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THE EFFECT OF FINANCIAL CRISES ON SMALL FIRMS: A REVIEW OF LITERATURE

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ABSTRACT

This paper aims to review and provide further insight into the exposure of small firms to credit supply shocks; and to highlight and identify factors that are likely to be responsible for making them vulnerable to the credit crises.

The research approach adopted in this study is similar to the deductive method. In other words, the research technique is based on the critical analysis of the findings of the existing published literature.

The study highlights that there are conflicting findings in the existing literature regarding the impact of credit drought on the investment decisions and financial performance of small enterprises. However, greater trust is placed on the view that shifts in the supply of credit can have adverse consequences for the investment policies and financial performance of small enterprises. The research further highlights that information asymmetry, lack of collateral, few financing options and heavy dependence on banks are some of the factors that may explain why small firms are more exposed to credit supply shocks.

The study is a step towards better understanding the behaviour of small enterprises especially during the period of credit crises. However, the limitation of this study is that it is based on the interpretation of the results of the existing published studies.

Key Words: SMEs, Information asymmetry, Financial Shocks.

INTRODUCTION

The last two decades have witnessed a number of financial crises. The most noticeable among them are the 1994-1995 Mexican financial crises, the 1997-1998 Asian financial crises, the 1998 Russian crises, the Turkish financial crises (2000) and also the recent wave of financial crises (2007-2010). Financial crises usually have two things in common, i.e., they come as a surprise and affect the smooth functioning of the financial markets, leaving the economies in a weaker state. As a result, economic growth slows down and investors' confidence is affected. The effects of the financial crises are not limited only to the financial sector, but also affect household welfare (Kang and Sawada, 2008) and the employment of men and women (Lim, 2000). This suggests that financial shocks may have an impact on the economy.

The occurrences of financial crises are not new phenomena but their effect on the economy is still not fully understood. Existing Research has largely focused on to comprehend their real causes (see for example, Melvin and Taylor, 2009, Gorton, 2008). Other studies have tried to explore the consequences of credit crises (Mian and Sufi,

2009, Greenlaw et al., 2008). However, studies on the effect of credit crises on investment decisions and financial policies of firms' are quite limited and the examination of literature reveals that existing published literature has mainly focused on public enterprises (Tong and Wei, 2008; Duchin et al., 2010; Voutsinas and Werner, 2011, Chava and Purnanandam, 2011), which - at least in theory - are largely immune to the effects of financial shocks because they have sufficient financing options.

Similarly, there is relatively limited evidence on the behaviour of small enterprises in the crises periods, which highlights the need for more research on this sector of the economy. In addition, examination of existing literature reveals that the impact of the credit drought on firms 'investment decisions and financial policies are mixed and inconclusive. As a result, it is not very clear whether SMEs are affected more by the credit shortage than large firms are. In addition, relationship lending and its role in the crises period are also not fully explored.

However, Small and medium sized enterprises are very significant for innovation, revenue generation economic growth, employment growth, and technology advancement (Neck and Dockner, 1987, Kotey and Meredith, 1997, Acs and Audretsch, 1990). The role of SMEs becomes more crucial in the case of developing countries like Pakistan. Capital (a major resource) is always scarce in Pakistan; however, labour is quite cheap and abundantly available. The SME sector is, therefore, expected to make the optimum use of labour resources in the employment generation of a nation. SME is one of the most important sectors of Pakistan's economy and is considered as its backbone. There are approximately 3.2 million enterprises in Pakistan, and those employing up to 99 people constitute more than 90% of all private enterprises in the industrial sector. Most of the employment in small enterprises is based on a non-agricultural labour force. These small enterprises contribute over 30% to the GDP and account for 25% of exports of manufactured goods besides sharing 35% in manufacturing value added (SME Policy, 2007). Further, the significance of small enterprises can be seen from the fact that it employed more than 50% of labour force in OECD countries. Small enterprises also account for over 90% of all firms in OECD and European Union (Lukács2005, OECD 2009). It is also reported that private enterprises are “representing 97.5% of all incorporated entities in the UK” (Brav 2009).

However, despite their important role in the economic development of the global economy, research on small firms is limited. In this regard, Zingales (2000) argues that 'the emphasis on large companies has led us to ignore (or study less than necessary) the rest of the universe: the young and small firms, who do not have access to public market'. Daskalakis and Psillaki (2008) highlight the fact most of firms in developed (and also in developing countries) are non-listed firms. Similarly, the studies by Hall et al (2000), Coy et al. (2007) and Rehman and Rehman (2014) highlight a dearth of studies on Small enterprises and document their importance. In addition, the differences in the ownership structure (Michaelas et al., 1999 a, Brav, 2009), funding sources and degree of information asymmetry (Bartholdy, 2011;Borensztein, 2002) between the large public

and small private enterprise suggest that further research about the behaviour of the latter will add new insights.

This study, therefore, reviews the existing literature on the vulnerability of small and medium-sized firms to financial shocks. Its aims are: to highlight whether SMEs are more exposed to shift in the supply of credit than large enterprises and to identify and highlight factors that make SMEs (better off or) worse off in the crises period. This study reveals that there are conflicting evidences regarding the effect of financial crises on the behaviour of small firms. However, greater trust is placed on the view that small firms are more vulnerable to credit supply shocks because they face huge market friction. The research further suggests that information asymmetry, lack of collateral, few financing options and heavy dependence on financial institutions are some of the factors that may contribute to the exposure of small firms to credit supply shocks.

The rest of the paper is organized as follows: the next two sections provide an extensive review on the impact of credit contraction on the investment decisions and financial policies of SMEs with the view to highlighting that SMEs are adversely affected by temporary macroeconomic or financial shocks. Then section four points to the problem of information asymmetry, lack of collateral, few financing options and heavy dependence on financial institutions that make SMEs worse during acrises period. The final section provides a summary of the main points emerging from the review of the literature and concludes with directions for future research.

Financial Crises and Firms' Financial Structure

In a perfect capital market and in the absence of transaction costs, a firm's financing decisions has no effect on its performance and investment policy (Modigliani and Miller, 1958). This implies that in the perfect capital market and with perfect competition (with no taxes or transactions cost), firms are indifferent between sources of finance and their financing decisions have no impact on the firms value. However, as the research has made progress, subsequent studies have relaxed the assumptions of a perfect capital market and have shown that imperfections in the capital market have an impact on investment decisions and financial policies of firms. Some of the pioneer authors who provided evidence in this regards include - but are not limited to: Jensen and Meckling (1976), Titman (1984), Myer (1984) and Myer and Majluf (1984).

Gatchev et al., (2009) highlight that information asymmetry and agency cost play a significant role in the firms' financing decisions. However, there is evidence that suggests supply condition is also a very crucial factor that managers consider when deciding a firm's financing decisions (Lemmon and Roberts, 2010, Leary, 2009, Graham and Harvey, 2001, Faulkender and Petersen, 2006, Rehman and Rehman, 2011, Rehman and Rehman, 2014). This suggests that supply conditions, besides the traditional factors identified by previous studies, also play an important role in determining firms' financing decisions. It has also been reported in some of the recent published literature (see for example, , Morellec, 2010, Lemmon and Roberts,

2010,Rehman and Rehman, 2011,Voutsinas and Werner, 2011, Rehman et al., 2011, Rehman and Akbar, 2011, Rehman and Rehman, 2014,Akbar et al., 2013

The studies by Gertler and Gilchrist (1993) demonstrate that supply of bank loan has an impact on the financial decisions of firms. They classified the sample firms into small and large firms and report that financing mix of small manufactured firms were more affected than large manufactured firms by tight monetary policy. In other words, it is the small firms that is hit hard by tight monetary policy because it squeezes the flow of both bank and non-bank loanto small firms than large firms. Similarly, the studies by Gertler and Gilchrist (1994), Oliner and Rudebusch (1995), and Mateut et al., (2006) also supported the above arguments.

Similarly, both channels of monetary policy (i.e.,'balance sheet channel' and 'bank lending channel') suggests that following tight monetary policy, firms lacking capital market access would be more affected (Gertler and Gilchrist, 1994, Bernanke and Gertler, 1995, and Bernanke et al., 1996). It is because shocks to monetary policy not only contract bank lending but also affects the investment policies and financial decisions of small enterprises (Kashyap et al., 1994, Gertler and Gilchrist, 1993, Gertler and Gilchrist, 1994,Bernanke et al., 1996), possibly because information asymmetry and risk are greater in these firms. Further, small firms have few external financing options as the majority of their short term finance comes from banks. In this regard, the studies by Guariglia and Mateut (2010) highlight that more than half of small firms' short term finance comes from bank finance. It implies that small firms are more bank-dependent because, unlike large firms, these firms have not an option to issue commercial paper (Blinder and Stiglitz, 1983, Carpenter et al., 1994) As a result, when the credit crunch reduced bank lending, it had a greater effect on the investment policies and financial decisions of small, collaterally poor and high leveraged firms (Holmstrom and Tirole, 1997).

Furthermore, it has also been argued that, when the banking system is hit by financial shocks, it has a pronounced effect on supply of credit to small business ((Hancock and Wilcox, 1998, Berger and Udell, 2002). It might be because small firms have very limited option to substitute for a bank loan. Therefore, a contraction in the supply of loans to small business has a larger effect on their performance compared to large enterprises (Hancock and Wilcox, 1998). The study by Bruno (2009) showed that when the banking system is hit by financial shocks, it has a pronounced effect on the investment and financial policies of small business. Similarly, it has been argued that impact of bank credit supply contractions would be greater on unrated and small firms because these firms have relatively limited or no access to alternative sources of finance (Bae et al., 2002,Becker and Ivashina, 2010, Akiyoshi and Kobayashi, 2010).

Lim (2003) examined the sources of finance before and after the financial crises in Korea and found contrasting results. The findings suggest that the proportion of loan from financial institutions decreased in the financial structure of large firms after the crises while small, profitable firms had better access to credit from the financial

institutions after the crises. In other words, there is a reallocation of bank credit away from large firms to small firms. In a related context, Borensztein and Lee (2002) investigated the impact of the credit crunch on different types of borrowers in Korea. Using firm level data, they report that following the financial crises the credits appear to have been reallocated in favour of more efficient firms. In other words, during the credit crunch, credit has been reallocated from inefficient firms to more efficient ones. This point has also been echoed in the work of Koo and Shin (2004). They argue that following liberalization, Chaebol firms have lost their preferential access to finance. Small, non-Chaebol and established firms that were more constrained before liberalization gained much from liberalization.

To summarize the above discussion, it seems that there are mixed evidences regarding the effect of credit drought on the financial decisions of small enterprises. However, greater trust is placed on the view that the financial policies of small firms are sensitive to credit contractions. In this regard, Iyer et al. (2010) show that the effect of the 2007-2009 banking crises is more pronounced on small and younger firms. Recently, Akbar et al. (2013) also demonstrate that small private are more exposed to financial shocks. On the basis of the above discussion, it can be argued that financial shocks squeeze small firms' more than large firms. In addition, credit supply conditions are significant in determining the financial policies of firms, which is consistent with the research of Rehman and Rehman (2011), who argue that “accounting for both demand and supply factors are crucial in understanding the firm financing decisions ”(p. 741).The next section reviews the literature on the behaviour of small businesses in the crises period.

Financial Crises and Firms' Value

The capital market imperfection, which creates information asymmetry may explain why certain firms are relatively more credit rationed (see for example, Stiglitz and Weiss, 1981). In this connection, Claessens et al.(2000)highlight that information asymmetry and financial market imperfection are the important factors that provide an explanation for the poor performance of corporations during the 1997 financial crises.

Chen & Hsu (2005) present a simple risk premium model to explain the output decline during the 1997 financial crises in four shock-stricken countries namely: Korea, Indonesia, Malaysia and Thailand. They argue that small firms experienced greater decline in output than in large firms, and in those economies dominated by small firms rather than large firms. Similarly, it has been shown that a tight monetary condition has a more significant impact on the investment decisions and financial policies of small businesses than on large businesses (Gertler and Gilchrist, 1993,Gertler and Gilchrist, 1994,Bernanke et al., 1996). Similarly, findings in Kashyap et al.(1994)highlight that low cash holdings firms and firms with no access to bond market reduced investment in inventory following monetary contraction than do firms with access to the capital market. To state differently, bank-dependent and low cash reserve firms significantly reduce inventory investment during tight monetary period than do firms with access to

capital market.

Gregory et al. (2000) argue that the Asian financial crises significantly affected the Korean SMEs in the manufacturing sector. The industrial production growth rate dropped significantly in 1998. Furthermore, financial crises also lead to the decline in growth in exports. However the decline in growth is more pronounced in large enterprise than in SMEs. In other words, the growth in export shrinks more in large enterprise than in SMEs.

Sato (2000) investigates how crises affects the activities of small and medium sized firms in the Metal and Working industry of Java in Indonesia. Based on a field survey conducted during 1997 and 1999, Sato finds that 65% of SMEs in this sector are negatively affected, while 35% enjoyed positive growth or at least kept their production level unchanged. Tambunan (2000) shows that export-oriented small firms performed relatively better during the 1997 economic crises. One of the reasons mentioned is that these firms do not rely heavily on credit from the financial institutions. Using similar arguments, Wengel and Rodriguez (2006) show that SMEs performed better during the Asian crises than did large firms.

Berry et al. (2001, 2002) argue that although many small firms in Indonesia are hit hard, they are better able in respond to crises than are large firms. Sandee (2002) in (Ozar et al., 2008) finds mixed results regarding SMEs resilience. Comparing the performance of small scale industry before and after the crises in Indonesia, Sandee (2002) reported that some SMEs were negatively affected by the crises while other fared well. It has also been reported that micro and small firms grow fast during the slow industrial growth period (see for example, Wiboonchutikula, 2002).

To summarize the above discussion, it seems that the effect of reduction in the supply of credit on firms' activities is a subject of debate. However, it has been demonstrated by majority of studies that investment policies of small enterprises are negatively affected by the exogenous credit supply crises. This suggests that during the crises period, not only the demand side factors but also the credit supply conditions play an important role in determining firms' financial and investment policies, which is consistent with the results of Rehman et al. (2011) and Rehman and Rehman (2011). It further reveals that both of these factors should be taken into account while modelling the investment decisions and financial polices of firms in the crises period. In equation form it can be written as follows:

$$Yit=\alpha 0+\beta 1\ f(\text{demand factors})it\ +\ \beta 2\ g(\text{Supply conditions})it\ +\ \mu it \quad \text{.....(A)}$$

Where: Y is the dependent variable (such as total debt ratio, performance, investment etc), f(demand factors) are demand side factors such as age, size, risk, ROA, liquidity etc and g (supply conditions) is the credit supply condition, which affects the investment decision and financial policies of small businesses in the crises period.

Although, most of the above mentioned studies have demonstrated that investment and financial policies of small enterprises are sensitive to the credit supply drought, little evidence exists as to why these firms are more vulnerable to the credit crises. In

other words, the above mentioned studies have demonstrated that capital structure and investment policies of small organizations are sensitive to an exogenous credit crisis; however, they do not explicitly provide evidence as to which factors are responsible for making SMEs more exposed to the exogenous credit contractions. The next section provides an answer to this question.

Why Small Firms are More Vulnerable to the Credit Supply Shocks

The capital market imperfection, which creates information asymmetry, moral hazard and adverse selection problems, may explain why certain firms are relatively more credit rationed (see for example, Stiglitz and Weiss, 1981). In this regard, Claessens et al. (2000) emphasize that information asymmetry and financial market imperfections are important factors that may explain poor performance of corporations in the 1997 financial crises. It is also reported in the existing literature that, because of information problems, firms may not secure a loan even for a positive net present value project because potential investors may not easily verify that firms have access to a quality project or be able to make sure that the funds will not be diverted to an alternative use (Berger and Udell, 2002). This suggests that firms facing high information problems would be relatively worse off during a tight credit condition or credit crises period.

As mentioned earlier, small firms are informationally more opaque. These firms usually do not have adequate and reliable financial statements (Hall et al., 2000, Berger and Udell, 1998). The lack of reliable hard information (financial statement) and information imbalance increases the agency problems in these firms, which ultimately leads to increasing the agency cost of external financing (Hall et al., 2000). Such problems further deteriorate in the period of economic downturn (Michaelas et al., 1999 b), which may suggest that investment decisions and financial policies of small businesses would be more sensitive to the credit drought. In the related context, Gertler and Gilchrist (1993), for example, demonstrate that the capital structure of small businesses is more exposed to the contraction of bank loans supply as compared to large businesses. Similarly, the studies by Mateut, Boughe as and Mizen (2006) and Oliner and Rudebusch (1995), demonstrated qualitative similar results. It may be because small firms are vulnerable to market friction.

Information asymmetry also affects the cost and availability of credit, particularly to small firms. To minimize this information imbalance, investors (outsiders) usually require a financial statement that is properly audited (Pettit and Singer, 1985). As mentioned before, small firms usually do not have reliable audited financial statements in their early growth cycle stage (Berger and Udell, 1998). The cost of providing this information is usually high for these firms and thus it leads to an increase in the premium on external finance (Pettit and Singer, 1985). Chittenden et al. (1996) argue that monitoring could be expensive for these firms, as they are not required to publish or disclose information, which causes them to bear significant costs by providing information to outsiders for the first time. In addition, it is also reported that monetary

tightening has a pronounced effect on firms facing severe information and agency problems compared with firms facing low information and agency problems (Bernanke et al., 1996). This suggests that agency and information asymmetry are important factors that may have an impact on the financial decisions of small firms (Michaelas, Chittenden & Poutziouris, 1999b), especially during the crises period. This leads to the following proposition:

P1. Firms facing high ex ante information asymmetry would be worse off during the crises period.

The adverse effect of credit supply shortage can be minimized by pledging collateral to secure a loan. Generally, pledging collateral to secure a loan is a commonly used method to acquire credit (Steijvers et al., 2008, Berger and Udell, 1990). In the UK, it is common that lenders ask for collateral before they offer a loan (Binks et al., (1988) cited in Michael as, Chittenden & Poutziouris (1999 b). Literature suggests that pledging collateral overcomes information asymmetry and agency problems and may help small firms in acquiring credit (Steijvers et al., 2008, Michaelas et al., 1999 b). Pledging collateral also helps in increasing the maturity of a loan (Ortiz-Molina and Penas, 2008). However, small firms usually do not have enough collateral to pledge to secure a loan from external sources. This may explain why small and collaterally poor firms are sensitive to any kind of monetary tightening compared to large firms (Holmstrom and Tirole, 1997). Based on this discussion, the researchers formulate the second proposition

P2. Firms with more fixed assets (or collateral) would be less affected during the financial crises.

It is argued in the literature that the effect of credit contractions would be lower if firms have access to alternative sources of finance (Leary, 2009, Massa et al., 2009, , Massa and Zhang, 2010, Becker and Ivashina, 2010). The availability of alternative sources of finance is likely to alleviate the credit constraint often associated with credit supply shocks (Kashyap et al., 1994, Bae et al., 2002, Leary, 2009, Becker and Ivashina, 2010, Massa et al., 2009). It is reported in the existing literature that small enterprises have few external financing options. At the early life cycle stage, the owner of a firm is usually the main source of funds for the firm. Bhaird and Lucey (2010) quoted Avery et al (1998) as saying that for start up and growing firms the significant source of funds is the owner's funds and the funds from family and friends. Petersen and Rajan (1994) explain that small and younger firms depend heavily on loans from the owner or from her/his friends and family. These firms also rely on bank loans in their earlier life cycle stages (Ibid).

Berger and Udell (1998) highlight that about 70% of small firms' finance consists of owner's funds, commercial banks and trade creditors. This suggests that SMEs have limited external financing options. Unlike large firms, SMEs have no or restricted access to external finance (Holmstrom and Tirole, 1997, Peterson and Shulman, 1987).

In contrast, the large firms have several options to raise funds; for instance the large firms can obtain funds through equity, public debt and commercial paper (Gertler and Gilchrist, 1994), while small firms essentially issue no commercial paper (Blinder and Stiglitz, 1983). This implies that small firms have few alternative sources of finance, which may be one of the factors in making them more sensitive to credit supply shortage. Akbar et al. (2013) argue that firms lacking access to various alternative funds may face larger cost. Hence the study proposes that:

P3. Firms with limited external financing options would be more exposed to the credit supply shocks.

Another reason, which may explain why small firms are vulnerable to financial shocks, is their heavy dependence on financial institutions for external finance. These firms depend more on bank finance when external finance is needed (Guariglia and Mateut, 2010, Hernandez-Canvovas and Koeter-Kant, 2008). Supporting a similar argument, Gertler and Gilchrist (1993, 1994) argue that small firms are more bank-dependent. The bank finance occupies a major portion of the capital structure of these firms. Further these firms have not an option to issue commercial paper, when they need external finance. Other studies, such as Mateut et al., (2006) and Guariglia and Mateut(2010) have also documented the significance of bank finance for these firms.

The few financing options and the heavy dependence on financial institutions for financing may explain why SMEs are vulnerable to temporary macroeconomic shocks (Berger and Udell, 2002, OECD, 2009). As explained earlier, when the banking system is hit by financial shocks, it has a (Petersen, 1997) greater effect on the supply of credit to small businesses (Berger and Udell, 2002, Hancock and Wilcox, 1998). It might be because these firms have limited or no close substitutes available for a bank loan (Hancock and Wilcox, 1998), and issuing equity is costly for these firms (Smith (1977) in (Titman and Wessels, 1988, Pettit and Singer, 1985). As a result, the squeezing of loan/credit exacerbates the situation with regard to small firms' ability to obtain the funds (Nishizawa, 1999). Taken together, it seems to suggest that limited alternative sources of finance and heavy dependence on bank finance make small firms more exposed to credit supply shocks. Hence it is proposed that:

P4. Firms depend heavily on financial institutions for financing would be more exposed to financial shocks than firms less dependent on financial institutions.

CONCLUSION AND LIMITATION

This study reviews relevant literature on the effect of credit supply shocks on investment decisions and financial policies of firms. It highlights that there are conflicting evidences regarding shocks to the supply of credit and its effect on investment and financial policies of firms. However, greater trust is placed on the view that small firms are vulnerable to credit supply shocks. The study suggests that when modelling the investment and financial policies of small firms in a crises period, both factors (i-e demand and supply side factors) should be taken into account in order to better

understand their behaviour. Further, the study identified some of the factors such as information asymmetry, lack of collateral, few financing options and heavy dependence on banks that may explain why small firms are more vulnerable to exogenous credit supply shocks.

In light of these findings, the study suggests that small firms (particularly in developing countries such as Pakistan, Nepal and Bangladesh) need to strengthen their relationship with banks, in order to shield themselves from unexpected credit drought. In this regard, existing literature suggests that firms can enhance the availability of financing in a crises period by establishing a good relationship with creditors/lenders (Petersen and Rajan, 1994). Similarly, the study by Boot and Thakor(1994) demonstrated that establishing long-standing connection with the creditors/lenders not only help firms to enjoy lower interest rates but also to pledge relatively little (or no collateral) for loans. In addition, small firms need to increase the use of trade credit in the period of credit crises to lessen the impact of credit contractions. Literature suggests that a shift to alternative sources of finance (e.g., trade credit) can reduce the negative impact of credit supply drought (Petersen and Rajan, 1997, Nilsen, 2002). Finally, in order for the SME sector to flourish, policy makers in Pakistan and elsewhere in the world should ensure the smooth flow of credit to this important sector of the economy.

Direction for Future Research:

This study is a step towards better understanding the small firms'behaviour in thecrises period. However, the limitation of this study is that it is based on the interpretation of empirical results of previous published papers. In other words, the approach adopted in this paper is subjective in nature. More empirical research is needed to quantify the exact impact of credit supply contractions on small firms' behaviour. It would be useful to examine the pre and post-crises financial and investment decisions of SMEs. Similarly, the use of quarterly data for investigating the behaviour of SMEs would be really convincing and fruitful areas for further research. In particular, investigating the financial and investment decisions of firms during the post-crises period and comparing it with the pre-crises and crises period could be an interesting area for future research. Furthermore, investigation of the effect of the credit drought on sub-sectors of the economy would be new and interesting topic for future studies. The lack of consensus in the existing literature also highlights the importance of cross-country comparison study. The use of qualitative (such as questionnaire and interview) and mixed methodology could also be adopted for research in this area. It would be very useful to use questionnaire (and interview) in examining the investment decisions and financial policies of SMEs in the crises period. Such an approach could be useful for better understanding of firms' investment decisions and financial policies from the perspective of the investors and managers. The combination of both qualitative and quantitative approaches could supplement each other in the search for how the firms manage their investment decisions and financial policies in the crises period. However, due to limited

time and resources this research was not able to cover these areas and they are therefore left to future research.

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