging of the MSME gap. In the case of Indonesia, the sudden contraction of this variable in 2009-10 could well be the aftermath of the Global Financial Crisis. However, the Indian economy seems to have remained immune to this event concerning the path of the SME sector inclusion into the formal markets. Since 2010-11, both economies have shifted to a fairly similar trajectory in terms of the extent of financial inclusion at the aggregate level\(^9\).

---

\(^8\) There is clearly an evidence of a structural change since 2009-10 in the extent of aggregate financial inclusion in Indonesia. Global financial crisis could have played a prominent role in this process. Empirical modelling of financial inclusion using this variable would necessitate accounting for this important structural change. Structural changes cause permanent shift in the path of a time series variable, causing a readjustment of the first and second moments of its distribution. This could perhaps lead to more complex changes in terms of shifts in the higher moments of distribution. Such complexities open up various possibilities of employing advanced time series modelling methods, which seem to be missing in the extant literature.

\(^9\) These observations pertain only to the aggregate level dynamics and overlook the richer and more complex micro level heterogeneities in the extent of financial inclusion for both these economies. Exploring micro dynamics would require large scale consistent unit-level panel data which are very limited. Databases such as the World Enterprise Surveys, for example, have limited cohorts of data resulting in smaller time series dimensions as compared to the cross-sectional dimensions. Hence, an analyst is inevitably redirected to aggregate-level analysis for exploring such dynamics.
4. Contrasting financial inclusion constraints for the SME sector between India and Indonesia

While the extent of financial inclusion at the aggregate level is indicative of the availability of formal finance for the SME sector, it masks important heterogeneities at the firm level. While sectoral dynamics indicate the outcomes emerging from the interactions of markets, institutions, and economic agents, the micro-level dynamics signify the more specific manifestations of financial inclusivity at the level of firms. Firm-level experiences are not only the empirical realizations of theoretical expectations but also the reflections of how the aggregate level dynamics manifest at the ground level. Hence, using the World Enterprise Surveys of the World Bank for 2022 for India, and 2023 for Indonesia, Table 1 looks at the extent of financial inclusion in terms of both the formal deposit and formal credit products.

While inclusion of the SME firms in the formal financial markets is a matter of concern for emerging economies, equally important is the degree of constraints faced by these firms in accessing formal finance. This dimension is captured by the incidence of firms that report facing constraints to formal finance as per the World Enterprise Survey rounds 2022 (for India) and 2023 (Indonesia). Constraints in accessing finance among the formal SME firms is another area of active research in recent times (Nizaeva and Coşkun, 2018).

Table 2: Financial inclusion and financial access constraints for SME firms

<table>
<thead>
<tr>
<th>Dimension</th>
<th>India</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extent of SME Financial inclusion (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possessing saving/checking account</td>
<td>89.15</td>
<td>82.10</td>
</tr>
<tr>
<td>Possessing ongoing loan/credit line</td>
<td>14.90</td>
<td>20.80</td>
</tr>
<tr>
<td><strong>Extent of SME Constraints to Financial Inclusion (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully Credit Constrained Firms</td>
<td>9.50</td>
<td>15.65</td>
</tr>
<tr>
<td>Partially Credit Constrained Firms</td>
<td>20.30</td>
<td>13.45</td>
</tr>
<tr>
<td>Credit unconstrained Firms</td>
<td>70.20</td>
<td>70.90</td>
</tr>
</tbody>
</table>

Source: Author’s estimation using firm-level data from the World Enterprise Surveys 2022 (India) and 2023 (Indonesia). For India, data on 6514 firms are used, while for Indonesia, data on 2779 firms are used.

The inability to access finance can prevent SME firms from reaching the threshold needed for transitioning to larger scales. Table 2 presents the manifestations of these two dimensions – namely the extent of financial inclusion of SME firms and the incidence of firms

10 Research in this area has not delved much deeper into estimating the threshold level of scales at which an SME firm would shift to large sector firms. While each country defines the size of the firms in its own ways, such as in terms of investments in fixed assets in India, from an economic point of view, the threshold level is not fixed and would be determined by many factors over and above the simple administrative definitions adopted by the Governments. This issue can be a fruitful area of further research from the policy angle.

11 Scale expansion is a necessity for SME firms to sustain and grow in an expanding economy. If an economy is experiencing expansion over time and the SME firms do not expand at least at the rate of economic growth, with time, they would relegate into even smaller scales of operations. One of the critical challenges facing policymakers in large emerging economies is to achieve inclusive growth. Inclusivity in a dynamic framework implies maintaining consistency in aggregate and sectoral growth rates. The SME sector needs to achieve expansion at least at the pace at which the economy is expanding to ensure its survival and prevent any further contraction in their existing scale.

10 11
facing constraints in accessing the same. This is depicted for both the Indian and Indonesian SMEs. Two dimensions of firm-level financial inclusion are portrayed as shown in Table 2. The first is the proportion of firms reporting to possess a savings account.

The first dimension may be termed as the deposit-side financial inclusion. The second is the proportion of firms reporting to possess an ongoing loan/credit line from a formal financial institution. This may be termed as the credit-side financial inclusion. The comparative dynamics on both fronts are different. On the deposit-side, Indian SME firms have a slightly higher inclusivity compared to the Indonesian counterparts. While on the credit-side, Indonesian firms have fared better. From a theoretical point of view, both forms of financial inclusion are necessary for optimal participation of the firms in the formal financial markets. However, accessing formal credit is a much more complicated process as compared to accessing deposit services, which are relatively easier to access. Moreover, banks undertake strict monitoring of credit disbursement process and assume risk while lending, which is not the case with opening deposit accounts. From that vintage point, it would be prudent to conclude that perhaps the Indonesian SME sector has fared better. However, one should also keep in mind the fact that the size of the SME sectors in both the economies is starkly difference with the Indian SME sector being much larger than its Indonesian counterparts.

From the perspective of constraints to formal finance, three manifestations are captured. The first is the incidence of firms reporting to be fully credit constrained. These firms are defined as the firms who, in the financial year previous to the survey year, did not use external sources of finance for short-term or capital investments or applied for a loan but the application was rejected. The second type of firms include those that are partially credit constrained. These are the firms that had access to external sources of finance but did not access the same due to reasons other than having sufficient internal capital. Finally, the third category of firms include those that did not access any external finance due to sufficient internal capital for both short-term and capital needs. Naturally, the first category of firms would reflect the most intense incidence of financial exclusion. On that front, larger proportion of SME firms in Indonesia have experienced financial exclusion. With regards to the second form of financial exclusion, Indian SME firms have experienced a higher incidence of the same compared to the Indonesian counterparts. Lastly, the third category of firms reflect lack of financial exclusion at least in terms of the willingness to access external finance. Both the Indian and Indonesian firms have fared fairly similarly on this dimension.

The Indonesian SME sector has experienced a larger degree of financial exclusion with 15.65% of firms reporting to be fully constrained while 9.50% of firms from India have reported facing similar constraints. Firms unable to access external finance not due to availability of sufficient internal capital but due to any other reason such as loan application being rejected or lack of awareness about the procedures of accessing external credit, indicate

---

12 In the World Enterprise Survey (WES) instrument, i.e. the structured questionnaire used by the World Bank, four options are permitted on this question. While the first three options signify the formal financial institutions like private commercial banks and government agencies, the last option is the ‘Other’ option. Here, one could argue that possessing a loan from an informal source could also be included in the measurement of financial inclusion. However, the proportion of such firms is very small in the WES sample and hence it can be safely ignored in making inferences about inclusion into the formal credit markets.
deeper problems in the interaction of the SME firms with the formal credit markets. When firms are in need of credit and are unable to access the same from formal sources, their operations are constrained leading to inefficiencies and higher reliance on riskier sources of finance. This problem seems to be prevalent more so in case of the Indonesian firms. The nature of SME firm financial exclusion is different in India as indicated by the fact that 20.30% of these firms are partially credit constrained as compared to the 13.45% firms reporting the same in Indonesia. Partial constraint in this case implies that firms that had access to external sources chose not to avail them due to any reason other than having sufficient internal capital. In other words, these firms were perhaps credit-starved but were not able to or were not willing to obtain the same from formal sources. A diverse spectrum of reasons could have caused this including lack of awareness, collateral requirements, higher dependency on informal sources, already high indebtedness leading to loan applications being rejected, among other relevant factors. On this front, Indian SME firms have shown a larger incidence of exclusion. Lastly, the firms that reported being credit unconstrained due to availability of sufficient internal finance. Interestingly, the incidence of firms on this account is fairly similar for both the Indian and Indonesian SMEs.

Why SME firms are either fully or partially credit constrained with reference to formal financial sources? An answer to this question needs an empirical exercise while accounting for several factors such as the age of the firms, ownership structure, their size, financial performance, having a deposit account, extent of innovations, sales, etc. While these factors are firm-specific, macroeconomic factors such as business cycles, economic growth, inflation, prevalence of macroeconomic imbalances such as unemployment, and policy shifts could also be playing a prominent role. Inevitably, only a sound empirical analysis can do justice to this questions satisfactorily.

While Table 2 has captured the extent of inclusion and exclusion as separate economic manifestations, Table 3 looks into the prevalence financial constraints for firms that already had access to finance at the time of the WES survey versus for firms that did not have access to formal credit. This would permit an assessment of how financial access is a barrier for firms conditional upon their already having previously accessed the same. Furthermore, it would also allow to gauge the extent of the SME sector which is unserved, i.e. not having a loan and also facing constraints in accessing finance from formal sources, and also the extent of the SME sector which is underserved, i.e. having a loan but still facing financial access as a constraint in operations.

---

13 Risk is involved in accessing finance from informal lenders. The repayment terms, repayment schedules, and related terms of the contracts can be subject to abrupt change due to volatility in the informal credit markets. Given that these lenders are not rigorously regulated unlike their formal sector counterparts, there is a higher possibility of unexpected changes in the loan arrangement that could be unfavourable for the borrowing firms. Moreover, in the event that the borrowing SME firm is unable to honour its financial obligations, recovery by informal lenders could be harsh leading to further socio-economic stress for these firms.
14 The present authors are already working on a larger paper that addresses exactly this question using firm-level data.
The first category of firms reflects the pure extent of financial exclusion on both the ‘access to finance’ and the ‘ability to access finance’ fronts. These are the firms that reported not having any formal ongoing loan and also reported finding access to formal credit markets a constraint in their business. Such firms are perhaps at the extreme ends of the financial exclusion spectrum. The second category of firms reflects that portion of the SME sector which is perhaps consuming a sub-optimal\(^{15}\) amount of formal credit. This is due to their inability to access finance despite having ongoing loans. If these barriers were to be lifted, such firms would possibly shift to higher credit consumption. This idea reflects the wedge between the potential credit demand and the actual credit demand, termed as SME financing gap, whose estimates were already presented in Section 2.

From the estimates in Table 3, it is evident that the size of the unserved SME sector in terms of access to formal finance is larger in Indonesia, while the quantum of the underserved sector is larger in the case of India. Both economies are facing very different policy challenges. Indonesia is faced with a more fundamental challenge of enabling a large unreached SME sector to consume formal credit. These are the New-To-Credit (NTC) firms. These firms are finding it hard to access formal credit and this could be due to multifaceted demand and supply side barriers. These may include limited awareness, poor balance sheets, weaker repayment capacities, scale barriers, lower profitability, information asymmetries between firms and banks, and a host of related issues. Enabling these firms to enter into the formal credit markets is a policy challenge as clearly, the existing markets have failed on this front. While the quantum of this problem is larger in Indonesia, the situation is not very far from the Indonesian context even in India. With 73.53% of firms being prevented from accessing formal finance in India, the Indian policymakers also have a long road to walk ahead to foster universal financial inclusion for the SME sector.

With regards to the underserved sector wherein existing SME borrowers have been facing access constraints to formal finance, clearly the quantum of the problem is larger in India. Perhaps, the policy push through innovative reforms and institutional configurations such as the Small Industries Development Bank of India (SIDBI) or the variety of policy

\(^{15}\) There is some evidence that the quantum of credit consumption and the growth of the SME firms are interlinked (Shinozaki, 2012; CDC Group, 2017). In particular, there seems to be a threshold beyond which credit access leads to retardation of growth for these firms. Too much credit too can create economic imbalances. Hence, policymakers need to create an institutional environment where the credit availability and more importantly credit consumption by the SME firms can be optimized rather than maximized. From a mathematical point of view, credit consumption is a constrained maximization problem, with constraints being the growth rate of the firm, its scale, and profitability.
schemes in India, are helping break the barrier of initial entry into the formal credit markets, there still exists large untapped opportunities to increase the credit consumption of existing SME borrowers in India. The situation in Indonesia, while relatively less worse, is still a matter of concern. Both the economies are facing similar problems in fostering the agenda of universal access to formal finance for the SME firms, but the nature and quantum of the problem is different. While India has a large untapped credit consumption which can readily be achieved by policy reconfigurations, Indonesia faces the challenge of breaking the barrier of initial entry for a large proportion of its SME firms. Financial exclusion for the SME sector is prevalent and large in both economies, nonetheless. Hence, an overview of the policy response so far is needed to assess the success of the Governments in both the economies on this front. The next section undertakes this task.

5. Conclusions

Both India and Indonesia have been aggressive in improving access to finance for their corporate sector. SMEs occupy a very large economic space in terms of share in both aggregate value-added and employment (Tambunan, 2024). Hence, enabling SME firms to access stable, affordable, and reliable finance can contribute to the overall development of an economy. SME firms are actively engaged in labour-intensive industries while also spurting innovations in diverse industries\(^\text{16}\). Access to finance remains a fundamental constraint for SME firms in scaling their operations, improving their fixed capital which is necessary for efficiency gains, and undertaking innovations (Ordóñez de Pablos et al., 2021) that are crucial for the overall productivity growth of a country. Both formal and informal credit segments have experienced market failure as the SME financing gap persists. This gap has either risen since the COVID-19 pandemic as in the case of India, or has begun expanding as is the case with Indonesia. Naturally, the failure of the credit markets has to be compensated by the concrete efforts of the policymakers. However, a prudent policy strategy needs to be grounded in facts rather than beliefs. This section highlights some of these facts which are derived from the previous analysis and draws some policy implications.

First, irrespective of the econometric method adopted, the SME financing gap has persisted and has shown a worrisome trend since the pandemic. In both India and Indonesia, this gap has expanded since 2020-21, indicating an intensification of constraints to accessing finance for formal SME firms. Policymakers need to work aggressively on stalling the growth of this gap while simultaneously working on stabilizing it to a tolerable level. A concrete implication of the analysis in section 2 is to achieve a range-bound behaviour in the SME financing gap. This would provide the Governments additional time to understand the source of this gap and perhaps address it with optimal structural changes in the economy.

Second, there has been a structural change in the time path of financial inclusion of SMEs in Indonesia since 2009-10. This has led to a permanent downwards shift in the path of financial resources being channelled to the SME sector. The Bank Indonesia needs to recalibrate its formal credit markets, in particular its commercial banks, so that larger resources

\(^{16}\) Global Enterprise Survey for India (2022) and Indonesia (2023) show that a sizeable proportion of SME firms are engaged in product and process innovations.
are channelled to the SME sector, thereby bridging the SME credit gap. In case of India, the financial resources being channelled to the SME sector has risen consistent but off-late, since 2012-13, has become range bound. There could be structural bottlenecks preventing an increase in the disbursement of formal credit to this sector. The Reserve Bank of India, the SIDBI and the Ministry of Micro, Small & Medium Enterprises (MSME) must undertake rigorous research on the causes of this range-bound behaviour in loans being given to the SME sector. This issue is also a fascinating area of study for further research.

Third, despite a large proportion of firms having access to finance, as indicated in previous sections, there is a sizeable proportion of these firms that have reported access to finance as a constraint. The credit needs of this financially ‘underserved’ SME sector should be an urgent priority of the policymakers in both the economies. This sector can readily be included into the formal credit markets if appropriate institutional configurations are put in place.

Fourth, the preliminary evidence on the size of the financially ‘unserved’ SME sector is massive as found in the previous sections. This includes firms that do not have access to formal finance and have reported finance as a constraint. Unless these firms are brought into the formal credit markets, uplifting a large majority of the populations that are dependent on this sector for livelihood, will not be achievable. Despite a host of policy interventions such as promoting alternative lending channels such as cooperative banks, providing direct benefits through concerned Government ministries or departments, or enabling increased financial resources for the SME sector through refinancing schemes, a sizeable proportion of this sector remains completely unreached. Grass-root realities may be starkly at odds with the policy data that are relied upon in both India and Indonesia. Researchers could well contribute to the discourse by engaging in active ground-level research on the constraints faced by this financially ‘unserved’ SME sector.

More importantly, sound econometric tools need to be incorporated while using unit-level data from databases such as Enterprise Surveys of the World Bank, to derive more specific insights into the bottlenecks preventing universal access to finance for the Indian and Indonesian SME sectors. The emerging economies are expected to continue their high-growth path in the coming decades. The SME sector will continue to play a pivotal role in this growth process, only leading to higher demand for affordable and stable finance. The formal credit markets will need to recalibrate themselves in order to stand firmly with the SME sector as they fuel the economic resilience of the emerging world.

References


