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Article

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The Heterogeneity of Job Creation and Destruction in Transition and Non-transition Developing Countries: The Effects of Firm Size, Age and Ownership*

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This paper investigates how firm age, size and ownership are related with job creation and destruction, and how these patterns differ across transition and non-transition economies. The analysis finds that age is inversely related with gross job creation and net job creation in the two samples. This finding is consistent with the theory of the learning effect. The relationship between age and job destruction is indifferent in non-transition economies. On the contrary, old firms in transition economies destroy more jobs than young ones. The paper further establishes an inverse relationship between size and gross job creation in the two groups. However, there is divergence between the two samples; small firms in non-transition economies also exhibit a higher gross job destruction rate. Consequently large firms have a higher net job creation rate. In transition economies, small and large firms exhibit similar rates of job destruction. But small firms retain a higher net job creation rate. A more intriguing finding is that state owned firms do not underperform domestic private ones. This means these countries may be using soft budget constraint which allows state owned firms to overstaff. Finally, crowding out of SMEs by foreign owned firms is not evident in transition economies.

Keywords: Developing Countries, Transition Economies, Non-transition Economies, Entrepreneurship, Firm Age, Firm Size, Ownership, Job Creation, Job Destruction, Gibrat's Law, Learning Model, Soft Budget Constraint
JEL Classification: O12, O31, O32, L11, L25, L26

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I. INTRODUCTION

1. Background of the Study

There is a wide consensus that small firms are the back bone of economic growth in both high and low income economies. However, it is still not clear how firm size interacts with job creation. A lot of researches on Small Medium Enterprises (SMEs) that come from developed countries have varied findings. For example, even though they initially emphasized the role of small firms in job creation, most recent ones underscore the role of firm age. Few studies that exist from developing countries are also inconclusive as they have focused mainly on manufacturing sector firms. Hence, there still a dearth of evidence on whether small firms create more jobs relative to large ones. One reason for this difficulty is the lack of a clear definition of what SMEs are. Statistical offices in different countries adopt different size categorization. In some countries, small firms are those that employ up to 500, while in others up to 250. But in low income countries such firms would be regarded as large by their standards. The World Bank has attempted to solve this dilemma by coming up with a standard way of defining firm size. This is further explained in the data section. Furthermore, literature singles out firm ownership as a critical in job creation because it affects the firm's access to resources. For example, foreign owned firms may have access to a wide pool of intangible resources which may drive their better performance than domestic private firms (Reganati and Sica, 2005). Firms also differ in their objectives based on ownership. In particular literature underscores the importance of private owned firms due to their efficiency which is presumed to be a key driver to growth. This is often contrasted with state owned firms which are seen as less efficient. Yet, domestic private firms can in also derail job creation objective due to lack of well developed credit institutions in developing countries. Given the ownership specific effects and the resulting differences in firm performance, it is necessary to account for ownership in analyzing job creation (Pfaffermayr and Bellak, 2000). This has not been the case in most existing studies. Thus, the relationship between firm ownership and job creation is still a puzzle. It is also unclear how the relationship between firm size or age and job creation and destruction would change when ownership is controlled.

Job creation and destruction patterns for firms of different categories could also vary between countries depending on the origin of their economic systems. Countries place varied emphasis on different firms based on their perceived importance. For instance, transition economies have a history where large or state owned firms were seen as the engines for job creation and service provision. This is because state owned firms are mainly driven by social objectives, such as to preserve employment rather than to maximize efficiency. Hence government can use soft budget constraint which allows state owned firms to increase their employment. Whereas this practice exists in both transition and non-transition economies, it is particularly common in the latter (Kornai, 2014). Even institutional changes in the transition economies did not fully guarantee hard budget constraint. Further, countries with a recent socialist legal heritage have legal institutions that are not encouraging of entrepreneurship and new firm formation (Easterly and Levine, 1997). This heightens what is perceived as the absence of a strong SME sector in transition economies in comparison to non-transition economies (Ionica, 2012). Since rules and institutions determine the degree to which firms contribute to employment (Baumol, 1990), investigating job creation and destruction by firm size, age and ownership across transition and non-transition economies can be informative.

Thus this study aims to provide insights on the patterns of job creation and destruction in transition and non-transition developing countries. To address this objective the paper answers the following salient questions: 1) "What is the relationship between firm size and firm age with job creation and destruction in developing countries?" 2) "What is the relationship between firm ownership and job creation and destruction?" 3) "How heterogeneous are the patterns of job creation and destruction by size, age and ownership across transition and non-transition developing countries?" The paper extends current literature by including firm ownership in analyzing the behavior of firms in job creation and destruction. It also contributes to understanding the heterogeneity between firms in transition and non-transition economies with respect to job creation and destruction. Consequently, the paper assesses whether the association between firm size, firm age and ownership with job creation and destruction are divergent when economies are alternatively considered as transition or non-transition. In this way, the paper emphasizes institutional environment in which firms in different contexts operate. The research relies on a standardized data from the World Bank enterprise survey,

which makes it possible to compare the results across a large sample of developing countries. Further the data covers firms in both manufacturing and service sectors.

Based on OLS regressions, the study shows that young firms have higher gross and net job creation rates. On the other hand, there are variations between transition and non-transition economies with respect to size. For transition economies, small firms exhibit higher rates of gross and net job creation. But job destruction rate is similar for firm of different sizes in this sample. In non-transition economies, small firms exhibit higher gross job creation rate than large ones. But their rate of job destruction rate is also higher. As a result, large firms have higher net job creation rate. The paper hypothesizes that the differences observed between these two samples could be because in transition economies private sector activity is still at its infancy. Hence, small firms still find more market niches to exploit for rapid growth. Regarding ownership, results show that foreign and domestic private firms exhibit similar job creation patterns in the two samples. A more intriguing result is that state owned firms do not underperform domestic private ones. In fact, in transition economies state-owned firms exhibit positive effect in net job creation compared to the private category. This means these developing countries may still be using soft budget constraint to allow state-owned firms to overstaff. Further analysis show that economic activities in the services sector in transition economies is concentrated in SMEs as demonstrated by their share of total employment.

2. Small and Medium Enterprises from Developing Countries Perspective

This study focuses on SMEs in developing countries. The significance of SMEs to developing countries has been exacerbated by a number of institutional and market failures. Primarily, most governments in developing countries confront four key policy dilemmas: First is desire to create of jobs and reduce poverty and inequality. Unemployment remains an important concern for both low income and developed countries. However, the intensity of unemployed is amplified by the precarious levels of poverty in developing countries. Hence, SMEs are seen primarily as a vehicle for job creation and elimination of poverty. In their early stages of development, developing economies typically have a higher proportion of necessity-driven entrepreneurs because the demand for jobs in high-productivity sectors is greater than the actual supply (Kelly, Bosma and Amoros, 2010). As a

result, many people must create alternative sources of income by operating in small scale industries. In themselves, SMEs are more labor intensive and provide a great opportunity for generating new jobs (World Bank, 2001). Similarly, the levels of inequality are perverse in developing countries. Consequently, as the kind of firms that absorbs the majority of unskilled labor, SMEs can be powerful tool for growth with redistribution.

Second, low Income economies face the challenge creating of internationally competitive industrial base. Effective diversification strategies are vital in reducing overreliance on natural resources and ensuring sustainable growth. Yet most developing economies are heavily dependent either on agriculture or natural resources and have less diversified export bases. This makes them vulnerable to commodity price fluctuations in international markets. Studies show that diversification have been proceeded with the creation of a vibrant private sector, where SMEs are important actors. This is because in most cases, SMEs are spread out in abroad scope of sectors. As they adopt new technologies in response to competitive pressures from domestic and internal sources, SMEs are likely to drive an internationally competitive industrial structure. Similarly, their flexibility to operate in dynamic economic environments owing to their size makes them more elastic to socio-economic changes (Hall and Harvie, 2003). Another related aspect highlighting the importance of SMEs is with respect to industrial organization in developing countries. Industrial organization literature associates the process of job creation and destruction, or job flows across sectors and regions with the dynamic aspects of small firms (Evans, 1987b). This is mainly because SMEs are less capital intensive, thereby making it easy to shift labor from redundant industries to new industries. As low income economies emerge from agriculture or natural resource dependence, labor reallocation across sectors is likely to be profoundly enhanced through the emergence of young and small firms. Hence such firms are vital in facilitating structural change in developing countries (Fjose, Grunfeld and Green, 2010).

The third important policy challenge is how to improve women participation in the labor market. Gender disparity in labor market is precariously high in developing countries (Hallward-Driemeier, 2013; World Bank, 2012). One reason attributed to this phenomenon is that women spend more time on household activities, including child care, leaving them with limited time to spend the labor market (Berniell and Sánchez-Páramo, 2011). In this regard, it is assumed that the

flexible nature of SMEs sector can enable women to adjust their time to enter and exit the market freely. Similarly, in these countries, women are likely to be blocked from corporate advancement due to 'glass ceilings.' Indeed studies show that women participation in corporate sector declines with firm size (Hallward-Driemeier, 2013; Bruhn, 2009). Thus, an emphasis on SME can contribute to women's economic independence and reduce gender disparities in the labor market (World Bank, 2012). Finally, in most developing countries, the size of the private sector is largely small. Governments in these countries have to provide services in a broad scope of areas amidst budgetary and human resources constraints. Some of these services could be provided more efficiently and competitively through the private sector. According to Hallberg (2000) the small business sector could actually form the basis of private sector-led growth in developing countries. In view of these aforementioned factors, the size of the enterprise can be seen to be of utmost consideration to developing countries.

The rest of the paper continues as follows; the next sub-section describes rationale for analysis based on country economic system. Chapter 2 is an assessment of the previous literature and past empirical evidence. In chapter 3 data, definition of variables and methodology are discussed. Chapter 4 provides detailed econometric results for the basic model, then robustness check with size and age dummies and discussions. The final section presents conclusion.

3. The Rationale for Comparing Transition and Non-transition Economies

This section highlights the rationale for analyzing economies in distinct groups based on economic systems. The sample is divided into two categories having transition and non-transition economies. Transition economies are countries that were previously Socialist or communist states. They are also referred to as non-matured market or post socialist economies. In total, 20 countries are classified as transition economies, most of them were members of Common Wealth of Independent States (CIS). The comparative category includes economies that are capitalist in origin. They are also called non-transition or matured market economies. The sample has a total of 98 countries classified as non-transition. All these countries are classified by the World Bank as developing based on their GNI per capita.

The role of different firms in economic development is not homogenous across developing countries. McPherson (1996) provided an empirical analysis of job creation by micro and small firms based on country characteristics. In so doing he underscored the need to account for country characteristics including industrial structure when assessing the role of firms in job creation. Literature similarly points out that the contribution of firms to the economy can be influenced by different strands of factors. This includes market reforms which provide incentives for private sector investments and nurtures new economic activities. An economy with a robust regulatory environment is likely to enhance easy entry and rapid growth of new firms in the market, thereby contributing to employment creation (Kumar et al., 2001). Additionally, the contribution of SMEs to economic development can be divergent due to the economy's level of development and economic systems. Previous studies have established that SME contribution to employment increases with the GDP per capita (Ayyagari et al., 2005). Regarding economic systems, the level of entrepreneurship and private sector development in the transition and non-transition economies can be diverse and therefore differently reflected in the role of small and young firms in job creation. For example, Ayyagari et al. (2003) established that the size of SME sector in transition economies, measured as a share of total formal employment, is relatively small. Thus, the key concern in enterprise literature is whether SMEs can be regarded as drivers of social and economic transformation in transition economies as they are in non-transition economies. In particular, it is presumed that there is lower entrepreneurial propensity in transition economies. Yet small start-ups are the major sources economic renewal and job creation. Consequently, in countries where there is weak entrepreneurial enthusiasm small and young firms may play a little role in job creation. Moreover, entrepreneurship itself is directed by a country's rules and institutions which determine the degree to which private sector contributes to the economy (Baumol, 1990). However, scholars highlight a lack of institutional support and well-coordinated SME policies in transition economies in comparison non-transition ones. In this vein, Easterly and Levine (1997) contended that countries with a recent socialist heritage have legal institutions that are not encouraging of entrepreneurship and new firm formation. This lack of explicit attention to motivate various forms of free market entrepreneurship has dragged the conversion of informal economy to free enterprises. This heightens what is perceived as the absence of a strong SME sector in transition economies

(Ionica, 2012). In some transition economies, for example, the right to private ownership, which characterizes non-transition economies is still an illusion or at its infancy. Additionally, transition economies holds on to a tradition whereby large and state owned firms are seen as the main engines of growth. Moreover, in most of these economies, only small groups of elites have economic influence. This group however, has less incentive to invest in small firms because they receive state subsidies and contracts mainly to operate in large scales. These assertions imply that entrepreneurial potential has not been well tapped as the government lacked commitment to create an environment to promote small firms and start-ups as pillars of growth (Smallbone and Welter, 2010). Such distortions disadvantage the type of firms that have been found to be overrepresented among highest growth firms, namely young and small firms.

Nonetheless, scholars also submit that entrepreneurial experience can be heterogeneous in transition economies. According to Ionica (2012), some countries had a strong culture of entrepreneurship and supported private sector small firms in the early years of transition. In such transition economies, SMEs grew exponentially by forming supply chains with large firms. Yang (2004) also notes that in rapidly changing economic environments such as those in transition economies, entrepreneurs find attractive and unexploited market niches. In such cases, the role of small firms in generating jobs may not be very divergent from those of non-transition economies. Thus, whether the behavior of firms in transition economies in terms of job creation and destruction is different from that of firms in non-transition economies is a major puzzle the paper seeks to address.

II. LITERARTURE REVIEW AND EMPERICAL EVIDENCE

1. Previous Literature

This section presents various theories underpinning firms and job creation, and evidence from previous studies.

Storey (1994) identifies three dimensions of factors affecting firms' job creation as; factors in the entrepreneur, factors within the firm and finally the strategic decisions of the firm. However, Storey's categorization fails to acknowledge the

regulatory environment in which firms operate. The regulatory environment and institutions therein have been associated with entry, growth and exit of firms (Sleuwaegen and Goedhuys, 2002). From this point of view, the determinants of job creation among firms can be divided in four distinct categories as; factors exogenous to the firm, mainly the macroeconomic environment (Bannier and Zahn, 2012); factors inherent in the entrepreneur, including entrepreneurs' family background and education; factors inherent in the firm, among them firm size and age. The final category is factors relating to the strategy that the firms pursue actively to influence its growth and productivity. This includes market positioning and new product development (Storey, 1994). These can be depicted as in the table below;

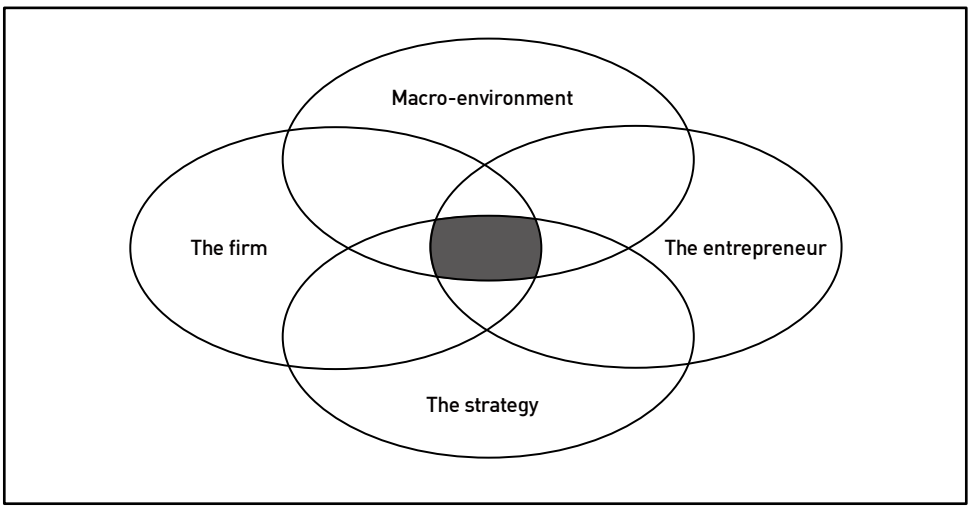
Table 1. Modified Table for Factors Affecting Firms' Job Creation

Macro environment	Entrepreneur	The Firm	Strategy
1. Political instability	1. Motivation	1. Age	1. Workforce training
2. Access to land	2. Unemployment	2. Sector	2. Management training
3. Licensing and permits	3. Education	3. Legal form	3. External equity
4. Corruption	4. Management experience	4. Location	4. Technological sophistication
5. Judicial operations	5. Number of founders	5. Size	5. Market positioning
6. Crime and theft	6. Prior self employment	6. Ownership	6. Market adjustments
7. Trade regulations	7. Family history		7. Planning
8. Labor regulations	8. Social marginality		8. New Products
9. Taxation	9. Functional skills		9. Management recruitment
10. Competition	10. Training		10. Customer concentration
11. Transport	11. Age		11. Competition
12. Electricity	12. Prior business failure		12. Information and advice
13. Access to finance	13. Prior sector experience		13. Exporting
14. Workforce education	14. Prior firm size experience		14. State support
	15. Gender		

Source: Adopted from Storey (1994).

Storey (1994) further asserts that while these components can exert independent influence on job creation potential among firms, ideally they are overlapping. Hence they need to appropriately combine to produce rapidly expanding firms. This implies that even firms experiencing structural inertia or those that are contracting may have some aspects of these factors, but it is only where these factors intersect that the fastest expanding firms are found. This overlapping section is only a small fraction of the individual components, which means the presence of this intersection is rare. Based on the above understanding, this interaction among these factors can be depicted as shown in Figure 1.

Figure 1. Modified Figure for Factors Affecting Firms' Job Creation



Source: Adopted from Storey (1994)

2. Theories on Factors Influencing Firms' Job Creation

Previous literature outlines various theories to explain job creation and destruction of firms. Among factor inherent in the firm, age, size, ownership and sector are the central focus of the paper.

Gibrat's 'Law of Proportional Effect' is the main theory underlying firm size and growth or job creation (Gibrat, 1931). The theory hypothesizes that the growth of a firm is a stochastic process, and therefore is independent of size of the firm.

The implication is that large, medium and small firms exhibit proportional growth patterns. However, a plethora of scholarly literature challenging Gibrat's presupposition emerged, the most lucid and systematic one being Mansfield (1962). Overall, the author asserted that Gibrat's law is not clear under what assumption the theory holds. Thus, Mansfield examined the theory under different assumptions: first, he assumed the law holds for all firms, including those that will exit the market. His result demonstrated that the probability that a firm will exit is not independent of its size, as smaller firms are more likely than large ones to exit the market.

Second, under the assumption that the theory holds for all firms except exiting firms, the author demonstrated that small firms have higher and greater divergence in their growth rates than large firms, which contrasts Gibrat's law. Similarly, Simon and Bonini (1958) postulated that the theory can only apply for firms that are above the minimum efficient size. Hence in the third assumption, Mansfield assumed that the law applies only to firms exceeding a minimum efficient scale in the industry. Under this condition, again there materialized variations in the growth rate of firms. Moreover, the variances are inversely related to size. Researchers have also distinguished ability of firms to create jobs based on economies of scale and access to resources. Penrose and Pitelis (2009) elaborates that larger firms enjoys economies of scale, exhibits managerial competency and organizational efficiency in comparison to small firms. For example, large firms can employ exceptionally skilled labor to work on specialized tasks which have direct effect on the reputation of the firm. Large firms are also likely than small ones to access networks that give them credible information regarding the industry. Moreover, large firms greater social capital arising from greater public knowledge of the firm. This gives them advantage of accessing critical resources to undertake large scale investments that create more jobs (Pagano and Schivardi, 2001; Penrose and Pitelis, 2009). In contrast, small firms suffer liability of newness, which curtails their access to external financial resources (Stinchcombe, 1965).

Similarly the patterns of job creation and destruction (job flows) are likely to vary depending on the sector in which the firm is operating. In the main, sectors have variation in adjustment costs, or may employ different technologies (Faggio and Konings, 2001). Firms in sectors with higher adjustment costs may exhibit lower tendencies of job flows than those with lower adjustment costs. For example, labor reallocation from capital intensive industries are likely to be lower compared to less capital intensive industries because of the sunk high costs involved.

Marshall (1916) further corroborates that the advantages that large firms accumulate over small ones are more pronounced in the manufacturing sector than services sectors. The manufacturing sector specific advantage for large firms includes economy of machinery. Small manufacturing firms may not have the capacity to acquire expensive or modern machinery. This cost disadvantage may act as a prohibitive element to small firms operating in dynamic industries in which technology and processes are changing rapidly. Additionally, the intensity of competition, one of the critical forces that affect job creation, also varies by sectors. Literature similarly underscores that labor intensiveness varies by sectors rather than merely by firm size (Snodgrass and Biggs, 1996).

On the other hand, the theory of the 'learning model' or market selection underpins the inverse relationship between firm age and job creation (Jovanovic, 1982). According to this presupposition, managers of new firms tend to be oblivious to their efficiency levels at the onset. These entrepreneurs only learn about their efficiency over time as they operate in the market by analyzing their cost function. Consequently, through a market selection process, firms that prove to be more efficient survive and experience rapid rates of expansion. On the contrary, firms that learn that they are less efficient are forced to exit the market. This theory implies that young continuing firms will exhibit a higher rate of job creation; first, owing to the greater room for expansion arising from firms that exit. Additionally, these firms have the incentive to grow rapidly towards the minimum efficient scale in the economy.

The theory that young firms play a greater role in economic development has been supported by other scholars. According to Acemoglu et al. (2013), new firms enhance competition in the economy, by challenging incumbent firms with innovative products, services or processes. This forces old stagnating firms either to innovate and stay in the market, or to exit the market altogether. In the process, young firms provide greater dynamism in the economy, through a churning process, whereby only the most productive firms thrive and expand. This process has economic benefits as it leads to reallocation of resources to firms that can efficiently utilize them. However, innovation and growth of young firms differs with sectors (Pakes and Ericson, 1989; Hurst and Pugsley, 2011). Some sectors may have trundlers-small firms that do not wish to grow. For such firms, even when the market presents opportunities to expand, they chose not to venture into new products because adding employment is not their objective. This depends on the

ax-ante motive of the entrepreneur. Those who are driven to start a firm simply to be their own bosses are less inclined to expand (Hurst and Pugsley, 2011; Storey, 1994).

The theory of the learning model is criticized in a number of scholars. Literature shows that young firms are prone to failure. In the US, Small Business Administration (SBA) notes that only 50% of small firms survive until five years. Given the level of institutional development in the US, this is an underestimation for developing countries. The model is further censured for assuming that the entrepreneur's efficiency is constant over time. According to Pakes and Ericson (1989), entrepreneurs with higher levels of education can be more efficient. In an alternative theory called 'active learning', Ericson and Pakes (1998) asserted that firms can actively explore their environment and increase their investments while observing the behavior of their competitors. The model also assumes that market selection operates through competition. But Sleuwaegen and Goedhuys (2002) observed the prevalence of market failure in developing countries which is mainly attributable to the high sunk costs. This discourages new market entrants. As a result developing countries have only few firms operating in a given industry, thus lowering competition in comparison to advanced countries.

Another important factor is firm ownership. Shareholders exert influence on the firm based on their share in the firm's capital. However in some cases, the state might exercise de facto control over a firm even when it is a minority shareholder, so long as it is large enough to grant the state control over the firm. Ownership has implications in terms of the firm's objectives and access to resources. Further, literature relates ownership with differences on firm performance. A number of arguments advanced in favor privatization argue that private firms enhance efficiency and deliver value to shareholders than state owned firms. The efficiency objective makes private firms to have low employment output ratio. However, it is noted that ownership alone may not make a significant difference in terms of efficiency, but rather the mechanisms put in place to ensure that managers, irrespective of ownership, take actions that serve the interest of the shareholders. Such measures include creating incentives that align the manager's reward with predefined performance targets (Goodman and Loveman, 1991).

In contrast, the objective of the state owned firm is to ensure stability and growth, rather than to maximize efficiency. These objectives are met by creating employment opportunities as well as preserving employment. Hence, the government can intervene

to fulfill these welfare objectives where there are market failures (Vickers and Yarrow, 1991). The theory of Soft Budget Constraints (SBC) underlies such interventions. SBC is a situation where the government provides subsidies to firms that are unable to cover their operation costs (Kornai, 1998). It aims to ensure the continued survival of firms even when they are not maximizing profits or would succumb to market selection if the government failed to intervene. The phenomenon occurs both in transition and non-transition economies, but it is more commonplace in the former (Kornai, 2014). Kornai (1980) postulated that the budget constraint in post socialist economies is ex ante soft.

Nevertheless, the relationship between the soft budget constraint and the economic system depends on whether the relationship between organizations and agents is vertical or horizontal. While examining desirable firm structure, Boycko et al. (1996) distinguished between firms controlled by the state, employees, or majority outsiders and then looked at their profit motives vis-a-viz labor spending behavior. He illustrated that firms controlled by the state or employees are less likely to restructure. In the case of a state-owned enterprise, the vertical relationship occurs because the state is superior to the agent-the firm managers (Kornai, 1998). Therefore, the government can use soft budget constraints on state owned firms, or firms controlled by workers to stop layoffs which might be necessary for restructuring. This means the government forgoes profit in exchange for excess labor spending (Boycko et al., 1996). On the contrary, firms dominantly owned by private investors are more likely to restructure. This is because, first, such firms are primarily driven by efficiency objective and care less about employment. Second, they need not be cash constrained, which means subsidization by the government is difficult. Consequently, firms controlled by private shareholders are likely to undertake layoffs in order to increase profits.

The foregoing literature have three implications; first, in developing countries where unemployment is high, state owned firms could play an important role in job creation. But whether their job creation patterns are greater or less than private firms is unclear. This is because soft budget constraint may not necessarily induce inefficient firm behavior when there are strong incentive structures, coupled with relatively good institutions and competitive pressure from private firms. Second, given the government's propensity to use state owned firms to retain employment, job destruction rate for such firms could be lower than that of private firms. Finally, since SBC is a common practice in transition economies than in non-transition

economies there could be differences between the two samples on the role state owned firms play in job creation and preservation.

Additionally an appreciable body literature documents differences in performance of foreign and domestic owned firms in developed countries. A number of factors can drive these differences; In particular, foreign firms have access to superior intangible assets, including advanced technology, managerial competencies and international experience (Reganati and Sica, 2005). Firms with foreign ownership similarly have market related advantages. In most cases, they have ability to carry out R&D and develop new products rapidly. Yet as Storey (1994) observes, new products and processes can lead to divergence in job creation among firms. Besides, Aitken et al. (1994) postulates that foreign owned firms may have multi-market presence, which translates into numerous channels for gathering information about foreign markets. They could also have advantages derived from specialization; it is conceivable that foreign owned firms could specialize in a narrow range of activities which differentiate them from indigenous firms. Such specializations can induce variances in the performance of the two groups of firms (Pfaffermayr and Bellak, 2000).

Given the ownership specific effects and the resulting differences in performance, categorizing firms into domestic and foreign ownership can isolate ownership effects (Pfaffermayr and Bellak, 2000).

The other theories concern the endogenous factors; that is, the strategy. Strategy is any action taken by the entrepreneur to further the firm's goals. Storey (1994) identifies fourteen issues under strategy, including market positioning. Porter's theory of 'Stuck in the Middle' typifies these strategies. In his generic strategies, the author conjectured that both small and large firms are able to carve out profitable market niches and propel their expansion (Porter, 1985); Small firms can pursue cost focus strategies and venture into small profitable markets, while large firms can pursue cost leadership strategies by targeting wider profitable markets. On the contrary, he argues that medium firms find small localized markets unprofitable, but at the same time, they do not have the capability to compete with large firms on wider markets. Hence, both small and large firms outperform medium ones on job creation.

3. Evidence from the Past Empirical Studies

The evidence on the relationship between size and age of the firm and job creation is mixed. Using data for US manufacturing firms, Davis et al. (1996) demonstrated that small firms have both higher gross job creation and destruction. Nonetheless, they found inconsistent results with regard to net job creation. For example, when the analysis was based on initial size, small firms exhibited a higher net job creation rate than large ones. But when the analysis used size as average employment between two periods studied, there was no systematic relationship between size and net job creation. The authors attributed the high net job creation found when analysis is based on initial size to regression fallacy which they established to be more prevalent among small firms. However, their study did not include age or ownership of the firm in analysis. Among transition economies, Konings et al. (1996) investigated the relationship between size, ownership and job creation and destruction in the Polish manufacturing sector. They also use average size $(E_{it} + E_{it-1})/2$ instead of initial size E_{it-2}. Their results show that private foreign owned firms have higher gross job creation and destruction rates than state and domestic private firms. Similarly, private domestic firms have higher gross job creation and destruction than state owned firms. The study further found that state-owned firms have lower net job creation compared to domestic 100% privately owned and foreign privately owned firms. However, the study was based on single country and did not incorporate age in the regression. Among Indonesian manufacturing firms, Lipsey et al. (2010), found that foreign owned and state owned firms exhibit higher net job creation than domestic private firms. While the finding on state owned firms is consistent with theory of soft budget constraint, it contradicts that of Konings et al. (1996). The study also failed to provide evidence on gross job creation and destruction. Among non-transition developing economies, Teal (1999), demonstrated that Micro, Small and Medium firms in Ghana have higher gross job creation and higher gross job destruction rates. But net job creation was similar for firms of all sizes. The main limitation of this study is that it was also limited to a single country and focused only on manufacturing sector. A more recent research based on Ugandan manufacturing sector firms showed that large firms have higher net job creation than small firms even when the analysis is based on initial size (Stella et al., 2014). Further, the authors found that age is negatively related with net job creation. However, the study did not

provide evidence on gross job creation and destruction and missed ownership in the analysis.

Given the divergent results from the previous studies, it is evident that there is need for more research on this topic. More importantly, studies involving developing countries from transition or non-transition economies are not comprehensive as they fail to distinguish firms by ownership attributes and mostly focused on the manufacturing sector. Moreover, none of these studies have examined the heterogeneous patterns of job creation between transition and non-transition economies. In order to bring evidence to this issue, the paper tests three hypotheses; first, there is no systematic relationship between job creation or destruction and firm size for firms in transition and non-transition economies. Second, there is no variation in job creation or destruction patterns for firms of different age classes. Third, firms with different ownerships do not have variations in job creation or destruction.

III. DATA AND METHODOLOGY

1. Data

This study uses data from the World Bank Enterprise Survey which collects data on various dimensions of enterprise performance indicators. Most of the data is collected at establishment level. An establishment is an autonomous business entity operating in a single business location. This contrasts with a firm which is a business entity which can operate in many different locations and may have many establishments. Notwithstanding these differences, the terms establishment and firm are used interchangeably in this paper because the data includes both firms as well as establishments. The survey employs retrospective questions which ask the firm's top managers information about employment, firm age and ownership structure. This provides panel-like data for the most important dimensions of firm performance. During the survey for example, managers are asked the number of full-time permanent employees in the firm three fiscal years ago and the number of full-time permanent employees one fiscal year ago. These two variables are used to calculate change in the number of full-time permanent employees between period t and t-2. Firm managers are also asked the number of full-time permanent

employees the firm had when it started operating. This variable is used in the analysis of firm mobility from the time it entered the economy to the time of survey.

The survey is conducted in different years in each country as shown in table A6. It employs a global standard methodology which provides comparable across countries. This means that firms in different countries are surveyed using a standardized questionnaire. In order to aid comparability across countries, the World Bank provides a standardized definition for size categories. Accordingly, micro firms are those with less than five employees, small are firms with 5-19 employees, medium are those with 20-99 employees, while large firms are those with more than 99 employees. However, it should be noted that micro firms were not targeted in the survey. Therefore this category is not used in the regression for job creation. The micro category used in descriptive analysis is from a recall question on the number of employees the firm had when it first entered the market. Further, the survey uses stratified random sampling with replacement for all eligible firms to arrive a representative sample of all non agricultural firms in each country. The stratification is based on three dimensions namely, Firm size, sector and location. The sector classification is based on International Standard Industrial Classification (ISIC) revision 3.1. The survey further provides sampling weights which account for the probability of being selected in each stratum. According to World Bank, median weights are most appropriate for cross country comparisons. Applying these weights to the regression helps to generalize the results to the population of non agricultural firms in each country.

Nonetheless the survey has a number of limitations. First, it excludes micro as well as informal sector firms. Given that in most developing countries micro and informal establishments make up a large share of firms in the economy, their exclusion leads to downward bias on the contribution of small firms to employment. Second, even though age is central to the analysis of job creation, firms surveyed were not sampled by age. The age of the firms in the database is random. Third, the survey is conducted only among continuing firms, and provides no data on new entrants and firms that exit the market. This means that key aspects of firm dynamics, such as job creation arising from new entrants and job destruction from exits cannot be assessed. Again, this omission may affect the estimates for small enterprises as they are more likely to enter or to exit due to their greater dynamism.

2. Definition of Job Creation and Destruction Concepts

Table 3 explains the concepts used in the analysis of gross job creation and destruction and net job creation. All the definitions are consistent with those of Criscuolo et al. (2014).

Table 2. Definition of Job Creation and Destruction Concepts

Variable	Explanation
Let the individual firms in a cell/category =i	The number firms in one category=n
Employment is denoted as E:	Employment for firm *i* at period t = $E_{i,t}$ Employment for firm *i* at period t-2=$E_{i,t-2}$
Gross Job Creation (GJC)	GJC defines positive unit level change in employment between time t-2 to t. In other words, $GJC_{i,t} = E\Delta^{+}_{i,t}$ GJC is a measure for job creation patterns for firms within a given category, such as GJC for small firm category or GJC for young firms
Gross Job Destruction (GJD)	The absolute value of negative unit level change in employment from t-2 to t That is, $GJD_{i,t} = \left\lvert \sum_{i}^{n} \Delta E^{-}_{i=1,t} \right\rvert$. GJD is a measure for job destruction patterns for firms within a cell such as GJD for small or young firm category
Net Job Creation (NJC)	The difference between gross job creation (GJC) and gross job destruction (GJD). That is, $NJC_{i,t} = JC_{i,t} - JD_{i,t}$ NJC can also be defined as shown in equation (6) which is net job creation for firms from t-2 to t. This is also termed as employment growth.

Following the definitions, there are a number of performance related equations. First is contribution of size category to total employment. The methodology employed in this section is whereby both firm level of employment and size are based on time *t*. The firm's level of employment is derived by multiplying each firm's reported employment by its sampling weight, which is the probability of being selected in a population of firms. Thus, the share employment by each size category reflects the patterns in the economy as a whole. The basic specification for this analysis is as follows:

$$s_{c,t} = \frac{E_{c,t}}{\sum c,t} \tag{1}$$

where, $s_{c,t}$is the share of employment for a given category, such small size in year *t*. $E_{c,t}$is the sum of weighted employment for all firms in that size category in period *t*. $\sum c,t$ is sum of employment in all categories in the economy.

The second performance variable is employment growth or job creation. Growth of an establishment can be defined as the difference in the number of permanent full time employees in a firm between two periods divided by employment in the base year period. This is expressed as;

$$y_{i,t} = \left(E_{i,t} - E_{i,t-2}\right)/E_{i,t-2} \tag{2}$$

where $y_{i,t}$ is job creation or destruction for firm *i* at time $t-1$, $\boldsymbol{E_{i,t-2}}$ is lagged employment for firm *i* at time t-2 and $\boldsymbol{E_{i,t}}$ is employment for firm *i* at time t. Nonetheless, concerns are usually raised about the limitation of using base year employment, as it is prone to regression to the mean. Therefore, in this paper job creation is defined as the change in employment between two periods, divided by the average employment. This method has two advantages. First, according to (Konings, 1995) it reduces the effects regression to the mean by accounting for fluctuations in employment between the periods being studied. Second, it is equivalent to taking the logarithmic differences of these employment data (Davis et al., 1996). This can be expressed as follows:

$$y_{,i,t}=\left(E_{i,t}-E_{i,t-2}\right)/0.5(\,E_{i,t}+E_{i,t-2}) \tag{3}$$

where $.5\left(E_{i,t}-E_{,i,t-2}\right)$ is the average employment for the two periods for firm *i*
The third category defines rate of Gross Job creation (Rate_GJC), rate of Gross Job Destruction (Rate_GJD) and rate Net Job Creation (Rate_NJC). The following model is applied in calculating gross job creation rate;

$$Rate\_GJC_{i,t}=\frac{GJC_{i,t}}{.5(E_{i,t}+E_{i,t-2})} \tag{4}$$

where $Rate\_GJC$ is the ratio of gross job creation over average employment at time t.
On the other hand, gross job destruction rate is defines the ratio of gross job destruction over average employment and is expressed as:

$$Rate\_GJD_{i,t}=\frac{GJD_{i,t}}{.5(E_{i,t}+E_{i,t}-2)} \tag{5}$$

Net job creation rate is the ratio of net employment change over the average of employment between the two periods studied divided by average employment.

$$Rate\_NJC_{i,t}=\frac{E_{i,t}-E_{i,t-2}}{.5(E_{i,t}+E_{i,t}-2)} \tag{6}$$

3. Methodology

The paper uses basic econometric model based on ordinary least squares (OLS). Thus, in order to investigate the relationship between job creation and destruction and size, age and ownership type, the following econometric model is used:

$$y_{i,t}=\beta_0+\beta_1\text{Age}+\beta_2\ \text{Size}+\beta_3\text{Ownership}+\beta_4\ \text{Sector}+\beta_5\text{Country}+\beta_6\text{year}+\varepsilon_{i,t} \tag{7}$$

where the dependent variable, $y_{i,t}$ is alternatively, gross job creation rare ($Rate\_GJC_{i,t}$) or gross job destruction rate ($Rate\_GJD_{i,t}$) or net job creation rate ($Rate\_NJC_{i,t}$). Age of the firm is alternatively used as a continuous variable and as a dummy variable. As a continuous variable age is the logarithm of the number of years since the time firm started operations and is based on time t-2. As a dummy, age takes three classes; Young: <= 5 years old, Mid-age: =>= 6 &<=10 years old, Old: >=11 years old. This age categorization has been applied in other studies such as (Ayyagari et al., 2011). Size of the firm is equally used alternatively as a continuous and a dummy variable. As a continuous variable size = average number of full time permanent employees in a firm between period *t and t-2* and is in logarithmic terms. That is, size = log ($E_t + E_{t-2}$)/2. As a dummy variable firm size is divided into three classes by the number of full-time permanent employees: Small: =5-19, Medium: =20-99, Large: >=100. These size dummies are constructed from the average number of employees between time t and t-2. The definition of size classes are based on World Bank's own classification of size across all countries surveyed. Ownership is used a continuous variable in all the regressions and is based on % of shares in the firm owned by Private domestic individuals /companies, foreign individuals/companies, or state. This definition has been used in previous studies (Hallward-Driemeier et al., 2006). In the descriptive analysis, ownership takes two classes; foreign identifies firms in which foreign individuals or companies have at least 51% shares, domestic private are firms in which domestic individuals or companies have at least 51% shares. Similarly the estimation controls for the firm's sector. Sectors are identified from World Bank's own stratification at the time of the survey. Sectors are dummy variables indicating whether the firm belongs to manufacturing or services sector. Since firms were interviewed in different years, year dummies are used to control for year specific effects in the analysis. Finally, the estimation model controls for country effects in all regressions. Hence the dummy variable for the countries is included in the model.

4. Descriptive Analysis

(1) Firm Mobility between Size Categories

This section looks at the mobility of firms across different size classes from the time they entered the economy to the time they were last observed. Firms make

direct contribution to job creation by growing and moving to other size categories. Nonetheless, studies from developed countries assert that only a small fraction of surviving small firms manage to move to larger size categories. Instead most firms that start out as micro, small or medium remain in the same size category and rarely add jobs (Storey, 1994). The statistic on firm mobility is calculated by comparing the number of employees firms had at entry and the number they have at the time of the survey. This statistic gives additional insights on job creation because mobility is related to change in the number of employees. It also helps to illuminate how long on average it takes firms in one category to move to other size categories (Van Biesebroeck, 2005). Furthermore, the mobility patterns could be varied depending on conditions inherent in each group of countries.

The results are shown in tables 3. The results present a fairly good mobility rate for micro firms across other categories. For example, in transition sample, 20% of firms started operating as micro enterprises. However, at the time of survey only 3% among continuing firms fall under this category. This tendency is reflected in firms in non-transition economies where a total of 24 % started out as micro enterprises, but in present, only 3% of firms are in micro category. A more striking result is that in the two samples only less than 1% of enterprises that start operating as micro manage to become large. This pattern is accentuated when examining the small firm category. A majority of firms that start out as small do not undergo profound structural change. In transition economies, 27% firms that started out as small remain small, while only about 2% become large. Equally, in non-transition category, 28% of firms that started out as small remained small, while only 3% of them became large. Another salient observation is that in both groups, the tendency for firms to revert to the initial size category is a rare phenomenon. For example, in transition economies, only 2% of firms that started out as large revert to medium size, while in non-transition sample, only 1% of such firms revert to medium category. The implication of these trends is that most firms that start operating as large are likely to remain large, while those that start out as small remain small- which means that "catching up" phenomenon is not prevalent among enterprises in the sample.

However, deviations can be observed in the time it takes firms to transit to the next category. Firms in non-transition economies take almost twice as much time to move to another group. For example, small firms in non-transition economies take an average of 28 years to become large, while similar firms in transition economies takes only 16 years on average. Similarly, micro firms in the transition

economies become large in approximately 15 years, while similar firms in non-transition economies take an average of 29 years.

Table 3. Firm Size Distribution from Birth

Size at Start	Current Size									
	Transition					Non-transition				
	Total	Micro	Small	Medium	Large	Total	Micro	Small	Medium	Large
Micro	0.20	0.02 (11.6)	0.15 (10.7)	0.03 (13.2)	<0.01 (14.5)	0.24	0.02 (11.8)	0.17 (14.0)	0.04 (21)	<0.01 (29)
Small	0.43	<0.01 (11.9)	0.27 (9.6)	0.13 (12)	0.02 (16.2)	0.46	<0.01 (15.3)	0.28 (13.2)	0.15 (18.2)	0.03 (28)
Medium	0.26	0.01 (22)	0.03 (13.5)	0.15 (11.2)	0.08 (13.6)	0.23	<0.01 (19.8)	0.02 (19.7)	0.14 (16.6)	0.07 (22)
Large	0.11	<0.01 (63)	<0.01 (20.3)	0.02 (20)	0.08 (15.2)	0.07	<0.01 (18.2)	<0.01 (19.9)	0.01 (23)	0.06 (21)
Total	1.00	0.03	0.45	0.33	0.19	1.00	0.03	0.47	0.34	0.16

Each cell gives the share of firms that started in the size class (size at start) and attained size class in current time (size at time of survey). The Total column and row give size distribution at start and at the time of survey respectively. The statistics in parenthesis is the average age of firms in one cell.

(2) Share of Employment by Firm Size Across Sectors

This section assesses the role different firm size categories in private sector employment. The analysis is based on equation 1, where each observation is multiplied by its sampling weights. Researchers and policy makers are interested in understanding the contribution of small firms to the private sector employment relative to large firms. This can be done by assessing their share in total employment in the economy (Ayyagari et al., 2003). The way employment is allocated to firms of different sizes can vary based on the economy's characteristics, including the level of structural transformation (Rodrik, 2013; Biggs and Oppenheim, 1986) and economic system (Ayyagari et al., 2003).

The results are presented in Table 4. Across sectors, the results highlight that large firms account for a bigger share of total employment in the manufacturing sector than they do in services sector in both samples. However, the intensity is varied across the two samples. For example, in transition economies large firms

account for 30% more employment in manufacturing sector than large service firms. On the contrary, the difference in the share of total employment between large manufacturing firms and large service is only 10% in the non-transition sample. Comparing share of employment by small firms across sectors indicate that in the two samples, small firms have a larger share of employment in the service sector than they do in the manufacturing sector. This means service sector employ more people in small firms than manufacturing sector. These patterns are consistent with evidence from developed countries. For example, Bartelsman et al. (2005) found similar patterns in a study of advanced economies. These trends mean that economies of scale play a more critical role in the manufacturing sector than the service sector.

An interesting finding is that in non-transition economies large service firms' share of total employment is 28% more than the share of small and medium firms combined. However, in transition economies SMEs' share of total employment in the service sector is relatively bigger than that of large firms, as they account for 54% of total employment. This suggests that economic activities in the service sector are concentrated in SMEs in transition economies.

On the whole, it can be concluded despite their differences in economic origins, the pattern of employment across firms of different sizes is similar. In the manufacturing sector, SMEs' share of total employment is very similar across the two samples. This highlights that the role of large firms as main employers in not different between transitional and non-transitional economies. This is inconsistent with conventional notion as one would expect that in transition economies, large firms account for a disproportionately bigger share of total employment compared to non transitional economies. This is because previously, large and state owned firms were more prevalent in transition economies. In some non-transition economies, for example, SMEs' share of total employment was less than 10% (Ayyagari, 2003). Thus, the comparability of the results in this analysis suggests that after privatization in transition economies, private sector activity is evolving to resemble those of non-transition economies. Previous studies such as Bartelsman et al. (2005) and Criscuolo et al. (2014) also found that despite that SMEs account for a large share of all firms; their contribution to total employment is modest. This trend can be because most jobs created by SMEs are not durable, thus on aggregate they account for only a small share of total employment in the economy.

However, it is often argued that the share of employment by small domestic firms is subject to 'crowding out effect' by foreign owned firms. Since foreign owned firms tend to be larger, their prevalence in the developing countries can overshadow the contribution of small domestic firms to total employment. To test crowding out effect, foreign owned firms are dropped from the analysis. Firms are regarded as foreign owned if private foreign individuals or companies own 51 percent or more of their shares. The results shown in Table 5 are discussed in conjunction with those in Table 4.

The impact of excluding foreign owned firms is varied across the samples. However, on the whole, crowding out effect is not a major concern in both samples. Transition economies records the least variations in the share of employment accounted for by SMEs, with only manufacturing firms recording an increase of 1% when foreign owned firms are dropped. This may indicate that foreign owned establishments are not prevalent in this group, a fact that may be due to either unattractive business environment in these economies or less openness to foreign investments. For the non-transition economies, the share of employment accounted for by SMEs in service sector increases by 3 %, while that of large service firms falls by similar percentage. On the contrary, SMEs in manufacturing increases their share of total employment by merely 1%. This result suggests that 'crowding out' effect may be greater in services sector in non-transition sample.

Table 4. Share of Employment by Firm Size Across Sectors: All Firms

Economy	Large Manufacturing	Medium Manufacturing	Small Manufacturing	Large Service	Medium Service	Small Service
Transition	0.76	0.20	0.04	0.46	0.28	0.26
Non-transition	0.74	0.21	0.05	0.64	0.22	0.14

Table 5. Share of Employment by Firm Size Across Sectors: Domestic Firms Only

Economy	Large Manufacturing	Medium Manufacturing	Small Manufacturing	Large Service	Medium Service	Small Service
Transition	0.75	0.21	0.04	0.46	0.28	0.26
Non-transition	0.73	0.22	0.05	0.61	0.24	0.15

IV. ECONOMETRIC ANALYSIS

This section provides detailed econometric analysis for job creation and destruction by size, age and ownership type of the establishments. Since theories contemplate variations in the behavior of firms in transition and non-transition economies, it is of particular interest to document these heterogeneities. To avoid Galton's fallacy, the regressions are performed using average size. A few firms that were too large are omitted from the data. Furthermore, Haltiwanger et al. (2013) underscores that an inverse relationship between size and job creation disappears once age of the firms is controlled. Hence, in each regression size and age, are first regressed in isolation in order to test their independent association with job creation. Subsequently, multivariate regressions are performed to assess the sensitivity of the relationships to the inclusion of additional firm level characteristics. However, sector, year and country dummies are included in all the regressions. All retrogressions are based on Ordinary Least Square (OLS) and are weighted by survey weights. Using survey weight means the results obtained can be generalized to the entire economy.

1. Estimation Results

The results in tables 6-8 are based on equation 7. The first two tables display results for gross job creation and gross job destruction. Gross job contraction and gross job destruction assesses the 'in and out' behavior of firms which is associated with job reallocation and industrial reorganization. Firms are more dynamic when they report high gross job creation as well as high gross job destruction rate.

First, the results in columns 1-3 and 5-6 of Table 6 are broadly similar in terms of direction of association between size, age and gross job creation across for the two samples. In both samples, the coefficient for size and age are significant and negative in all the alternative specifications, including when age is held as control variable. This implies that small and young firms have higher rates of gross job creation.

Nevertheless, a further examination of the results depicts the heterogeneous behavior of firms in transition and non-transition economies in columns 4 and 8. In transition economies, the analysis indicates that small firms exhibit higher gross job creation even after allowing firm ownership in the model. On the contrary, in

non-transition economies the significance of size disappears at the inclusions of additional variables in column 8. Moreover, in this last specification, state owned firms in transition economies exhibit a lower rate of gross job creation, while in the case of non-transition economies both foreign, state owned and private domestic firms do not have varied rates of gross job creation. It is also seen that the sector in which the firm is operating is important in transitions economies, as firms in the manufacturing sector exert a positive effect on gross job creation. This pattern is robust across the different specifications. The results non-transition economies show no statistically significant differences between the sectors in gross job creation.

Table 6. Gross Job creation: Transition and Non-transition Economies (with Age Size as Continuous Variables)

Variable	Transition				Non-transition			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lnsize	-0.043		-0.040	-0.039	-0.019		-0.009	-0.005
	(13.69)***		(10.95)***	(10.37)***	(4.89)***		(1.38)	(0.50)
Lnage		-0.036	-0.026	-0.026		-0.050	-0.047	-0.048
		(19.45)***	(13.64)***	(14.53)***		(3.60)***	(3.07)***	(2.91)***
Foreign				-0.000				-0.000
				(0.43)				(1.36)
State				-0.001				-0.001
				(11.92)***				(0.84)
Manufacturing	0.034	0.007	0.037	0.038	-0.006	-0.004	-0.001	-0.003
	(6.46)***	(3.52)***	(7.22)***	(7.33)***	(0.37)	(0.27)	(0.04)	(0.18)
_cons	0.660	0.552	0.674	0.672	0.442	0.471	0.492	0.489
	(56.96)***	(54.70)***	(63.65)***	(59.72)***	(51.60)***	(17.67)***	(33.45)***	(37.46)***
R^2	0.073	0.035	0.083	0.085	0.130	0.152	0.153	0.150
N	4,599	4,599	4,599	4,576	21,763	21,763	21,763	21,294

** p<0.1; ** p<0.05; *** p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics are in parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively.*

The next analysis with respect to gross job destruction across the samples is reported in Table 7. Columns 1-4 in display the results for transition economies. The results show that there is no deviation in the patterns of job destruction between firms of different sizes in transition economies. The coefficients for size are negative but not significant. This pattern is held constant whether age is omitted from the regression in column 1, and after age and other variables are added in columns 2-4. Since job destruction is a result of failure rate, it can be expected that when small firms find profitable niches as may be the case in transition economies, their job destruction rate will decline.

Significant differences between the two groups are observed when the regression results for transition economies are compared with those of non-transition economies in columns 5-8. In the case of non-transition economies, the coefficient for size is negative and statistically significant, implying that small firms exhibit higher job destruction rates than large ones.

Table 7. Gross Job Destruction: Transition and Non-transition Economies
(with Age and Size as Continuous Variables)

Variable	Transition				Non-transition			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lnsize	-0.013		-0.018	-0.020	-0.017		-0.016	-0.012
	(0.58)		(0.81)	(0.82)	(4.04)***		(2.72)***	(2.02)**
Lnage		0.048	0.052	0.048		-0.013	-0.009	-0.003
		(2.28)**	(2.20)**	(2.32)**		(0.85)	(0.60)	(0.22)
Foreign				-0.000				-0.000
				(2.43)**				(0.11)
State				-0.000				0.001
				(0.04)				(0.72)
Manufacturing	0.028	0.006	0.031	0.028	0.019	0.015	0.020	0.013
	(0.77)	(0.56)	(0.85)	(0.74)	(0.140)	(1.17)	(1.56)	(0.80)
_cons	0.336	0.223	0.247	0.264	0.323	0.300	0.334	0.309
	(8.17)***	(4.85)***	(6.64)***	(7.05)***	(27.40)***	(10.79)***	(17.53)***	(25.33)***
R^2	0.030	0.042	0.050	0.051	0.100	0.091	0.100	0.102
N	1,828	1,828	1,828	1,818	9,921	9,921	9,921	9,736

** p<0.1; ** p<0.05; *** p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics arein parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively.*

The regression with age in transition economies shows a positive relationship between age and gross job destruction. This provides evidence that old firms in transition economies have a higher rate of gross job destruction than young firms. This contrasts non-transition economies where age is not significantly related with gross job destruction across all the specifications. This can imply that the learning effect is greater in transition economies. Thus, as young innovative firms enter new market niches, they force old inefficient firms to exit.

The estimation model in column 4 introduces ownership into the analysis. The results for transition economies show that firms with foreign ownership have lower gross job destruction rate, while job destruction rate for state owned firms is not statistically different from the reference group. However, the coefficient for foreign owned firms is so small that it makes no economic difference. For non-transition economies, the results shown in column 8 demonstrate identical rates of job destruction for foreign, state and domestically owned firms. With respect to sector, the analyses show that manufacturing and non manufacturing firms in two sub-samples do not have variations in job destruction patterns in the alternative specifications.

The results for net job creation equally demonstrate considerable variations in the behavior of firms across the two samples. The results are shown is Table 8. Columns 1-4 document the results for transition economies. The estimates indicate that the coefficient for size is significant and negative. This finding remains constant even after age is used as a control variable in column 3 and after firm ownership is allowed in the model in column 4. This means that small firms in transition economies exhibit higher rates of net job creation than large firms. A stark contrast is evident in the results for non-transition economies. As indicated in columns 5-8, the coefficient for firm size is significant and positive, which means that large firms report higher net job creation relative to small firms. This divergence between the two samples may imply that small firms in transition economies could be taking advantage of the available market niches to expand their employment. However, in non-transition economies where the market is saturated, large firms that enjoy economies of scale expand faster than small ones.

Conversely, examining the role of age in the transition economies in column 2-4, the result indicates that the coefficients are negative and significant. A similar pattern materializes in non-transition economies in columns 6-8. Thus, in both samples, young firms have higher rates of net job creation, while old ones are stagnating.

A further analysis of results in columns 4 and 8 shows that the coefficient for state owned firms in transition economies is statistically significant and positive, which means that state enterprises have a positive impact on net job creation. This underlines the significant role that state enterprises continue to play in these economies. This finding is consistent with the theory of soft budget constraint which states that government can subsidize firms in which it has control to allow them to increase employment at the expense of efficiency. That notwithstanding, the coefficient for state ownership is so small that it makes no economic difference. In non-transition sample, the results demonstrate that firms in the three ownership groups do not differ in their net job creation patterns. However, this result is still counterintuitive as it is generally assumed that state run enterprises underperform private firms in job creation. Another key finding is that sector differences matter in net job creation in transition economies as manufacturing firms create more jobs than the services sector firms. This can be contrasted with non transition economies where sector of the firm does not matter in net job creation.

Table 8. Net Job Creation: Transition and Non-transition Economies
(with Age and Size as Continuous Variables)

Variable	Transition				Non-transition			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lnsize	-0.016		-0.010	-0.009	0.022		0.029	0.034
	(5.57)***		(2.45)**	(2.38)**	(1.84)*		(1.96)*	(1.80)*
Lnage		-0.064	-0.062	-0.061		-0.027	-0.034	-0.034
		(14.27)***	(14.62)***	(15.40)***		(3.42)***	(2.93)***	(3.01)***
Foreign				-0.000				-0.001
				(1.65)				(1.43)
State				0.000				-0.002
				(8.53)***				(1.33)
Manufacturing	0.051	0.051	0.059	0.060	-0.036	-0.018	-0.029	-0.031
	(6.58)***	(8.17)***	(6.24)***	(6.44)***	(2.23)**	(1.59)	(1.92)*	(1.90)*
_cons	0.207	0.240	0.263	0.263	0.109	0.215	0.148	0.161
	(10.07)***	(12.75)***	(12.64)***	(13.09)***	(3.53)***	(14.37)***	(6.06)***	(8.07)***
R^2	0.061	0.090	0.090	0.090	0.083	0.084	0.094	0.110
N	9,517	9,517	9,517	9,464	50,062	50,062	50,062	49,122

** p<0.1; ** p<0.05; *** p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics arein parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively.*

In sum, it can be recognized the heterogeneous behavior of firms in transition in comparison to non-transition economies. This divergence is more profound with respect to size, sectors and firm ownership. The key findings provide evidence that small firms in transition economies have higher rate of job creation relative to large firms. The regressions with ownership also show deviations in the two samples. In particular, state owned firms are found to exert positive and significant effect in net job creation in transition economies, while in non-transition economies net job creation rates is similar across ownership categories. Furthermore, sectors also matter in transition economies. In non-transition economies, the net job creation for large firms is considerably higher than that for small firms. This could be because in these economies the market is already saturated. The analyses also establish that young firms create more jobs in both samples. Even more interesting is the finding that firms with higher state ownership have a higher net job creation than wholly privately owned firms. This result is similar to the findings of Lipsey et al. (2010) who established similar results with manufacturing firms in Indonesia.

2. Robustness of the Results

Tables A1-A3 presents the results for the two samples when the regression analysis performed with size and age dummies. All regressions include sector, year and country dummies.

In table A1 the analysis for gross job creation confirms the findings presented in Table 6. The results for transition economies find that both small and medium firm dummies statistically significant and positive, implying these firm have higher gross job creation. The estimates with age dummies reveal that, while young firms possess high gross job destruction rate, gross job creation rate for mid-age firms are not substantially different from old firms. The analysis for sector and ownership are equally consistent with those obtained when the analysis is done with continuous variables.

In the results for non-transition economies provided in table A1 columns 5-8, only the dummy for small firms is positive and significant, but the dummy for medium firms even though positive, is not significant under all the specifications considered. The estimates in Table 6 columns 7-8 showed that the coefficient for size is negative but not significant. Put together, this corroborates that although

there is an inverse relationship between size and job creation, the relationship is not strictly linear. On the other hand, when the dummies for age are incorporated in the analysis for non-transition economies, the result for young firms is robust even upon controlling for firm ownership, while the coefficient for mid-age firms is positive but not statistically significant. Further, results for sector and ownership also confirm those in Table 6.

Table A2 shows results for gross job destruction. The estimates with size and age dummies for the transition economies are consistent with the analysis based on continuous variables. In the analysis of ownership, the result for foreign firms shows that even though the coefficient is negative, its significance disappears in table A2. In Table 7 the coefficient for foreign owned firms is negative and significant. But the coefficient is too small such that it makes no economic difference. Thus the subtle variation in this result does not make material difference. The robustness check with size dummies in non-transition sample similarly upholds that small firms destroy more jobs, while the phenomenon is similar in medium and large firms. This implies non linearity of the association between size and job destruction. With respect to age, the findings in column 6 depict mid-age firms to be destroying more jobs, a finding that mimics that of transition economies. But the significance is lost once size and ownership is allowed in the regression, which makes this result similar to the analysis with age as continuous variable.

The robustness check for net job creation with size and age dummies is displayed in table A3. The results for transition and non-transition economies remain largely similar to the regression with size as continuous variable. The findings similarly verify that young firms have higher and positive net effect in job creation, but the effect of mid-age firms is not different from old firms. The estimates for sectors and ownership are also robust in the two samples. Thus, these results support the implications drawn upon regressions with continuous variables.

Further robustness checks are carried out for the net job creation where there seem to be remarkable variations between transition and non-transition sample particularly in respect of size and ownership. In the further analysis, transition dummy is used in the analysis rather than separating the countries in distinct samples. Furthermore, the analysis is limited to countries that were surveyed in the year 2013 only. The results are provided in table A4 in the appendix. In column 2-9, pure size effect is positively related with net job creation, as established in the non-transition sample. Similarly, pure age effect has an inverse relationship with

net job creation as the case demonstrates in the previous samples. When size is interacted with the transition dummy, the results remains robust, meaning that small firms in transition economies have a higher net job creation rate than large firms. The interaction between age and transition dummy is shown from column 2. Whereas the variable retains a negative coefficient, it ceases to be statistically significant in the various specifications shown in table A4. Another illuminating result is with respect to the transition dummy which shows a positive relationship with net job creation in all the analysis performed in table A4. This means that firms in transitions economies are experiencing rapid rate of net job creation relative to the non-transition group which is the comparative category. The interaction between ownership and transition dummy further corroborates the previous findings indicating that state owned firms have a higher rate of net job creation in transition sample. Foreign owned firms performs less than domestic private firms as shown in column 9. The results also confirm that sector differences matter in transition economies; the interaction between manufacturing sector dummy and transition is significant and positive, which means firms in the manufacturing sector posses higher net job creation than those in services sector. This is consistent with the results in the previous analysis.

Everything considered the analysis finds that size is important in net job creation, but the direction of the effect is varied. In transition economies, small firms have a significant positive effect in net job creation. This contrasts the findings in non transition or matured market economies where the analysis establishes that size is positively associated with net job creation. The result for transition economies can be because in these countries, the market is not yet saturated. As a result, SMEs still have more market niches to explore and expand their employment faster.

The results for non-transition economies are consistent with the assertions of Haltiwanger et al. (2013) who presupposes higher growth for large establishments based on average size. With regard to age, there is a homogeneous finding which demonstrates that young firms have a higher net job creation rate. This result is robust across the two samples and is consistent with the theory of the learning model (Jovanovic, 1982). However, when age is interacted with transition dummy, the result is negative but looses significance. The slight variation in this respect could be as a result of the fact this data were not sampled by categories. Further, it could also be a reflection of the fact that on average firms in transition sample are

relatively young as shown in the descriptive analysis. This could blur the variation in their job creation rates when considered separately.

3. Discussions

The objective of this paper was to assess the role firm size, age and ownership in job creation and destruction in developing countries. The other objective was to establish the heterogeneity in the patterns of job creation and destruction for various firms in transition and non-transition economies.

Regarding the role of size in job creation, the results for gross job creation find that small firms exhibit a higher job creation rate even after controlling for age and ownership categories. Nevertheless, it also emerges that small firms have higher gross job destruction in non transition group. Thus, even though their gross job creation is high, small firms may also be experiencing greater volatility with the result that their net job creation rate is lower than that of large firms in non-transition economies. Similar conclusions have been established in other studies which have downplayed the role of small firms in net job creation when average size is used in the analysis (Haltiwanger et al., 2013; Davis et al., 1996). However, in transition economies, small firms do not exhibit higher rates of job destruction. This may be due to the prevailing opportunities to expand which lowers their failure rates. Hence, their net job creation is remarkably higher than large firms. The result is further confirmed in robustness analysis where size is interacted with transition dummy. Essentially, the variations in results between transition and non-transition economies could be because in transition economies, private sector activity is still in its infancy. As a result, small firms might be having greater opportunities for rapid growth. It can be hypothesized that once the market becomes saturated, this pattern is likely to be similar to that observed in non-transition economies. Indeed Yang (2004) makes a similar observation, concluding that entrepreneurs in transition economies are likely to find profitable market niches in the transition phase.

Greater firm dynamism exhibited by small firms has different implications; on one hand it signifies unstable employment where firms grow faster thereby expanding employment, but contract shortly thereafter destroying those jobs. On the other hand, such dynamism has been associated with greater productivity

growth among continuing firms as it allows only most efficient firms to continue operating.

Regarding the relationship between age and job creation, a more homogeneous pattern emerges across the samples, indicating a strong inverse relationship between two variables. This means that old firms experience lower rates of gross as well as net job creation. These patterns hold even after controlling for firm size and isolating ownership effects. This unambiguous relationship between age and job creation has been established in studies from developed countries which have increasingly emphasized the role of age in job creation and employment growth. This finding thus supports the theory of learning model as advanced by Jovanovic (1982).

The relationship between age and job destruction is indifferent in the non-transition sample. In transition economies old firms destroy more job than young firms. This means that in transition economies as young innovative enterprises explore profitable market niches, they force old incumbents to exit due to their inefficiencies, a phenomenon that is embedded in 'creative destruction' process. However, it is noteworthy that there is a selection bias towards successful young and small firms as the dataset does not provide information about exit rate. This indispensably underestimates the full potential of job destruction among young firms. Previous studies with information on firm exit show that young firms also destroy a great majority of jobs through exit (Criscuolo et al., 2014; Haltiwanger et al., 2013). Further, Pakes and Ericson (1998) demonstrated that exit rates accounted for a third of jobs lost in their study, and that this phenomenon is higher among young firms. Other studies have also underscored that most young firms are prone to failure. In the US for example, only 30 percent young firms make it to two years, while only 50 percent can live up to five years. This figure is likely to be higher in developing countries where institutions supporting small enterprises are still underdeveloped. This inherently raises concerns about the longevity of jobs created by young and small firms. That notwithstanding, the data also misses information on new entrants, which disproportionately increases the ability of young firms to contribute to job creation (Haltiwanger et al., 2013). Thus, despite the limitation, the conclusion that young firms exhibit higher job creation is likely to remain unchanged. Further robustness analysis where transition dummy is incorporated in the analysis in table A4 broadly confirms the inverse relationship between age and net job creation. However, when interacted with transition dummy,

the coefficient for age remains negative but not statistically significant. It is conjectured that this could be arising from the fact that firms in the transition sample are on average young as shown in descriptive analysis. In table A5, on average firms in transition economy fall in the mid-age category. This means there is no wide differences in the distribution of observed firm age. The oversampling of young firms could blur the variations in job creation patterns as their strong employment growth is offset against each other. This may have been because the surveyed firms were not sampled by age. Similarly as observed by Konings et al. (1996), employment growth in transition economies could be driven by sector differences as firms enter and expand faster in sectors that were initially underrepresented in the socialist system. The interaction between transition and sector dummies confirm that firms in manufacturing experience a rapid rate of job creation than those in service sector.

Another intriguing result is with respect to firm ownership. The analysis demonstrates that foreign owned private firms do not perform better than domestic private firms in both samples. More interestingly, state owned firms which are conventionally expected to play a little role in job creation do not perform worse than domestic private firms. In fact, in transition economies, state owned firms have a positive effect on net job creation. This is true even when transition dummy is interacted with state ownership. The results for state owned firms means that in these economies the government might be providing subsidies to firms in which it has control. This allows them to overstaff because they are less concerned with efficiency gains. This is consistent with the theory of soft budget constraint, which as hypothesized earlier, is likely to be stronger in transition economies. Alternatively, this finding can mean that private firms in developing countries are not more efficient than state owned firms.

V. CONCLUSIONS

Unemployment, poverty reduction and industrial competiveness remain the most critical challenges facing developing countries. These countries similarly have the greatest gender disparities in labor market participation as well as constrained governments providing services across spectra of areas. These economic

challenges have been the primary basis for supporting SMEs in developing countries. Such interventions have been founded on the belief that SMEs create more jobs and could enhance productivity and industrial competitiveness in developing countries.

The findings of this paper cannot completely negate or affirm these assertions. However, the paper finds a robust result showing that at gross level, small and medium enterprises outperform the large firm category. But the fact that this group of firms exhibits a higher rate of job destruction presents a major policy dilemma. The implication of this phenomenon is that there is limited durable employment in this category of firms. Yet developing countries should be more concerned with creating durable and quality employment that can mitigate poverty and advance equitable growth. Further to this, the paper finds heterogeneity in the job creation patterns among firms in transition and non-transition economies. The results indicate that large firms in non-transition or matured market economies have higher net job creation rates than small firms. This contrasts with transition economies. On the other hand, young firms exhibit superior job creation rates relative to old ones. This means that in order to generate more jobs in developing countries, attention should be given to implementing policies that make it easy for start-ups to enter the economy. In transition economies, the higher rate of job creation exhibited by small firms could be seen as a temporary phenomenon attributable to larger market niches that small firms are still enjoying in these economies. This trend may change to reflect the patterns in non-transition economies once the market gets saturated.

Another remarkable result is that state owned firms perform better in net job creation in transition economies, or similar to private firms in non-transition samples. While this may be due to subsidies given to firms in these economies, it challenges the notion that state controlled firms are poor performers. Further studies with representative samples of firm ownership should inquire deeper into this phenomenon. Similarly, future studies with data on entry and exits is needed to assess how these results could change after accounting for entry and exit of firms. It is also a puzzle that foreign owned firms perform similar to domestic private firms. Foreign firms are more likely to access additional resources and competencies which are not available domestic firms. It is follows then that they are expected to exhibit superior job creation prowess.

Appendix A.

Table A1. Gross Job creation: Transition and Non-transition Economies (with Size and Age Dummies)

Variable	Transition				Non-transition			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Small	0.099		0.094	0.094	0.080		0.062	0.039
	(41.83)***		(31.77)***	(27.20)***	(5.32)***		(3.46)***	(1.46)
Medium	0.034		0.029	0.031	0.029		0.024	0.023
	(7.31)***		(7.66)***	(8.93)***	(1.47)		(1.40)	(1.42)
Young		0.040	0.031	0.033		0.077	0.065	0.077
		(7.69)***	(6.58)***	(6.94)***		(3.53)***	(2.47)**	(2.64)***
Mid_age		0.001	-0.006	-0.006		0.095	0.089	0.104
		(0.24)	(0.98)	(0.95)		(1.82)*	(1.78)*	(1.58)
Foreign				-0.000				-0.000
				(0.01)				(1.38)
State				-0.001				-0.001
				(7.98)***				(1.09)
Manufacturing	0.026	0.003	0.028	0.029	-0.005	-0.006	0.000	-0.003
	(6.11)***	(1.43)	(6.80)***	(7.16)***	(0.30)	(0.49)	(0.03)	(0.23)
_cons	0.451	0.487	0.430	0.426	0.332	0.331	0.293	0.305
	(117.28)***	(59.28)***	(93.02)***	(101.71)***	(28.13)***	(24.11)***	(33.07)***	(24.74)***
R^2	0.051	0.030	0.060	0.061	0.132	0.150	0.152	0.150
N	4,599	4,599	4,599	4,576	21,763	21,763	21,763	21,294

** p<0.1; ** p<0.05; *** p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics are in parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively, while Old firms are the reference category for firm size.*

Table A2. Gross Job Destruction: Transition and Non-transition Economies (with Size and Age Dummies)

Variable	Transition				Non-transition			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Small	0.057		0.073	0.091	0.073		0.068	0.051
	(0.86)		(1.27)	(1.34)	(6.25)***		(3.94)***	(2.40)**
Medium	0.016		0.032	0.053	0.028		0.025	0.015
	(0.95)		(2.33)**	(2.66)**	(2.01)**		(1.52)	(0.78)
Young		-0.115	-0.120	-0.111		0.012	-0.004	-0.008
		(2.85)**	(2.89)***	(3.11)***		(0.44)	(0.15)	(0.30)
Mid_age		-0.120	-0.122	-0.116		0.039	0.027	-0.003
		(4.10)***	(4.54)***	(4.65)***		(1.73)*	(1.42)	(0.16)
Foreign				-0.000				0.000
				(1.32)				(0.22)
State				0.000				0.001
				(0.04)				(0.72)
Manufacturing	0.035	0.007	0.036	0.033	0.020	0.015	0.021	0.014
	(0.88)	(0.59)	(0.96)	(0.87)	(1.56)	(1.10)	(1.60)	(0.80)
_cons	0.254	0.382	0.306	0.285	0.215	0.260	0.214	0.233
	(3.41)***	(17.53)***	(6.43)***	(4.71)***	(19.70)***	(16.30)***	(25.39)***	(12.62)***
R^2	0.033	0.074	0.082	0.090	0.102	0.093	0.105	0.105
N	1,828	1,828	1,828	1,818	9,921	9,921	9,921	9,736

** p<0.1; ** p<0.05; *** p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics are in parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively, while Old firms are the reference category for firm size.*

Table A3. Net Job Creation: Transition and Non-transition Economies (with Size and Age Dummies)

Variable	Transition				Non-transition			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Small	0.061		0.048	0.042	-0.050		-0.065	-0.086
	(11.34)***		(6.80)***	(7.18)***	(1.60)		(1.62)	(1.43)
Medium	0.045		0.037	0.031	-0.018		-0.022	-0.032
	(10.67)***		(7.59)***	(8.01)***	(0.81)		(0.95)	(0.95)
Young		0.095	0.092	0.090		0.050	0.062	0.059
		(24.05)***	(23.90)***	(26.19)***		(2.39)**	(2.20)**	(2.24)**
Mid_age		0.051	0.049	0.047		0.044	0.051	0.066
		(15.13)***	(15.24)***	(16.07)***		(1.45)	(1.44)	(1.34)
Foreign				-0.000				-0.001
				(0.72)				(1.33)
State				0.000				-0.002
				(4.30)***				(1.28)
Manufacturing	0.049	0.048	0.056	0.057	-0.032	-0.019	-0.027	-0.027
	(7.90)***	(8.01)***	(7.41)***	(7.58)***	(2.23)**	(1.91)*	(2.09)**	(2.13)**
_cons	0.108	0.095	0.052	0.062	0.209	0.136	0.178	0.219
	(4.93)***	(4.49)***	(2.23)**	(2.86)**	(7.22)***	(9.88)***	(9.20)***	(4.41)***
R^2	0.061	0.080	0.080	0.080	0.080	0.082	0.090	0.110
N	9,517	9,517	9,517	9,464	50,062	50,062	50,062	49,122

** p<0.1; ** p<0.05; *** p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics are in parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively, while Old firms are the reference category for firm size*

Table A4. Net Job Creation: Transition and Non-transition Economies (with 2013 Survey Sample Only)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
lnsize	0.006		0.015	0.013	0.023	0.014	0.022	0.022	0.021
	(0.88)		(2.48)**	(2.25)**	(4.17)***	(2.27)**	(4.14)***	(4.01)***	(3.39)***
Transition	0.097	0.081	0.058	0.056	0.078	0.076	0.088	0.087	0.116
	(39.36)***	(26.38)***	(3.99)***	(6.32)***	(2.40)**	(3.40)***	(2.55)**	(2.47)**	(4.67)***
lnAge		-0.053	-0.055	-0.055	-0.054	-0.051	-0.052	-0.051	-0.050
		(10.12)***	(10.16)***	(10.13)***	(9.85)***	(16.86)***	(17.59)***	(18.02)***	(18.92)***
Trans_lnSize					-0.019		-0.018	-0.018	-0.016
					(2.19)**		(1.87)*	(1.84)*	(1.67)
Trans_lnAge						-0.011	-0.007	-0.007	-0.009
						(0.86)	(0.49)	(0.48)	(0.68)
Foreign								0.000	0.001
								(0.90)	(1.77)*
State								-0.000	-0.002
								(2.74)**	(3.09)***
Trans_foreign									-0.001
									(2.05)**
Trans_state									0.001
									(2.33)**
Manufacturing	-0.022	-0.007	-0.016	-0.039	-0.043	-0.040	-0.044	-0.045	-0.045
	(1.03)	(0.36)	(0.79)	(2.35)**	(2.69)**	(2.47)**	(2.75)**	(2.89)**	(2.98)**
Trans_manufacturing				0.058	0.066	0.060	0.067	0.068	0.072
				(3.58)***	(3.82)***	(3.55)***	(3.82)***	(4.02)***	(4.25)***
_cons	-0.064	0.057	0.147	0.040	0.132	0.031	0.128	0.129	0.008
	(5.14)***	(5.32)***	(4.65)***	(2.16)**	(3.42)***	(1.81)*	(3.19)***	(3.15)***	(0.46)
R^2	0.06	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09
N	17,296	17,296	17,296	17,296	17,296	17,296	17,296	17,115	17,115

* *p<0.1;* ** *p<0.05;* *** *p<0.01: Regressions are weighted with median weights and clustered at country level. T-statistics are in parenthesis. Results for year and country dummies are not shown. Service sector and domestic private firms are the benchmarks for sector and ownership categories respectively, while non-transition dummy is the reference category for country groups. The analyses contain only countries surveyed in 2013.*

Trans=Transition dummy

Table A5. Descriptive Statistics for Key Variables

Variable	Transition			Non-transition		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
Net job creation	9517	0.069	0.3020	50062	0.066	0.318
Gross job creation	4599	0.276	0.213	21763	0.301	0.263
Gross job destruction	1828	0.333	0.289	9921	0.328	0.273
Firm size(continuous)	9517	116.95	639.29	50062	104.65	435.85
Small (dummy)	4207	1.00	0.00	22237	1.00	0.00
Medium(dummy)	3436	1.00	0.00	18170	1.00	0.00
Large (dummy)	1874	1.00	0.00	9655	1.00	0.00
Firm age(continuous)	9517	10.78	9.91	50062	16.98	15.50
Young (dummy)	2671	1.00	0.00	10506	1.00	0.00
Mid_age(dummy)	2871	1.00	0.00	10334	1.00	0.00
Old(dummy)	3975	1.00	0.00	29222	1.00	0.00
Domestic owned	9466	91.57	24.95	49220	88.79	29.26
Foreign owned	9469	5.59	20.95	49134	7.78	24.69
Stateowned	9469	1.948	11.74	49164	0.408	4.43
Domestic (dummy)	9003	1.00	0.00	45901	1.00	0.00
Foreign(dummy)	473	1.00	0.00	3505	1.00	0.00
Manufacturing	4672	1.00	0.00	31031	1.00	0.00
Service	4845	1.00	0.00	19031	1.00	0.00

Table A6. List of Countries by Grouping

	Non-transition Economies	Year of Survey		Non-transition Economies	Year of Survey		Transition Economies	Year of Survey
1	Afghanistan	2014	50	Liberia	2009	1	Albania	2013
2	Angola	2010	51	Madagascar	2013	2	Armenia	2013
3	Argentina	2010	52	Malawi	2014	3	Azerbaijan	2013
4	Bangladesh	2013	53	Malaysia	2015	4	Belarus	2013
5	Belize	2010	54	Mali	2010	5	Bulgaria	2013
6	Benin	2016	55	Mauritania	2014	6	Cambodia	2016
7	Bhutan	2015	56	Mauritius	2009	7	China	2012
8	Bolivia	2010	57	Mexico	2010	8	Georgia	2013
9	BosnianHerz	2013	58	Montenegro	2009	9	Kazakhstan	2013
10	Botswana	2010	59	Morocco	2013	10	Kyrgyz Rep.	2013
11	Brazil	2009	60	Mozambique	2007	11	LAO PDR	2016
12	Burkinafaso	2009	61	Myanmar	2014	12	Macedonia FYR	2013

Table A6. Continued

	Non-transition Economies	Year of Survey		Non-transition Economies	Year of Survey		Transition Economies	Year of Survey
13	Burundi	2014	62	Namibia	2014	13	Moldova	2013
14	Cameroon	2009	63	Nepal	2013	14	Mongolia	2013
15	Capeverde	2009	64	Nicaragua	2010	15	Romania	2013
16	Central Africa Rep.	2011	65	Niger	2009	16	Tajikistan	2013
17	Chad	2009	66	Nigeria	2014	17	Ukraine	2013
18	Colombia	2010	67	Pakistan	2013	18	Uzbekistan	2013
19	Cong Rep.	2009	68	Panama	2010	19	Vietnam	2015
20	Costarica	2010	69	PapuaNewGuninea	2015	20	Yemen	2013
21	Cotedivoiere	2009	70	Paraguay	2010			
22	DRC	2013	71	Peru	2010			
23	Djibouti	2013	72	Philippines	2015			
24	Dominica	2010	73	Rwanda	2011			
25	Dominican Rep.	2010	74	Samoa	2009			
26	Ecuador	2010	75	Senegal	2014			
27	Egypt	2013	76	Serbia	2013			
28	Elsalvador	2016	77	Sierra Leone	2009			
29	Eritrea	2009	78	South Africa	2007			
30	Ethiopia	2015	79	Solomon Island	2015			
31	Fiji	2009	80	South Sudan	2014			
32	Gabon	2009	81	Sri-Lanka	2011			
33	Gambia	2006	82	St. Lucia	2010			
34	Ghana	2013	83	StVincentGrenadines	2010			
35	Grenada	2010	84	Sudan	2014			
36	Guatemala	2010	85	Suriname	2010			
37	Guinea	2006	86	Swaziland	2006			
38	GuineaBissau	2006	87	Tanzania	2006			
39	Guyana	2010	88	Thailand	2016			
40	Honduras	2010	89	Timor-Leste	2015			
41	India	2014	90	Togo	2009			
42	Indonesia	2009	91	Tonga	2009			
43	Iraq	2011	92	Tunisia	2013			
44	Jamaica	2010	93	Turkey	2013			
45	Jordan	2013	94	Uganda	2013			
46	Kenya	2013	95	Venezuela	2010			
47	Kosovo	2013	96	WestbankandGaza	2013			
48	Lebanon	2013	97	Zambia	2013			
49	Lesotho	2016	98	Zimbabwe	2011			

Note: The table shows countries included in the study. In total there are 20 transition economies and 98 non transition economies. Countries were surveyed in different years. The column for year of survey indicates the year each country was surveyed.

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