
**Spatial Elements from a Survey¹: Constraints to Growth and Employment facing
Medium and Large Manufacturing Firms
in eThekweni Municipality²**

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1 INTRODUCTION

The industrial context has evolved markedly in the last five years, within South Africa, the province of KwaZulu-Natal (KZN), and in the eThekweni Municipality. After a period of economic contraction, fueled by the international economic crisis of 2008, signs of recovery have been slow to emerge, particularly in manufacturing, a key sector for economic growth. A survey of medium and large manufacturing establishments³ in the eThekweni Municipality indicates that firms were, when the survey was undertaken, engaging with some amount of internal changes, including gearing towards an expansion. Yet the firms have also encountered a number of challenges. Understanding the extent to which the challenges are area-specific is important given that medium and large firms have historically dominated the employment and production landscape of what is South Africa's second largest manufacturing region.⁴

This paper sets out space- or location-specific elements that emerge from data collected in 2013/2014, through a firm questionnaire, that has a business climate focus. Although the survey did not consistently probe on spatial elements, because the firms approached in the process of data collection were not selected on the basis of sub-spatial sectoral representation, and because spatial dynamics is a complex theme, what is contained therein is not necessarily a comprehensive presentation of what is happening in manufacturing in eThekweni from a strong spatial lens. Nevertheless, useful information has informed analysis of the data that provides insights relevant to local policy makers. Since the data have been collected in a particular municipality in South Africa (eThekweni/Durban), we can draw on some elements that help identify aspects of the local context that are critical to the growth of firms and issues around their embeddedness. We are also able to reflect on other critical elements which are reported by high level respondents (e.g. CEOs/MDs) in the firms pertain to the broader national and international arenas. We lay these out but do not include here elements that influence firm growth at the provincial scale as the respondents found the direct identification of such elements difficult to distinguish from other scalar dimensions. Moreover, through highlighting important sub-national or local features, that might either suggest divergence of convergence from national assessments in other reports and studies, the paper also raises the matter of analytical and policy processes that could be enhanced through drawing on micro-level data pertaining to particular geographic areas.

The paper contains five main sections. In Section 2, we set out the case for a Durban firm survey. This section presents some background information on the context of manufacturing in Durban including examples of a few aspects of the local economy which help shed light on some of the answers provided by firm respondents – e.g. demand, migration and skills as these are area-specific drivers of firm performance and expansion. What is laid out in this Section is fundamentally a case for general case for sub-national firm surveys generally and the Durban firm survey in particular. In Section 3 we set out some details on the survey instrument. In Section 4 we provide a high level presentation of the constraints to growth reported by the firms and the extent to which setting the eThekweni survey results against data obtained from firms in the main South African cities might point to local constraints. Section 5 sets out firm respondents' comments that relate to local advantages and disadvantages. Section 6 touches upon some local policy elements as they are articulated by firm-level respondents, and followed with some concluding comments.

³ Broadly speaking an establishment is the smallest unit at which productive activities happen. The concept is distinct from that of an enterprise, which is "the smallest legal unit that is an organizational unit producing goods or services". In other words, an enterprise is an institutional unit with financial and investment autonomy. The two can be the same when an enterprise only has *one* establishment but an establishment will typically have one principal productive activity in one single location. In practice it is hard to distinguish an establishment from an enterprise. Therefore the term enterprise is occasionally used in this paper instead of establishment. Similarly, when it is used with our survey results, the term firm is also synonymous with the term establishment.

The manufacturing establishments considered in this paper have at least 45 full-time employees (FTEs) though a higher figure of 50 FTEs is considered when comparisons are made with earlier surveys as this was the threshold number of FTEs for establishments to shift from the small- to the medium-size category.

⁴ The development of these firms at the heart of KZN's urban region, eThekweni, has been identified as a priority in both South Africa's New Growth Path and the National Development Plan. These two government documents highlight manufacturing sector strategies of labour intensive growth and emergence of investments in the economy as important elements of national growth over the medium and long term.

2 THE CASE FOR A DURBAN FIRM SURVEY

2.1 A general case

A number of different rationales were considered in motivations for the Durban Firm Survey. Probably the most important of these is that the eThekweni Municipality, and some of its predecessor local government structures, have stressed the importance of manufacturing in the local economy and have set out, under the country's post-1994 local government framework supportive of municipal-level local economic development, to work with various stakeholders to enhance the sector in a variety of ways. Gaining insight into the sector is thus an imperative and there has been a fairly consistent level of attention by the local state paid to factors ranging from infrastructure provision, land development, costs of doing business and various types of sector support programmes. It has also been clear that there exists a demand for evidence on the local economy by other local organisations, such as the Durban Chamber of Commerce, as well as various industry and professional bodies with an interest in various elements of the local economy. Thus the exercise has been viewed as having the potential to inform policy processes, both in terms of reviews of impact and in terms of identifying present factors needing attention.

The need for various actors to commission a new stand-alone piece of research has been further informed by the fact that no other alternative set of data is available with the eThekweni area as its reference point. Official statistics, produced by Statistics South Africa, are generally not able to report on manufacturing dynamics at the local (i.e. sub-national or sub-provincial level). Furthermore, various reports generated by national government departments or multi-lateral bodies have tended to take the national picture, or Gauteng, as their starting point for analysis. This has often seen sample biases in survey instruments towards the country's economic heartland and sample sizes have not allowed for any reasonable confidence reporting on issues and trends in a municipality such eThekweni.

The decision to do the research was also informed by a range of plans, at different scales, urging stakeholders to support manufacturing development. In recent years the National Development Plan (NDP) has been noted to be the plan against which government activity is designed. The NDP states that,

Economic growth needs to accelerate in a more inclusive manner. These are twin imperatives. Government's New Growth Path aims to create 5 million new jobs between 2010 and 2020. It seeks to do so by providing a supportive environment for growth and development, while promoting a more labour-absorbing economy. Its proposals are intended to lower the cost of living for poor households and for businesses through targeted microeconomic reforms, especially in transport, public services, telecommunications and food. Lowering the cost of living is a necessary adjunct to raising the *standard* of living and encouraging investment." (National Planning Commission, 2012: 39).

At the Provincial level the Provincial Growth and Development Plan (KZN Planning Commission, 2012) has also given some prominence to manufacturing to help generate growth in employment and incomes in the Province. In the document it is argued that,

The province must focus on the creation of employment through unleashing agricultural potential, enhancing industrial development through investment into the key productive sectors of manufacturing ... (KZN Provincial Planning Commission, 2012: 26)

Elsewhere in the document it is argued that,

The Province must ensure a continued focus on the traditional industries such as automotive and components, metal and metal products, chemicals, furniture and wood products, and clothing and textiles, through initiatives that seek to improve the competitiveness of these industries, and ensure their retention and expansion into new markets. (KZN Provincial Planning Commission, 2012: 33)

At the local level, there has also been extensive interaction by the current survey team members with

eThekwini Municipality's activities around the metropolitan economy. This has included making submissions for various policy exercises stretching back to the early 2000s and participating more recently in discussion on the eThekwini Economic Development Strategy (eThekwini Municipality Economic Development Unit, 2013). The Municipality's report explores a wide range of challenges facing the sector such as the high cost base and growing import competition, but also notes that Durban "has the potential to capitalise on its manufacturing base to become the premier centre for export production within the country and the SADC." (p. 17) The same strategy document proposes a particular focus on those sectors in manufacturing that are able to be "job creating", an element that is seen to be so essential in a context of high unemployment.

It is also important to note that firms provide a critical tax base to for the eThekwini Municipality. These funds enable the municipality to provide public services and are an important element of a redistributive fiscal system so critical in the country's highly unequal society. Of the Municipality's budgeted revenue for the 2013/14 financial year of around R25 billion, about four fifths was expected to come from property rates (R5 bn) and service charges, mainly utilities (R14 bn). Significant differences exist in property rates paid by businesses and households in eThekwini (and in other South African cities). For instance, in 2014/15 eThekwini residential rates were proposed at 1.043 cents in the rand (with a rebate to all households on the first R185,000 of any value of a residential property) compared to 3.053 cents in the rand for industrial land and 2.366 for business and commercial land and buildings. The higher industrial rates are linked to the notion that such areas require a higher level of general municipal service and infrastructure that is often specialised and cannot be reasonably apportioned to other rate payers.

These various policy thrusts beg the question as to the nature of the contribution to South Africa's manufacturing performance from different regions and also indicate the need to understand the relevance of various policy instruments across space. Different government scales see manufacturing through different instrumental lenses as is reflected in policy and thus seek to derive different combinations of impacts. However, beyond these very practical factors, there are also important conceptual and intellectual reasons to look at economic dynamics in a major urban conurbation such as Durban and the eThekwini region. Although this will not be discussed in any detail it is worth noting that a wide range of theories and empirical studies have highlighted the factors that influence economic activity across space and also how particular dynamics in space impact on economic aggregations at different levels.

Whilst neoclassical economics has tended to give less attention to impacts of spatial variables, these have become widely recognised in studies of economic activity. In exploring processes around the industrial revolution in Great Britain, Alfred Marshall, described what have subsequently been referred to as urban agglomerations of industrial activity. Marshall argued that firms find advantages to co-locating in urban areas because of external economies of scale arising from localisation and urbanisation effects. Localisation effects are those where a scaled up concentration of firms are able to benefit from factors such as a larger pool of appropriately skilled labour or common specialist service providers. Urbanisation economies on the other hand refer to factors such as firms being able to benefit from general infrastructure that comes with the scale of urban settlement. (Marshall, 1982)

Beyond Marshall, a wide range of studies have suggested that processes of geography interact with economic activity to yield uneven results across space. Jane Jacobs (1969) described how processes of specialisation in economic activity are associated with dynamics in urban space, which in turn contributed further to urban growth. At a more regional scale, descriptions of industrial districts in Italy (Beccatini, 1991) or Michael Porter's concept of regionally specific clusters (2003) have added further to the knowledge base of interactions of space and studies on economic activity across space. These, together with numerous other contributions (Glaeser, 2011; Scott and Storper, 2003; Storper, 2010 and others), provide a considerable case for greater appreciation of local processes in considering issues of national economic performance. Economists such as Paul Krugman also entered (re-entered?) the terrain of arguments that a geographical lens was useful, if not essential, in understanding specialisation between regions and places (Krugman, 1991, 2011).

Together these factors provided a solid base for conducting the Durban Firm Survey into medium and

large manufacturing employers in the greater eThekweni area. The fact that the last time such an evidence base was developed was over a decade ago added further to the impetus to conduct the survey as the context in the country has evolved significantly since the turn of the century although a number of researchers have tried to unpack the themes at greater length as set out in the next subsection.

2.2 A more detailed case

Some spatial economic analyses have been carried out in South Africa that identify trends within provinces or across provinces using a number of data sources that allow for such analyses, as and when these are released to researchers⁵ e.g. the Regional Explorer database from Global Insight (REX)⁶, the SARS postcode data for trade flows and industrial trade concentration⁷, data from the CIPC. Noting that some of the available spatial data are in fact imputed data (e.g. REX), there is, in contrast, with the exception of Krugell and Rankin (2012), no analysis that examines firm-specific characteristics and location explicitly. Also, although firm data for Gauteng were analysed in the early 2000s by a World Bank team, the results obtained from the relevant survey were extrapolated for the whole of South Africa based on the fact that no other substantial data source was available at the time. This was notwithstanding the fact that a similar survey carried out in the then Greater Durban Area soon after the one undertaken in Gauteng revealed that distinct factors were found to be at play in that different region of the country (Devey *et al.*, 2004). Interestingly, the two major firm surveys that have been undertaken in South Africa – the enterprise surveys of 2003 and 2007 – also did not bring into light any local element in the analysis of the data. This has been, instead, the object of analysis by Krugell & Rankin (2012) in manufacturing. The authors look at differences in firm efficiency (defined in their study as output per worker) across the main South African cities where these two aforementioned surveys were carried out (that is Gauteng, Cape Town, Port Elizabeth and Durban) as well as evidence of agglomeration economies in the data. They find that there are such effects for Gauteng only and that being in a coastal town has a significantly dampening effect on efficiency. This was a preliminary analysis because the data to accurately identify agglomeration economies were not available. The authors conclude that:

The key recommendation for further research is a call for dedicated firm-level surveys that investigate the sources of agglomeration economies from literature, namely intermediate inputs, the labour market, infrastructure and access to knowledge. When policymakers know more about how firms are rooted in their local economies, it may guide the direction of policies at national, provincial and local level. (Krugell & Rankin, 2012: 317)

The preceding discussion is a case in favour of a more nuanced approach that helps further refine city as well as firm growth trends, firm location and spatially specific features that matter for national growth and development (e.g. through growing exports). This also matters for local governments as they need to raise revenues to provide public services to a large number of poor residents. In turn, national policy-makers who require detailed data on firms to evaluate whether particular policy interventions are successful (e.g. beneficiation and localization) might need a sense of whether what is happening on the ground is the result of local as opposed to purely sectoral factors.

Our data do not address the problems confronting those who search for evidence of agglomeration economies.⁸ As will be explained in Section 3 below, our data are largely subjective data from firms located in the eThekweni Municipality only. This spatial dimension prevents us from generalizing our results to the whole of South Africa. Still, the information remains interesting from a national perspective because there are similarities between the city of Durban and that of Johannesburg and the

⁵ See Edwards & Sundaram (2013) for instance.

Census data and Community Survey data are used for social and demographic trends however (e.g. Todes *et al.*, 2010).

⁶ See Coetzee (2008) for KZN or Krugell (2011) for South Africa for instance.

⁷ See Naudé & Matthee (2007) for instance.

⁸ Documenting agglomeration economies from a firm-level perspective requires particular type of detailed data that are not really available in South Africa.

larger conurbation of Gauteng, the largest economic area in the country. Also, Durban has a relatively strong manufacturing orientation (notable in employment terms) compared to what has been observed in a number of other South African cities. We set out in what follows a discussion of the context of manufacturing in Durban and specific trends.

2.2.1 *Context of Manufacturing in Durban*

Particular spatial dimensions matter for the location of activities. Thus, climate, proximity to a key transport node (in the form of a port or an airport) for market access, access to labour, etc. define the attractiveness of an area. Local elements within countries relate to cities being subject to particular industrialization dynamics that are caused by a number of factors: by local or national policies or by historically defined national policies that have shaped the type of industrial base present in an area and subsequent production dynamics.

Cities are of themselves areas of growth. Urban diversity and urban size are associated with urbanisation economies.⁹ On the other hand, the growth of cities in terms of growing economic activities and employment is the separate result of linkages and connections being made across production and service activities. The connections, which relate to proximity – so that spillovers can be captured as emphasized by Krugell and Rankin (2012) – can lead to a positive circle of growth where benefits cumulate. Together with the movement of people towards richer areas and growing demand, this effect is not always positive for the broader region - polarization effects might occur whereby some cities grow fast while others contract.¹⁰

Krugell (2011) summarizes the findings of his economic research on city growth in South Africa concentrates on the fact that rather than convergence, South Africa is displaying divergence on a number of relevant indicators and a maintained pattern of spatial inequalities. Spatial inequality in production terms would also be shaped by historically segmented labour and good markets. However, Naudé & Krugell (2006) find that cities converge on some indicators of convergence (beta but no absolute convergence); that is there are signs of convergence conditional on human capital (education levels), distance from Johannesburg, export orientation¹¹ and capital stock. Capital stock is taken by the author as a proxy for investment and thus a good investment climate in a magisterial district.

With regards to the above, it should be noted that Durban's development coincides with the longest episode of South Africa's development with economic activities first starting in the coastal areas in the country. Also from an overall perspective Durban and Gauteng are distinct from other economic areas. In its present day, eThekweni is large - in contrast to the finding that the size of cities is sub-optimal in South Africa¹² – and fast growing (Krugell, 2011) Durban is also characterized by a high population density (about 1.5 times that of Gauteng, although lower than that of Johannesburg due to the eThekweni Municipalities extensive peri-urban and rural hinterland that is included in the municipal boundary). In turn, Durban's growth has, until recently, been associated with a growth in in-migration (Todes *et al.*, 2010; Posel, 2015). In parallel, while unemployment levels are generally not significantly lower in the main cities than elsewhere on average (using the narrow definition of employment),

⁹ These are a form of agglomeration economies, that is, as explained earlier, economies that can tapped upon that are related to general service and infrastructure provision. Urbanisation economies are derived from diverse yet spatially concentrated economic activities.

¹⁰ Polarisation is theorised by the field of (new) economic geography.

¹¹ Recent research has however highlighted that South African firms have, in fact, a limited export orientation (with the overall pattern of exports influenced by what has been termed "super exporters"). The latter is indicative of an underlying economic structure whereby a small set of firms performs well and is able to penetrate foreign markets and to compete at that level. Specifically, the World Bank has established that around 1,000 exporters account for 93% of the country's exports; the remaining 7% of exports are produced by another 20,000 small scale exporters (Farole, 2014).

¹² This means that rather than offering localization economies prospects, cities tend to only offer local economic prospects as explained by Krugell (2011).

As noted above, localization economies are associated with externalities that arise from industrial specialization or with a grouping/concentration of firms which engage in the production of complementary goods and services. This is about firms being near each other.

employment has tended to grow faster in eThekweni when compared to the national average, at least in the early 2000s (2001-2004 in data analysed by Todes *et al.*, 2010). Its manufacturing base and the importance of manufacturing is distinct from that observed in other larger cities in South Africa however.¹³

There is evidence that Durban offers urbanization rather than localization economies. This emerges in key data and indicators reported by Krugell and Rankin (2012) although that piece specifically identifies agglomeration economies in Gauteng. The authors further find that “location does help explain differences in the efficiency of manufacturers” and that “firm specific determinants of output are significant” (p. 316). In terms of policy, because the authors find that the size of the home market positively and significantly impacts on efficiency, “spatially target interventions” would “tend to be inefficient”. Infrastructure that connects distinct economic spaces and the improvement of general institutions are the policy options put forward by the authors and this is in line with the World Bank (2009) recommendations.

What various researchers find on South African cities is important from a policy perspective. There are strong debates on the right interventions from a spatial perspective. But whereas urbanization economies are important for firms when they start production, localization economies shape the performance of existing firms. More broadly, however, the sources of agglomeration economies are not well established empirically although as set out in the discussion above of Marshallian externalities, policies that help enhance information and input sharing, knowledge spillovers and labour market pooling would contribute to business growth. The impacts of the latter together with knowledge are generally identified as important sources of agglomeration for industry (Rosenthal & Strange, 2004). Input sharing takes the form of firms being able to save on input costs (e.g. via transport costs reduction) when they are located near their input supplier; knowledge spillovers are intangible but could include formal and informal insights gained from firms observing one another or exchanging knowledge. This is frequently proxied by the presence of skilled workers in an area when such effects are tested. Finally labour pooling is more complex; although traditionally related to industry-specific skills being available in abundance. This is in contrast to the need for firms to find workers with the relevant skills and training (a matching dimension associated with localisation rather than urbanisation economies). Local policy makers can influence some of the aforementioned but national policies can also enhance or override these.¹⁴

What is happening in the city of Durban cuts across policy and non-policy elements, although it can be argued that over time the policy and non-policy elements are somewhat intertwined. From a non-policy perspective, activities in the city have been shaped by the presence of a port which is a natural (geographic) feature, but one that has been substantially altered by policy interventions over time (see Valodia, 1999; Morris *et al.*, 2002). The port of Durban, by being a main point of entry has shaped the establishment of some industries. For instance, as unrefined petroleum enters South Africa and the Southern African region in Durban, a large basic petro-chemical hub and auxiliary activities emerged in the city. In contrast, possibly because the port is a major point of entry for containers, further manufacturing development might have been somewhat limited (Hall and Robbins, 2007). Manufacturing firms would have a relatively high import orientation given the presence of a relatively poor local and provincial market. This imbalance and the historical support of a mineral energy complex in South Africa (Fine and Rustonjee, 1996) have caused heavy industries in the city to have few or shallow linkages with other firms and a number of the very large resource-intensive firms in the city to be turned towards activities that are around the basic transformation of key products. This has generated a relatively limited, narrow manufacturing production base (Fedderke and Szalontai, 2009). Instead the presence of the port has much to do with a service sector base that is relatively large and

¹³ For instance over 2008 and 2013, 15.3% of formal employment was in manufacturing in eThekweni compared to a similar share of 19% of Gauteng (but 19.7% for the Ekurhuleni Metro) and 15.1% for Cape Town.

¹⁴ For instance, an abundance of a particular type of labour together with a national policy of controlling the movement of people has markedly shaped the temporary rise and collapse of particular production centres in South Africa such as some of the industry development nodes under apartheid. History has thus shaped the migration and urbanisation trends that are presently observed in parts of South Africa (Todes *et al.*, 2010).

dominated by transport and warehousing (logistics).

In parallel, the pattern of industrialization of the city has been influenced by some characteristics of what is happening in its broader areas. At its most basic, cities are situated in broader regions which define the type of goods for which there is a comparative advantage. There are some links between firms in Durban and activities in the hinterland although there are limits to these for a number of reasons; although the KZN province is endowed with some mineral resources, these are located in the north and exported after relatively little transformation given the industry structure (nationally as well as internationally) and that massive demand for raw material is outside the borders. An expansion of agricultural production is also constrained by fragmented/small farm size and particular governance arrangements on land use in the province with the exception of some agricultural products (e.g. milk). The bulk of food and beverage manufacturing in Durban tends to involve the basic transformation of imported goods (e.g. grain milling, packaging) with a few notable exceptions.

The preceding discussion points to elements of a fragmented market in the city. Positively, eThekweni has good connections to foreign markets and to Gauteng, the largest market in the country. The outward orientation, particularly export, is important for growth and has been associated with fast urban growth in South Africa, including Durban. However, eThekweni has relatively few manufacturers that sell intermediate inputs as shown by Krugell and Rankin (2012). Interestingly, pre-crisis, that is in 2007, the firms' use of foreign inputs in Durban was on par with that of Gauteng according to data considered by the authors (Krugell and Rankin, 2012: 315, Table 9).

The few locational pointers set out above as examples of Durban specific features cannot be taken in isolation from what is happening in the national policy arena. Thus, incentives in the automotive sector, combined with large scale production by foreign companies for foreign markets, have tended to cause a number of car manufacturers to be located near ports in South Africa.

With industrial policy largely set at the national level, it is sub-sector support, small firm development or large-firm specific interventions, when these are required and called for, that are most evidently seen as the domain of local policy makers in Durban.¹⁵ Yet, local policy makers have engaged with specific interventions as defined by the local context, at types informing national policy-makers about the possibility of some innovative interventions – e.g. clusters, hubs (e.g. fashion hubs support).

Interventions, at the local level, have also been developed around the establishment and support of industrial zones/estates and other zoning interventions. Thus local policies, or elements thereof, are in place that influence both the expansion and investment decisions of firms. A number of other types of interventions are in the local domain. These are in the form of infrastructure provision and maintenance that have a local dimension. Infrastructure provision varies across South African cities but tend to be good by international standards. However, there are sub-spatial nuances. Also, infrastructure maintenance reflects budget allocation priority decisions and variations in the quality of infrastructure provided (DBSA, 2012). The presence of particular sectors in particular areas is not always taken into account in this regard, however. In turn, relationships with industries and the administrative context which industry operates vary across South African cities.

2.2.2 Some manufacturing trends in eThekweni

The above sets a general case for a distinct examination of what is happening in Durban from a manufacturing as well as from a firm specific perspective. A few additional data are laid out next that presents some aspects of manufacturing in Durban.

(a) Changes in manufacturing performance

South Africa has been impacted upon by the global economic crisis. A most basic indication of this is

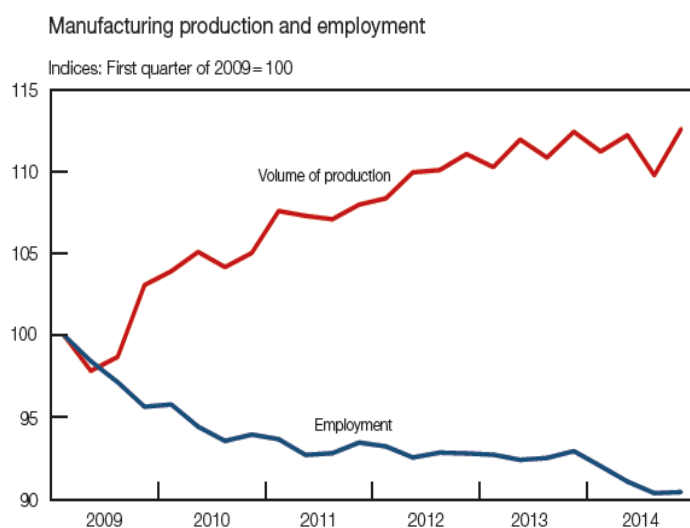
¹⁵ Similarly, interventions in the area of training/skills support are seen as a national domain of intervention with the SETAs/SETA system playing a key role in this regards.

with the fact that unemployment levels surged from the end of 2008.¹⁶ Although the unemployment rate stabilized somewhat after that, by the end of 2014 unemployment had still not dropped to its pre-crisis level (see SARB, 2014:20; SARB 2015); employment growth by the private sector has so far recovered relatively few jobs; limited duration contracts are increasing in numbers as a result of the crisis. Positively, however, data from the Quarterly Labour Force Survey (QLFS) reported in SARB (2014) have identified that public and private companies in the non-agricultural sector with more than 50 employees have been more resilient to employment loss than other firms during the crisis.¹⁷

While the crisis has influenced some manufacturing performance trends, the sector was already, prior to the crisis, underperforming in South Africa. While South Africa seems to have a service sector contribution to GDP that is similar to what is observed in many advanced economies, some describe the manufacturing sector as having been affected by a long phase of adverse development. The term de-industrialisation is sometimes used to refer to the small and declining contribution of manufacturing to the economy as a whole. Data suggest that, in fact, the crisis would have accelerated this trend of de-industrialisation. South Africa is not the sole country displaying this contraction of manufacturing but a concern is that the recovery is taking longer than anticipated.

Particular problems are noted in South Africa that would impact on the manufacturing sector and sub-sectors. Issues pertaining to cost increases and high port charges affect the performance of firms as well as their position in the global economy. Another important problem area for the economy highlighted in national data is in terms of low level of (labour) productivity. This is also observed when South Africa is compared to other countries although there are indications that gaps in GDP/capita and productivity between South Africa and Organisation for Economic Co-operation and Development (OECD) countries have marginally improved since 2008 (OECD, 2015). Also, there are indications of a decoupling, in South Africa, between production volumes and employment in manufacturing that, in the light of limited physical investment is indicative of labour productivity improvements. Figure 1 below, which is reproduced from SARB (2015), shows this and how production volumes recovered between 2009 and 2012 while employment levels declined in that period. Production volumes have notably fluctuated between 2013 and 2014.

Figure 1. Manufacturing and employment changes



Source: SARB (2015:20).

¹⁶ The official unemployment rate rose from 21.5% (year-on-year) in late 2008 to reach 25% in 2010.

¹⁷ This finding echoes with results from Kerr *et al.* (2013) who find that larger firms make a greater contribution to *net* job creation than other type of firms. Nevertheless, the authors establish that the net job creating role of the larger manufacturing firms lies with firms that have more than 1,000 employees. There are sectoral differences on this, however, with some manufacturing sectors (“food & beverages”, “electrical machinery” and “metal” albeit more marginally) positively contributing to net job creation while others contracted markedly in employment terms in South Africa (e.g. textiles and clothing) for the 2005 to 2011 period.

Zooming in on manufacturing data reveals that the sector has contracted in eThekweni. Data suggests a decline in excess of 2% between 2008 and 2009 of the GDP of the Municipality – with all economic sectors with the exception of construction (and the small agriculture and mining sectors) having experienced a contraction. Also of note in inputted data (not reported here) is evidence that no manufacturing sector in eThekweni has out-performed sectors in other South African provinces - typically the data indicate lower growth in the manufacturing sub-sectors in eThekweni and even, for some sectors, contraction that is more pronounced than in South Africa as a whole. In parallel, a lackluster export performance is also apparent for eThekweni Municipality with eThekweni a growing contributor to the national trade deficit.¹⁸

Global Insight data indicate that manufacturing has been growing in the Municipality - albeit at a slow rate - in the early second half of the 2000s, that is until about 2008/2009. Other data sources, however – such as those inputted by Quantec for eThekweni – reveal a trend of decline in formal employment over longer period.¹⁹

(b) Changes in industry structure in manufacturing

Acknowledging that different employment trends emerge depending on which data source is consulted, information is lacking on how firms evolve, in their structure, in particular areas. Although municipal water and electricity accounts data are informative about how many enterprises there are at any point in time in an area, the data are limited for the purpose of an analysis of what is happening in a Municipality in terms of the number of establishments and how this changes; municipal account data are not informative about changes in industry structure since the accounts do not record the sector in which an enterprise operates.

As part of background research to establish the number of medium and large establishments in eThekweni, we have found that a number of firms that were in operation have either closed down or relocated. While these data are the subject of separate research, Table 1 reports how the number of medium and large manufacturing establishments which were identified as formally operating in the early 2000s have evolved by the early 2010s. Although the 2010 data might under-estimate firms in operation given that it is difficult to track all firms in operation in area (specifically when firms seek to remain invisible), we can see that the numbers of medium and large establishments that were in operations declined by more than a quarter in a decade.

Table 1. Medium and Large Establishments in eThekweni: Changes in the numbers of firms sampled in 2002/03

Manufacturing Sub-Sector	Number of establishments in eThekweni in 2002/03	Number of establishments of similar size in 2013/14	% decline/increase in the number of establishments in the period
Food processing & beverages	61	55	-9.8
Textiles & Clothing	152	97	-36.2
Paper and furniture (incl. wood products)	85	63	-25.9
Chemical products	123	92	-25.2
<i>Iron and steel</i>	<i>8</i>	<i>19</i>	<i>+137.5</i>
Metal products	49	24	-51.0
<i>Iron & Steel & metal</i>	<i>57</i>	<i>43</i>	<i>-24.6</i>

¹⁸ The latter is indicative that the firms in the municipality have, in the aggregate, a more pronounced import than export orientation; Quantec data indicate that the share of the value of imports in GVA for eThekweni Municipality is however lower than in the other major South Africa cities however.

¹⁹ At the sub-sectoral level, formal employment contracted everywhere with textiles and furniture experiencing the greatest negative change in a decade (a decline of the order of 6% and 5% of formal employment per annum for each of the aforementioned sector between 2003 and 2011). The 2006-2011 period was a poor growth period for furniture, transport equipment, wood, paper and publishing.

Electrical & electronic machinery	31	14	-54.8
Vehicles & automotive components	41	24	-41.5
Leather & footwear	26	17	-34.6
Non-metallic mineral products & Other miscellaneous products	24	28	16.7
Total	600	433	-27.8

Notes:

- The changes reflect a number of establishments that have shifted away from manufacturing to become service providers. Other changes pick up firm closure but this is not always negative for South Africa as the data record a number of firms that have relocated outside of eThekweni and/or KZN and which are expanding.

- The data use some establishments as they were allocated to sectors in 2002/03. As such the number has to be treated with caution given change in main product and some incorrect sectoral allocation. This firms in any sector could be higher/lower than reported above.

Source: Calculated using project data.

Some amount of churning in an industry is positive for growth. This is the case when firm exit is part of a process of relocating resources from the less to the more productive units as might possibly be the case in the vehicles and automotive components sector; positive developments are also associated with younger firms bringing in with them more state of the art technology when they come into an industry whereas firms with outdated machinery and/or products not suited to the customers exit. Yet, the point remains that the scale of the manufacturing base appears to be shrinking *in* the Municipality. This could translate into reduced prospects for employment in manufacturing, unless the average size of the firms, which are currently active in the area, increases. However, of some concern, is that relocation of the workforce from contracting to potentially expanding sectors can be sticky or not possible.²⁰ From a follow up on the one in every three establishments for which data were collected in 2002/03, employment would have been reduced by around 3% per year in eThekweni purely through firm closure.

More positively there is evidence of some diversification with establishments moving away from the traditional sectors. This is apparent in the last category of Table 1, “Non-metallic mineral products & other miscellaneous products” where the number of firms has grown in other miscellaneous products. These are establishments that produce a range of goods. Similarly, the number of establishments involved with “iron & steel” has increased, partially reflecting the fact that more diverse type of goods are produced for consumers in that particular sub-sector.

The above does not shed light on whether there is reduced manufacturing firm diversity in eThekweni. However, the data serve to illustrate that there are signs of some de-industrialisation which might adversely impact on the eThekweni economy and on municipal revenue generation. They also point to some potential matching problems in the labour force between the skills available and those required for present planned operations.

(c) Changes in Migration & in the skills platform

Posel (2015) shows that Durban’s share of national population declined in the 2001-2011 decade. In spite of the data being problematic on this, worryingly, the decline appears driven by out-migration. Since, in parallel, Durban has the lowest number of in-migrants when compared to Johannesburg and Cape Town, the city has a small number of net migrants. These migrants which tend, moreover, to be from within the Province and from beyond the borders of South Africa, are at the low level of skills; she documents that migrants as “the least likely to have post-secondary education”.

Durban’s skill platform has evolved over time. The number of those classified as skilled or highly

²⁰ On this, some of the workers in sectors in which there have been notable unemployment declines – e.g. in textiles and clothing – might not be able to be re-employed in other sectors when the skills required are different.

skilled and skilled in the workforce has increased on average over the post-crisis period. Moreover, for all industries, Durban fares well on the share of those highly skilled in the workforce relative to what is happening in South Africa to those in that skill group. With skills important in services, the share of those highly-skilled in manufacturing in eThekweni stood at 12.9% of all those formally employed in that sector compared to a share of 13.1% for South Africa in 2013 however (Table 2). The data are, as expected, affected by a number of those informally employed. And these tend to have low skills. But, it is in terms of the share of those that are skilled in manufacturing that the eThekweni Municipality does fare less well. Although the share of skilled employees in manufacturing amongst all employees has again somewhat increased over time, Durban had, between 2008 and 2013 around 27% of all those engaged formally or informally in manufacturing as skilled workers. The similar share for South Africa was then of around 28%. A similar gap remains for manufacturing when informal employees are excluded from the analysis. In a context where South Africa faces the challenge of developing an economy that absorbs young and generally lower skilled individuals, it is clear that lower-skill employment centres, such as Durban, must be part of the picture. Furthermore, if employment is shifting to higher skill categories then a need exists to work to develop the relevant skills in the existing and future eThekweni labour force.

Table 2. Share of highly skilled & skilled in employment, South Africa and eThekweni, 2008-2013 (%)

		2008	2009	2010	2011	2012	2013	2008-2013 Period average
Highly skilled as % of all formal emp - all industries	SA	16.0	16.6	17.0	17.4	17.5	17.7	17.0
	eThek	16.6	17.0	17.3	17.6	17.8	18.1	17.4
Highly skilled as % of all formal emp – manufacturing	SA	11.8	12.0	12.3	12.6	12.8	13.1	12.4
	eThek	11.7	12.0	12.2	12.4	12.7	12.9	12.3
Highly skilled as % of total emp - all industries	SA	11.6	11.9	12.4	12.6	12.6	12.5	12.3
	eThek	11.5	11.6	12.0	12.0	12.1	12.3	11.9
Highly skilled as % of total emp – manufacturing	SA	9.9	10.2	10.3	10.5	11.0	10.9	10.5
	eThek	9.7	10.0	10.1	10.2	10.7	10.7	10.2

Skilled as % of all formal emp - all industries	SA	41.0	41.4	41.8	42.2	42.1	42.1	41.8
	eThek	44.6	44.7	45.2	45.5	45.5	45.6	45.2
Skilled as % of all formal emp - manufacturing	SA	32.8	33.2	33.4	33.6	33.7	33.9	33.4
	eThek	31.6	32.1	32.2	32.5	32.6	32.7	32.3
Skilled as % of total emp - all industries	SA	29.8	29.8	30.5	30.6	30.2	29.6	30.1
	eThek	31.0	30.6	31.3	31.0	31.0	31.0	31.0
Skilled as % of total emp - manufacturing	SA	27.5	28.3	28.1	28.1	28.9	28.4	28.2
	eThek	26.1	26.8	26.5	26.6	27.5	27.1	26.8

Source: *Quantec Standardised Regional database (2015)*.

The pattern of a lower skill base in Durban than in South Africa as a whole is worrying but does not exclude knowledge spillovers around a mass of workers with common skills. As illustrated above, Durban has a large number of firms in textiles and clothing. Skills in that sector are relatively low but another sector that has many firms is chemicals, a sector that is classified as knowledge-intensive. However, some issues are apparent in the skill base of the city for the expansion of knowledge intensive firms and thus for one of the factors that is associated with the generation of agglomeration economies.

3 THE DURBAN MANUFACTURING ESTABLISHMENT SURVEY: OVERVIEW OF THE SURVEY & KEY ELEMENTS

3.1 Project background and data type

The information presented in the remainder of the paper refers to data that have been collected within

a context of paucity of detailed firm-level data. Such data are lacking generally but also lacking to ensure that productive firms gain adequate support for growth in their respective sectors. With regards to the latter, decision-makers within eThekweni face the problem of establishing whether the current local environment is conducive for shared growth.²¹ This is the context in which a survey of medium and large manufacturing establishments in eThekweni was undertaken by a team of researchers at UKZN in 2013/2014.

This 2013/14 survey followed on from an earlier survey which was carried out to establish the constraints to firm growth and to gather other data to assist those in charge of economic and other policies in developing the right infrastructure and instruments to expand the manufacturing sector in Gauteng and then in eThekweni in the late 1990s and early 2000. The initial survey was carried out with 225 medium and large manufacturing firms in eThekweni. The threshold establishment size of 50 FTEs was considered in the survey. The 2002/03 survey was the most comprehensive exercise of this sort ever attempted in eThekweni. The firm sample was then highly representative, with almost one in three medium and large firms interviewed. Over a decade later the new survey was undertaken.

Our survey uses a long face-to-face questionnaire that has three main components: 1) a general component examining the current context in which the firm operates and some key elements of production decisions (e.g. internal strategies and engagement with other firms and other type of economic actors); 2) a finance component focused on sales revenues and main components of costs; 3) a human resource module that examines employment and training decisions. The questionnaire is comprehensive seeking to gather in-depth information on many aspects of the business. Information was gathered for more than 3000 variables in the questionnaire.

The 2013/14 survey follows the same approach as that used for the first eThekweni survey and which entailed engaging with high level respondents in the medium and large manufacturing establishments in order to gather information.²² This original questionnaire was developed from the World Bank's earliest attempts at constraints to growth research with firms. It evolved to become more focused on business climate issues. The questionnaire shares some similarities with the Investment Climate Assessment (henceforth ICA) surveys delivered through World Bank collaboration with national governments. The ICAs are used to try and provide something of a benchmark against which some of our findings are evaluated.

ICA surveys, which form part of the broader family of business climate surveys carried out by the World Bank in around 100 countries around the world, are underpinned by an evaluation of how four main areas of policy – that is infrastructure, access to finance, the institutional context in the form of the regulatory framework and, security – influence the performance of firms. With similar surveys undertaken in a large range of countries and in line with economic theory, these elements would affect the performance of firms directly or indirectly by redirecting firm level investments. These are high-level elements around which a number of our questions are designed. However, our questionnaire has been expanded to also take account of some more internal strategic elements as we consider that these contextualize the responses and the perceived need for external interventions and support. This has been necessary as it is important to reflect on some of the endogenous issues considered together with firm endogenous actions. Our survey is also distinct from the type of surveys that characterize the last wave of World Bank enterprise surveys in that it contains many more subjective (often qualitative) elements than the latter.

As discussed in Dethier *et al.* (2008), there is an intense debate on whether subjective data, that is perception data, are problematic or inaccurate. Research has found a positive (significant) correlation but concerns around bias remain. Objective data are critical, as shown in the ICA surveys, as these have been invaluable for researchers and policy-makers in a number of countries by generating

²¹ A similar problem applied at the Provincial level as the KZN Province, which is following the national industrial policy strategy, is seeking to develop “a competitive economy” that improves the lives of those in province. Black Economic Empowerment (BEE) policies and strategies are seen as critical to generate the socio-economic transformation required. However, this transformation requires partnerships with business.

²² The high level respondents were: the CEOs/MDs, the financial managers, and, the human resources managers.

concrete data on the specific benefits firms can obtain from the removal of particular barriers to growth. Nevertheless perception data are valuable because they allow direct and quick comparisons across a range of varied constraints without overburdening the respondents in providing detailed feedback over a number of indicators.

For our survey we have considered that perceptions are valid responses (and thus data) and we chose to probe the constraints to growth by asking perception questions. Moreover, in practice, respondents tended to find objective information hard to locate and to report upon. Subjective responses are quick to gather and do not require documentation to be verified and other experts in the firms to be involved to seek and provide the relevant information. In the background to our approach is that, as frequently reported for South Africa, firm respondents feel overwhelmed in dealing with questionnaires from a variety of sources. They thus tend to look for short and quick questionnaires. This was a consideration as our questionnaire is long. Noting this, our questionnaire still contains questions which probe for hard and detailed data²³ but not on the theme of constraints to growth.

3.2 Spatial Elements in the survey questionnaire

Whilst region-specific trends are almost systematically identified in business climate survey data, the analyses also highlight commonalities. However, some of the findings, a number of which are reviewed by Dethier *et al.* (2008), probe further on elements related to location and on uneven public service provisions within main economic local areas from where data have been collected.²⁴ And in fact, as pointed out by the authors:

Even as problems remain, the firm-level studies have already improved on the macro-literature in a number of respects. Numerous firm-level papers have now shown that important within-country heterogeneity exists. Variation in local business climate does indeed matter for explaining differences in firm performance. Much the same point is made by single-country Moreover, the much larger sample sizes made possible by going to this disaggregated level allow for more robust results than in the macro-studies. The information obtained from the business climate surveys is also much more detailed and practical than aggregate indicators, allowing, for instance, insights about the variation of business climate effects across regions and different types of firms. (Dethier *et al.* 2008: 26)

While only a handful of key studies are, in fact, referred to in the aforementioned review of business climate surveys, the point is that local dimensions are being looked into much more closely from a firm perspective by the international research community.²⁵ The framework adopted remains similar to the one set out in terms of the constraints to growth as laid out above with firms performance considered critical for national growth.

Our questionnaire does probe, in parts, local elements and the relevant questions there are of two main types: firstly, we ask firm respondents, in an open ended manner, to report on elements of the local economy that impact on an establishment's ability to expand.²⁶ Secondly, we look for feedback on particular elements of local performance – for instance questions are asked about the role of the

²³ Thus, our questionnaire contains a finance module for which financial data are provided. In turn, some employment data are sought that are similar to those which medium and large firms have to produce for reporting purposes. A few other subjective data were also sought around share of production and of sales imported and exported. While a number of the firms we approached had no problem in providing the relevant financial data, employment data - which were in fact much easier to obtain - showed numerous and a consistent pattern of errors in the number of permanent as opposed to temporary employees. Poor quality objective data remains a risk in the process of data collection and this particular example shows that some national data would be problematic when poor data are generated at the source.

²⁴ For instance a finding reviewed by Dethier *et al.* (2008) which is that firm expenditure on electricity generators bear disproportionately on the smaller firms might simply be indicative of such firms being located in urban areas that are relatively badly served in terms of electricity infrastructure.

²⁵ More recently attention has been paid to variations in the quality of public support across areas within the countries are seen as generating distinct costs on doing business, depending on where the firms are located.

²⁶ We isolate in these questions elements that are local from others but a number of comments showed that what is local is sometimes seen as national or vice versa. Also, responses redirect to, at times, the local having an international or global component.

Municipality and on that of national government. Some questions are specifically on the relationships that are in place with the Municipality in terms of property rates and its ability to handle business queries.

The list of questions was not exhaustive. Moreover, in its current structure and content, the survey cannot shed light on whether it is local, provincial or national effects that are more prevalent in, or that have the most impact on, the eThekweni firms. Finally, the data that have been collected as part of the project that forms the background to this paper were not collected with spatial representation (representivity) within eThekweni in mind. Noting these caveats, the data offer some useful insights into expanded interventions that are in the domain of the municipality and draw attention to some parts of the Municipality needing particular interventions - the perspective taken by the researcher is from the outset was that the Municipality has a role to play in the development of firms in the study area. The data are also interesting in helping one draw elements that are important for firm growth and that are associated with what is happening at the local, provincial as well as national levels. Although contextual changes are complex, the survey data allow positions and, at times, adaptive responses to changes in the various spheres of policy-making to be picked up in comments made by the respondents.

4 CONSTRAINTS TO GROWTH

4.1 Constraints in South African firms

Constraints to growth are typically considered from a national perspective with elements of national policy presented to the firms for discussion.

Two major surveys have been conducted in South Africa that collect information from high level experts in firms across South Africa. An early 2000s survey is that of the ICA that approached a high proportion (almost 70%) of firms with at least 50 employees and revealed particular issues amongst a number of problem areas. Workers' skills were identified in that survey as a growth constraint, with the high cost of skilled and managerial employees and a low level of training in the workforce identified. In parallel, as was debated at the time of that particular survey, the study identified issues in terms of labour regulation in that costs of hiring and firing were above the OECD average. Specifically in terms of costs, the survey identified a high cost on businesses related to controlling crime and a direct result of criminal activities. Around one in three firms reported crime to be at least a major (e.g. major or severe) obstacle to growth. The cost of security was then established to be at 1.1% of sales revenue, higher than the share established in a number of countries but below the proportion established for some countries in Latin America.²⁷ A number of other elements were drawn from the survey. Macroeconomic instability with, as mentioned above, exchange rates movements, was a major obstacle to growth. More broadly the survey established that South Africa was underperforming in attracting foreign direct investment (FDI) due to regulatory and competition issues.

Although 35-40% of firms reported worker skills, macroeconomic instability and labour regulation as a major obstacle to growth in the late 1990s/early 2000s,²⁸ the assessment revealed that, positively, the South African firms performance showed strong productivity growth relative to countries such as India and Brazil (but with higher capital intensity). Also, it was clear in the responses that electricity was not commonly seen as a problem area with about 8% of firms reporting it to be a problem area. The authors of the survey report see this response in the context of cheap and reliable electricity (see Clarke *et al.*, undated).

The second Investment Climate Assessment survey (ICA of 2010) again identifies some of the themes

²⁷ E.g. 4% for Honduras and Guatemala.

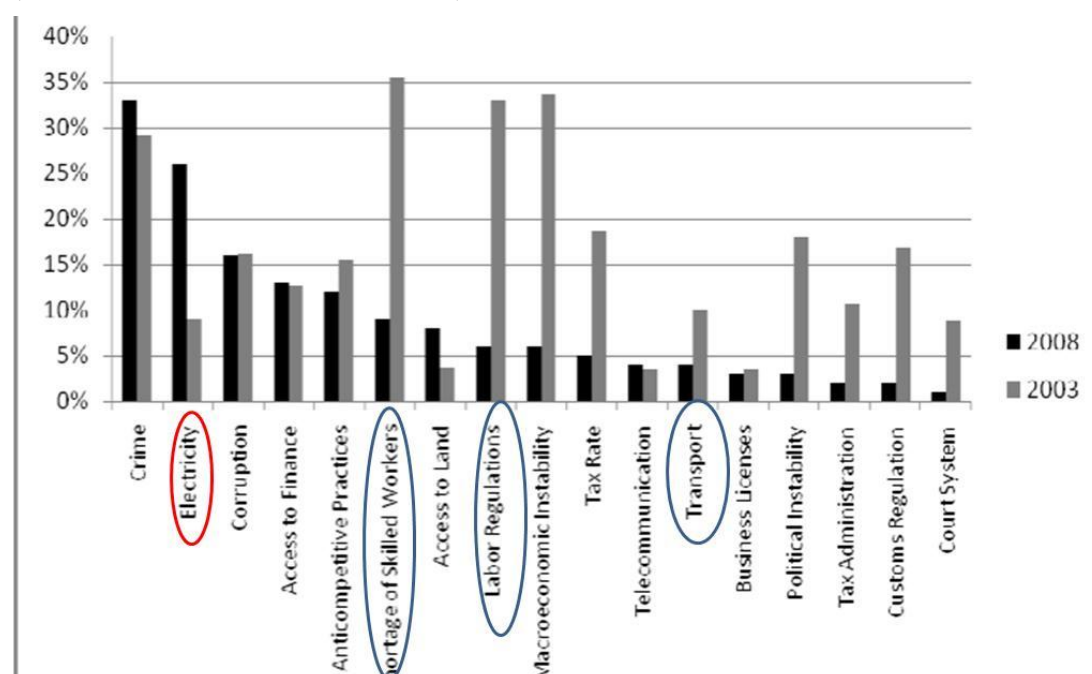
²⁸ As observed then, "One interesting feature of the South African data is that relatively few enterprises rated each of the constraints as a major or very severe problem. For the biggest constraint, worker skills, only about 35 percent of firms rated it as a serious problem." (Clarke *et al.*, 2006: 77).

established in the first survey. Thus, on labour costs and productivity, “South African average labor productivity is higher than that of Mexico and Malaysia, and comparable to Chile ... But the effect of South Africa’s labor productivity advantage on its unit labor costs is offset by South Africa’s wages.” (World Bank, 2010: 28). In terms of labour organization, the survey reports that South Africa’s unionisation rate is not markedly higher than other countries. However, the bargaining council arrangement allows for union negotiated rates to extend coverage to a higher proportion of formal workers than in other countries – especially those working in smaller firms.

The survey identifies particular economic changes, however. Thus, the perceived importance of the crime issue affecting business has grown between 2003 and 2008. In turn, by the time of the second survey, a greater percentage of firms in South Africa was reporting electricity to be a major problem than in Brazil, Thailand, Malaysia, and Poland.

Figure 2 below shows how firms responded in the two aforementioned surveys. The figure illustrates the change of position across a number of elements but also indicates that, in the second survey, the problem of shortage of skilled workers appears to have been overcome. Adaptation to the new labour regulations is also evident in the response.²⁹

Figure 2. 2003 & 2010 ICA Obstacles to growth in South Africa (% of firms reporting a major/extreme problem in listed areas)



Source: World Bank (2010, Figure 2: 5).

The data raise the fact what was observed in South Africa over the 2000s might reflect rapid and deep context and policy changes. Such changes would have affected firm decisions across sectors and across firm types. However, the milieu in which firms operate has evolved over a longer time horizon with firms progressively adapting to the changing local, national and international environments. The context in which firms operate changed profoundly over a decade. Thus, the early 2000s is a period

²⁹ Information in South Africa is also available from other sources that helps contextualize problem areas. Specifically, the OECD gathers information as part of its economic surveys. Although not surveying firms but rather data on a country and while the economic surveys are focused on specific themes, OECD (2010) reports on issues that are similar to those drawn in ICA (2010). A concern of OECD (2010) is the need to increase employment in South Africa. Labour market reforms are called for in this regard with a focus on controlling costs. The OECD sees this as complementing the national macroeconomic policies. OECD (2013) emphasised the need to reform the training and education system particularly to allow for new employment opportunities for the youth.

when the firms emerged from the East Asian crisis. The rates of interest that prevailed then were high. Also, by the late 1990s, the firms would have had to respond to some major changes in labour legislation (e.g. the Basic Conditions of Employment Act and the Labour Relations Act). Internationally South Africa also experienced in the late 1990s a period of major tariff reforms (the results of the Uruguay Round of GATT) having initiated new offers in the negotiations rounds under the then new World Trade Organisation. Exchange rates were also volatile in the early 2000s.

Further changes have occurred in the last decade. Although for a period the economic climate was better, the environment became very tough. Firms had to adapt to more competition, including from China which has emerged as a new superpower. Firms have had to change their products. At times this means confronting demand for higher standards from their final customers and other clients, often with no price premium obtained from adjustments when these are made. At other times, this might mean consumers selecting a poorer quality but cheaper imported item. Firms are operating in a high cost environment, with costs found to be high relative to productivity in the area of labour although firms would have now, by-and-large, got used to the core of the new labour legislation introduced in the late 1990s/early 2000s. Some costs have been increasing as required locally to sustain the revenue base or to raise revenue for government. This has been notable with electricity price increases. The changes associated with these cost increases, often above rates of inflation for much of the past decade and in some cases, notably electricity, with increases well above the inflation rate for a number of years.³⁰ It is also worth noting here that firms give attention to issues of quality/reliability of supply as much as they do to costs of supply. The challenges different South African public entities/parastatals have faced in recent years with the quality and reliability of supply are also a factor to note.

There are, as such, contextual elements that affect the responses and their variations over time. Yet, it might also be partially the case that what is represented here signals some variations in the type of firms approached and where these are located. That is, some responses might be the outcome of variation in spatial performance, even though the ICA data are dominated by Gauteng-based respondents. Location dimensions are, indeed, identified in Krugell & Rankin (2012) mentioned earlier. (A more careful analysis of the 2007 data specifically for Durban will need to be conducted by the authors in this regards.) We refer below to how responses have changed for Durban specifically in the next Section.

4.2 Constraints to growth and to employment for medium and large establishments in eThekweni

4.2.1 Overview

Figure 2 above presents the obstacles to growth for firms in the 2000s and shows that there are changes over time. A question remains in terms of whether what is established for South Africa overall is applicable to eThekweni in particular. Of note in the ICA surveys is that these might be under-represent firms in the Municipality (as well as firms in other parts of KZN though eThekweni has historically been an area of industrial and manufacturing interest). For instance, the 2003 ICA has 63% of its sample Gauteng based. Only 9% of firms were from KZN. ICA 2010 increased the proportion of local firms somewhat (Gauteng, 68% and Durban, 12%).³¹

A survey carried out in 2002/03 and which is at the origin of the current project identified that there were different factors shaping firm growth in Durban than when compared to Gauteng. The differences were across a range of factors though the timing of the two relatively similar surveys was somewhat different – the Greater Durban survey took place a few years after the Gauteng survey. But a notable difference concerned the impact of legislation that was found to be substantially less of an

³⁰ It is widely known that in the early 1990s South Africa has some of the cheapest industrial electricity prices in the world. However, the subsequent supply crisis has seen these advantages rapidly erode as price increases have been used to fund investment in new capacity.

³¹ This proportion can be contrasted with the fact that KZN made up over 21% of gross value addition in manufacturing at the time of these surveys. Krugell and Rankin (2012) show that some shifts have generally been around approaching more small manufacturing firms between the first and second survey.

issue to the firms in eThekweni than to those in Gauteng, thus posing questions of how much to extrapolate what was found for Gauteng to the whole of South Africa and nuances in the potential adaptability of firms and of sectors.

Table 3. Top 5 Constraints to Growth in Medium and Large Manufacturing Establishments in eThekweni

2002/2003	2013/2014
1. Crime & theft (83% of establishments)	1. Depreciation of the Rand/US\$ exchange rate ³² (87% of establishments)
2. Currency volatility (77% of establishments)	2. Low rates of economic growth in SA (86.5% of establishments)
3. HIV/AIDS (73% of establishments)	3. Cost of energy (86%)
4. Corruption in government (65% of establishments)	4. Cost of transport (80.5%)
5. Changes in government policy (62% of establishments)	5. Availability of technical/vocational labour skills (80%)
	6. <i>Crime & Theft</i> (79%)

Note: The percentages are obtained for establishments that report the listed constraint as either a major or moderate constraint.

Source: Calculated using project data.

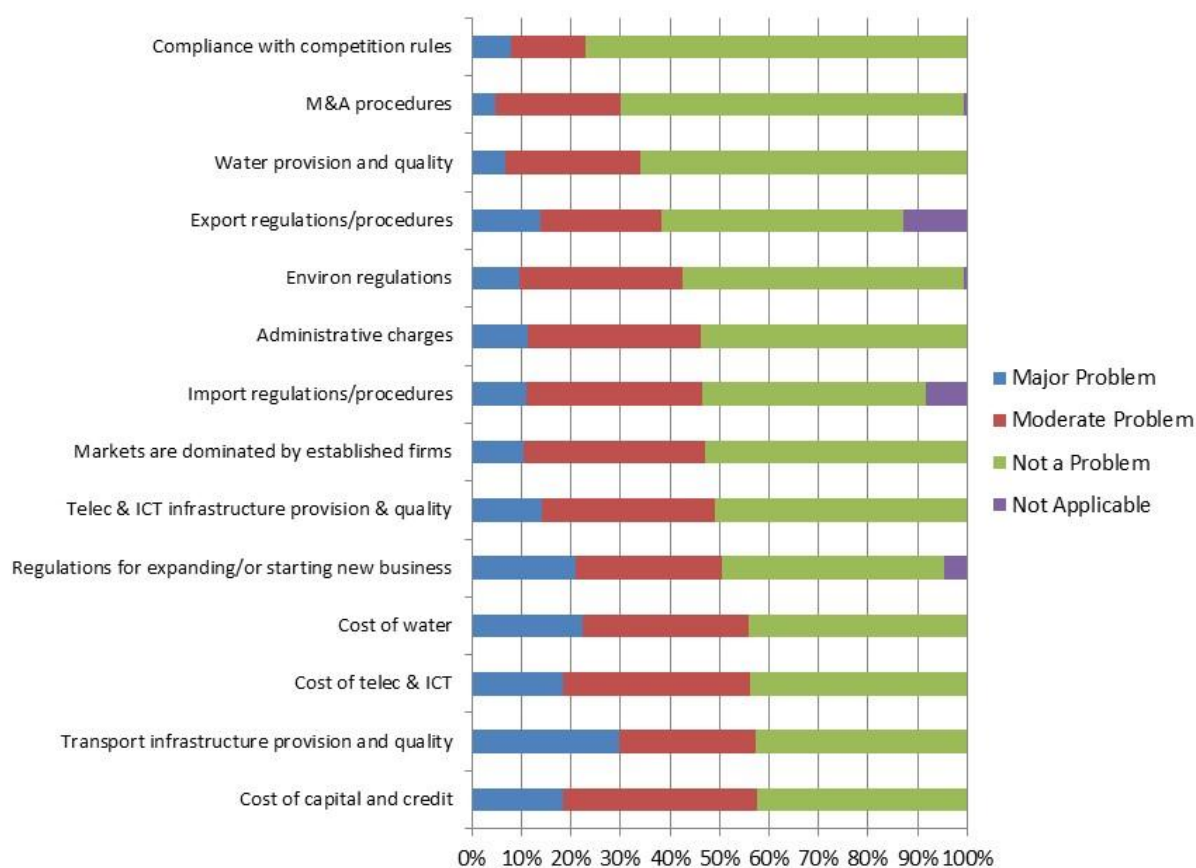
Focusing on the 2013/14 survey results, Table 3 reports the top five elements from a list which respondents at medium and large manufacturing establishments in eThekweni considered a major or moderate constraint to their expansion. The elements listed can be compared with those reported a decade ago. As can be seen there are both similarities and distinctions, and these are explored below.

Figure 3 and Figure 4 report how CEOs/MDs commented on whether particular elements (from a long list) are a major problem, a moderate problem or not a problem area for the expansion of the establishment's activities. The figures present the information starting with the element that has the lowest proportion of major and of moderate constraint responses.

Of note in Figure 3 is a mixture of elements with compliance with competition rules the least problematic dimension followed by M&A procedures. Meeting environmental procedures likewise seems to be a relatively problem free area, together with the various export and import procedures though in the case of import regulations/procedures, the comments suggest a deterioration since the early 2000s. This can be seen in Figure 5 on p. 23 where the proportion of establishments who reported a constraint in 2013/14 can be compared with what was reported in 2002/03.

³² This is reported as phrased in the questionnaire. However, firms might have commented on the volatility of the currency rather than on the depreciation *per se*. Exchange rate volatility and depreciation have different impacts on firms. Volatility affect planning whereas exchange rate depreciation influence import and export decisions. We focus the discussion on the depreciation as volatility is referred to, instead, by the establishments around their engagement with other developing markets in Africa. .

Figure 3. Constraints to growth in medium and large manufacturing establishments in eThekweni – Part 1



Note: The constraints are reported here only for establishments that have at least 50 FTEs although information was collected for some establishments that have at least 45 FTEs.

Source: Ibid.

Three types of cost also appear in the low rank list and these are the costs of water and of ICT and telecommunications. Administrative charges also tend not to be reported as a problem area. It is interesting to note in the figure that transport infrastructure provision and quality is reported by less than 60% of establishments as a constraint though the responses suggest that it is still a major problem area for around three in every ten establishments.

4.2.2 Elements in the national sphere

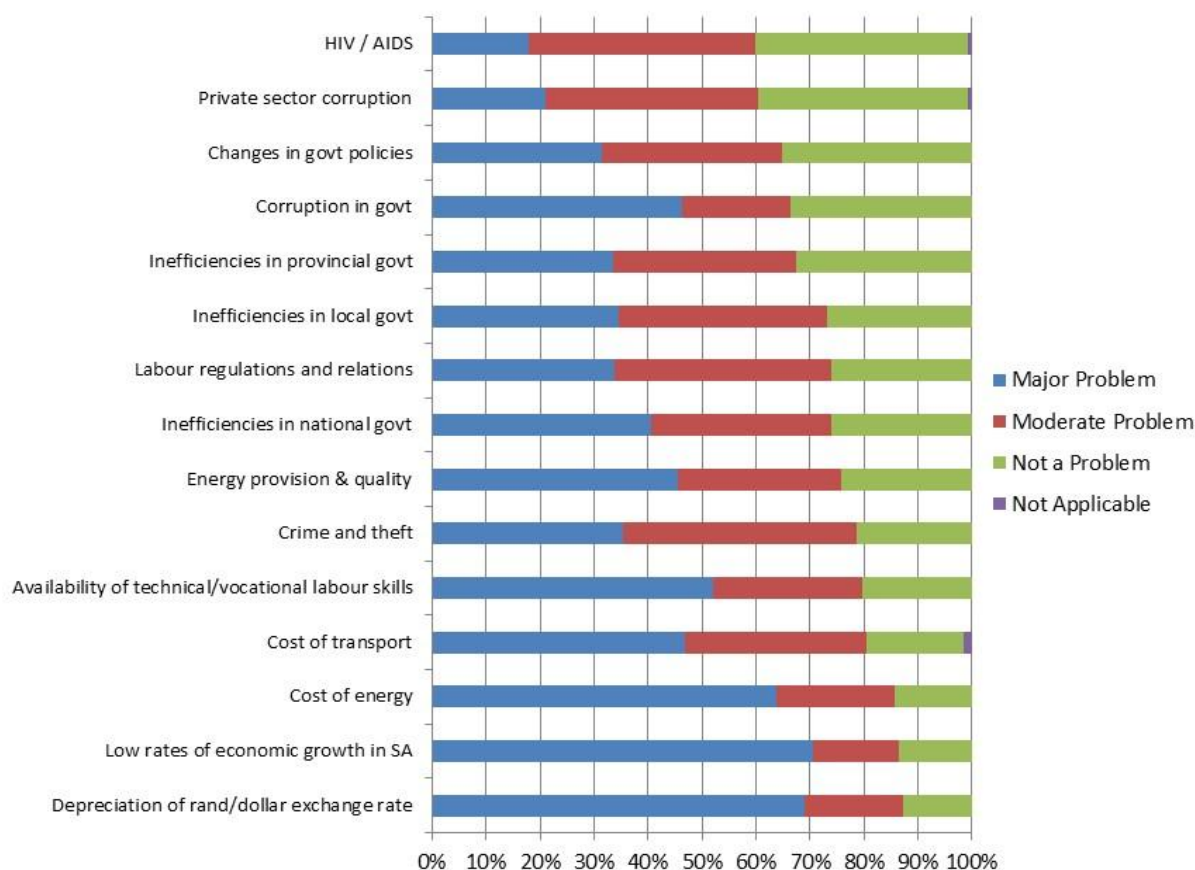
A number of elements that emerge in the list of important constraints are general elements that are more representative of what is happening in South Africa than in eThekweni specifically. This is not to say that the responses are not spatially defined; the fact that some manufacturing sectors are important in eThekweni compared to elsewhere in South Africa could translate into some of the reported constraints being less or stronger than elsewhere. However, exchange rate depreciation, labour regulations, low economic growth and high energy costs belong to the national and/or international sphere rather than in the local sphere. Nonetheless, some local elements still emerge around these as will be illustrated below.

It can be seen in Figure 4, that a great majority of establishments considered the depreciation of the currency and low rates of economic growth to be a problem area. In fact the Rand/US\$ exchange rate depreciation was spontaneously mentioned as having negatively affected expansion from a global perspective by 37% of CEOs/MDs in manufacturing establishments before these were asked to specifically comment on the exchange rate! Some respondents also commented on this at the national level. Around 10% of establishments saw some issues with both the level and volatility of the

exchange rate when commenting on elements in *the national arena* that have been influencing expansion.

With the Rand/US\$ depreciation helping exporters, some - about 1.5% of establishments - commented positively and spontaneously on the exchange rate as having helped expansion. From Figure 4 it can be seen that around 13% of establishments did not see the depreciation as a problem. In the aggregate, however, around 70% of establishments saw “depreciation of the currency/weakening of the Rand/\$ exchange rate directly or indirectly” as a major problem area. This is consistent with respondents’ comments when they were asked to discuss what elements of the global and national arena have affecting the ability of the establishment to expand.

Figure 4. Constraints to growth in medium and large manufacturing establishments in eThekweni – Part 2



Note: As for Figure 3.

Source: Ibid.

The impact of the depreciation of the Rand needs to be considered in the context of the fact that establishments rely on foreign markets to a large extent for their inputs. When asked about the origin of their three most important inputs, 56% of establishments reported these to originate from outside South Africa. A lower although still notable proportion, 46.5% reported selling their main goods abroad. Goods originate from or reach foreign markets through intermediaries in a number of cases.

As for the low rate of economic growth, it was, as expected, seen as a major constraint for around seven in every ten establishments with at least 50 FTEs. An extra 16% of establishments saw this as a moderate constraint. As such, by 2013/14, establishments were still not seeing concrete signs of recovery from the perspective of more buoyant or adequate level of demand. In fact this was expressed at various levels: 23% of firm respondents reported the global crisis/recession to be negatively affecting prospects. A higher proportion, 31.5% of establishments, saw sluggish national demand as a problem area. Relatively few commented on poor demand *at the local* level (only around 1% of establishments), which is in line with the fact that 83.5% of eThekweni-based firms sell their

most important goods in provinces other than KZN in South Africa.³³ In location choice-making terms it is indeed something of a concern that firms see this immediate hinterland market as not being a major demand source. This is likely to have something to do with the lack of other significant concentrations of firms in KZN as well as socio-economic factors whereby consumer demand in KZN reflects the lower per-capita incomes than Gauteng and Western Cape. On a more positive note, 13.5% of establishments did not consider low growth to be a problem area, with some establishments reporting optimistically on new opportunities when probed. These take the following form in the global arena:

- New opportunities from new customers/markets including through trade and trade facilitation in the global arena (6.8% of establishments);
- New opportunities that have arisen from a different or new sourcing arrangement (3.5% of establishments);
- New opportunities as the result of new technologies (around 3% of establishments).

In the local arena, around 6.5% of establishments reported that new market opportunities had relatively recently been found. As such, some opportunities are present locally as well as internationally. However, these are not evidently with KZN province which suggests something of a spatial disconnect. Opportunities cut across the theme of expansion and it is under such light that the firms comments on infrastructure quality and transport costs. Here it is worth emphasizing that due to KZN firms using much in the way of imported inputs and having strong demand relationships in more distant local markets as well as some growth opportunities in selected export markets, the issue of transport potentially significant.

Infrastructure quality is not reported by firms as affecting their expansion *at the global level*; only a few comments on transport costs were made spontaneously by firm respondents when asked, in an open manner, to report on elements of the global arena that affect the establishment's ability to expand. However, inadequate infrastructure was reported by around 8% of all establishments when generally discussing elements in the national arena which mattered for firm expansion.³⁴ Although the comments made on the national arena included a few reports of inadequate electricity supply, the positions remain indicative that the infrastructure in place that links South Africa to foreign markets is generally good from the perspective of CEOs/MDs. This set of responses could well be linked to the fact that when interviews were conducted the firms were experiencing a peak of national electricity "load-shedding" and thus the matter of transport was relegated in the minds of respondents when asked for identification of pressing infrastructure matters.

While infrastructure quality comments emerge instead at the sub-spatial level and as an area over which sub-spatial differences emerge in the Municipality, transport cost is reported to be a major problem area by 47% of establishments. The responses here are stronger than those expressed by respondents when asked to comment on elements that affect expansion. Only around 5% of establishments made comments on high transport costs at the national level affecting expansion.

The differences in the manner in which CEOs/MDs specified transport costs to be a particular constraint is associated with a number of firm-specific dimensions and might vary with whether the buyers provide the logistics themselves for the goods to be moved. Still, transport costs are part of a broader set of costs with a key problem confronting firms being the purchases of imported intermediate goods although undoubtedly, they might be related to how far firms have to move their goods. We will examine this dimension at a later phase of the data analysis.

As for the cost of energy, it is the third most important constraint to growth. As firms are confronting

³³ Very few establishments reported demand issues at the Provincial level.

³⁴ This emerged in open-ended multiple answers questions which allow respondents to comment on what is important without being influenced by the researcher/interviewer.

high energy costs, they have started to engage with changes to help with these, particular with regards to electricity (see Table 4). Moreover, a detailed analysis of the type of interventions/measures (not illustrated in this paper) reveals that these are linked to new investments in new motors and machinery. These are generally not reported as generators; they are, instead, motors and engines that are used with production machinery and equipment.

What the data fail to shed light on is whether the measures have had a notable impact. This is not asked in the questionnaire but comments by the firms to the question tentatively indicate that the measures selected have in fact been followed up in a limited and *ad hoc* manner (that is not systematically planned or thought out) by a number of establishments.

Table 4. Introduction of Electricity and Water Saving in medium and large manufacturing establishments in eThekweni

	Establishment has introduced/invested in electricity efficiency measures	Establishment has introduced/invested in water saving measures
Yes	75%	45%
No	25%	55%
Total	100%	100%

Source: *eThekweni survey (2013/2014)*.

Electricity and water are only a subset of costs. These costs need to be considered together with other costs such as transport and labour costs. These are compounded by the fact that the depreciation would have negatively impacted on a great number of firms by raising the costs of imported inputs, machinery and equipment further fuelling cost increases. A number of the costs confronting the establishments are laid out in the list of constraints but it is worth emphasising that, besides transport cost issues, around 16% of medium and large manufacturing establishments reporting the high or rising prices of some input as a problem area from a global context perspective. Nationally costs other than labour and transport were listed by one in every five establishments. Around one in every six establishments (17%) reported that the mixture of the cost of water, electricity fuel, etc. mattered, in the local arena for the ability to expand.

Firms have taken some measures to address some cost increases, in particular higher electricity costs. Although electricity price increases are set by local government as part of revenue recovery and cross subsidisation of other services, electricity price increases of around 10% per year have occurred for several years running. As such, there are opportunities to stimulate the introduction of electricity and water saving measures, particularly when 40% of establishments reported the cost of the technologies to be a major barrier when engaging in further investment in resource saving technologies.³⁵

Finally, labour regulations ranked as the eighth most important constraint to growth in 2002/03 and ranked ninth in 2013/14, although the 2013/14 survey examined labour regulations *together with* labour relations rather than on labour regulations alone. Noting this change, around 74% of establishments reported “labour regulations & relations” to be a problem for expansion (compared to 57% in 2002/03) with about 34% of establishments reporting it as a major problem. The responses were likely to be affected by some establishments experiencing the beginning of collective wage agreement negotiations when the survey was taking place, but this in area that would have worsened in a decade with a much lower proportion reporting it as a problem area in the earlier survey.

4.2.3 Elements from the local sphere

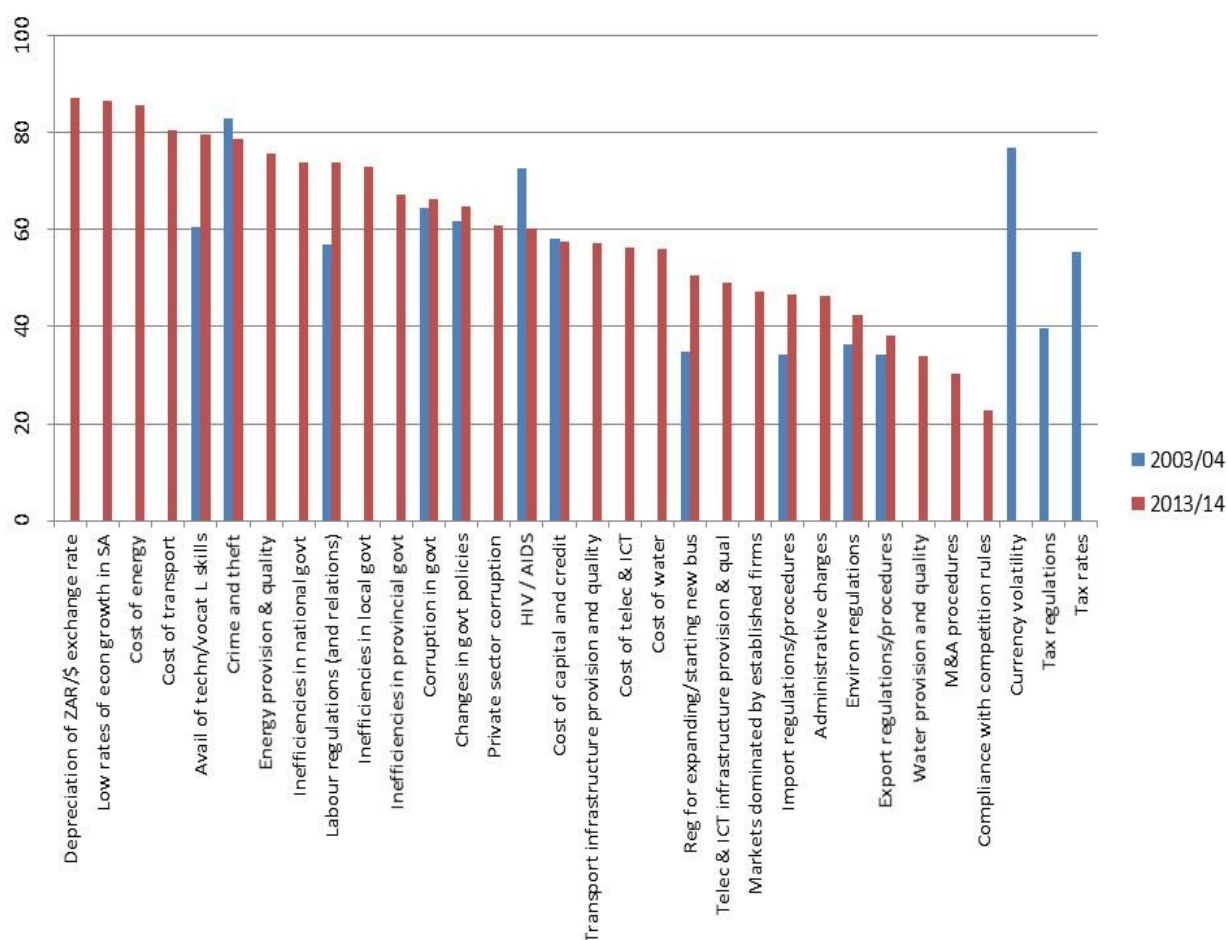
A number of elements can be identified that possibly have a local dimension. Firstly, while labour costs were spontaneously reported as a problem area at the national, provincial and local levels by

³⁵ Around one in three establishments mentioned long-pay offs as in parallel, although the firms are making new water and electricity saving investments, the more notable investments tend to take place concomitantly with other production investments (e.g. new machinery brought into the plants). More separate research is warranted on this however.

respectively 6%, 4% and 3% of establishments, the issue needs to be considered together with another notable element that is seen as significantly constraining expansion in the establishments which is with the “availability of technical/vocational labour skills”. Around one in two establishments considers this to be a major constraint to growth. This is an area in which there has been a significant deterioration over the decade with more establishments (an extra 1 establishment in every 10 establishments) now seeing this as a major problem area. Moreover, while not illustrated in this paper, critically a supply of skilled workers would notably contribute to new jobs being created; 59% of establishments reported on it. There are underlying elements related to the productivity of the workforce at play here. Moreover, when combined with the need for more flexible labour regulations, skills and labour issues can be singled out as a major issue.

Although not strictly comparable for a number of elements, Figure 5 on p. 23 shows how the proportion of establishments listed a constraint as major or moderate has changed between 2002/03 and 2003/04. This figure can be contrasted with Figure 2 on p. 16 which reports how the shortage of skilled workers was affecting firms differently in the two main ICAs. It does point to the possibility that this is a significantly more pronounced local than national problem. This is notwithstanding the fact that firm responses change over time.

Figure 5. Comparison of the constraints to manufacturing growth in medium and large establishments in eThekweni between 2003/04 and 2013/14



Note: The figure illustrates a number of elements that were not listed as potential obstacles in the earlier survey. Source: Ibid & 2002/2013 survey data (see Devey et al., 2004).

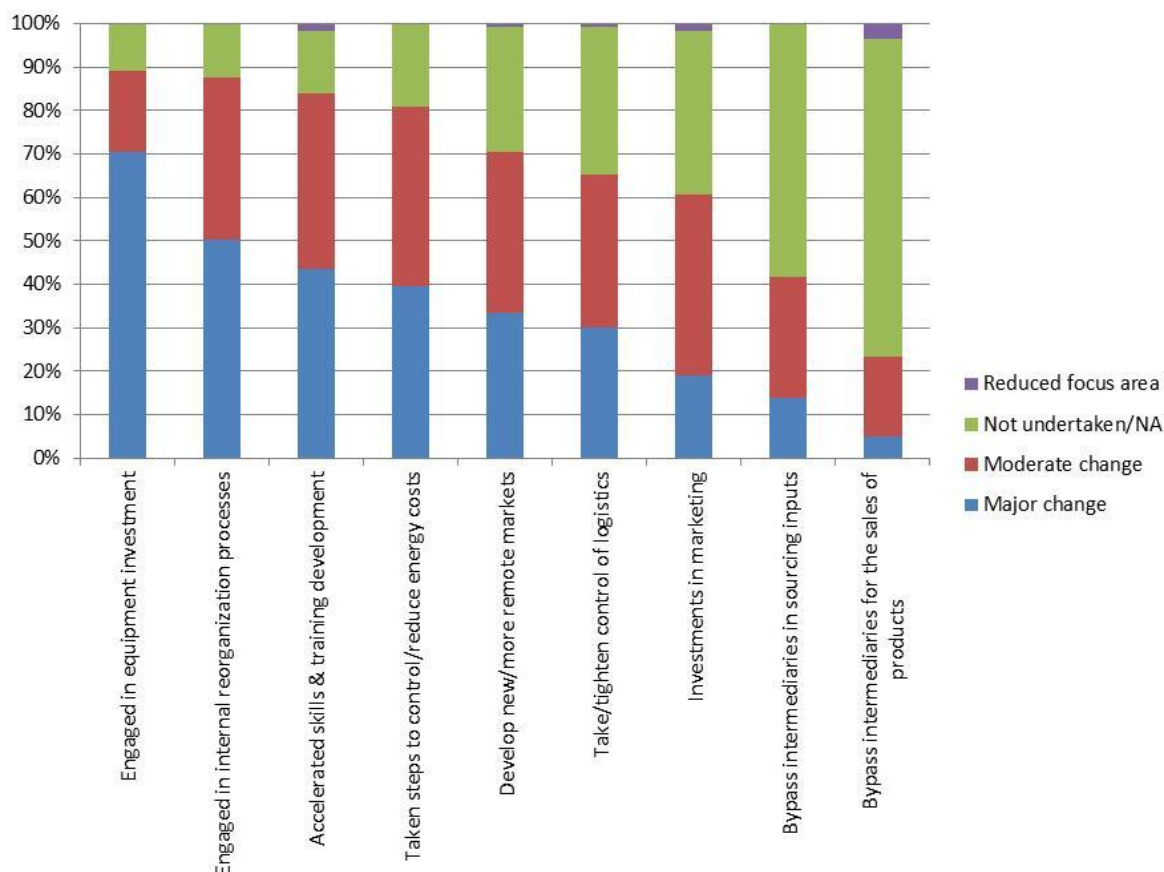
Source: own calculations using project data.

The problem of labour relations and skills is of important in a sense that it causes firms to be attracted to expanding access to capital equipment and advanced technologies to enable growth. The usage of

such technologies is perceived as a mechanism to manage rising labour costs although qualitative responses suggest that this is part of a broader issue of costs increasing as already set out above.

However of note in the strategy data is that skills development is a more evident area of intervention in the medium-size establishments (that is those with between 50 and 99 FTEs) than in other establishments. No pattern is apparent with firm age. Finally, with the internal organization processes, major changes are with medium establishments while the larger establishments are markedly engaging with moderate changes. Possibly worrisome is the fact that the data indicate that major internal re-organisation is notable in establishments that were set-up *after* 1994. There is, in other word, potential change inertia in the older pre-1994 establishments.

Figure 6. Recent changes in the strategy of medium and large manufacturing establishments in eThekweni



Data have been collected separately on a number of labour market themes as part of the project: these are still to be fully analysed. But the problem seems to be, from a cursory examination of raw data to be in terms of the need for a greater supply of skilled workers and an expanded base of more technical and vocational skills in the Municipality than is currently the case.³⁶

A skill base that is more attuned to the needs of the firms in eThekweni might not generate new jobs in the short-term, particularly in the current low demand context. Moreover, there are signs that the period directly after the survey was marked by a decline in producer confidence (see SARB, 2015). However, it would, as is the case with the industrial cluster programme, help improve productivity and competitiveness. Specifically, comments on skills tie in with perception that labour productivity is

³⁶ In terms of firm focus group interactions and also drawing on selective comments in the qualitative responses of the questionnaires the issue of higher-level skills and capabilities with respect to world-class manufacturing are worth noting. Firms expressed concern that universities are falling short of the needs that firms have for higher-level technical staff, managers, engineers and related professions. This also covers issues about the extent of institutional capability for research and development and various forms of specialized training.

currently lower than required when there are large players globally and when the platform of capabilities is becoming more reduced as evidence by the declining number of manufacturing establishments within eThekweni.

Skill development is the domain, nationally, of the SETAs with the current system allowing firms to choose where to send their workers for training, what training scheme to place them on and how much to spend on training. A separate problem is that the basic literacy level is seen as not adequate by the respondents. In light of the presence of a great number of FET (Further Education and Training now being rebranded as TVET or Technical Vocational Education and Training institutions) colleges in the Municipality, there might be a co-ordination failure with these colleges not offering the type of training programme that is required by firms. This would undermine the matching labour element required for agglomeration economies to emerge.

Another type of constraint has a spatial dimension worth exploring. Figure 4 illustrates the current position of two other elements that were in the list of the top 5 constraints to growth in 2002/03 and which are “crime and theft” and “corruption in government”.

During the focus group discussions that were carried out at the beginning of the project, non-business participants who were presented with the ranking of 2002/03 list of constraints expressed the views that crime and theft issues would have become internalised by the firms. Although firms have reported some amount of sunk investments in surveillance and security arrangement, a high proportion of establishments in fact still see this as a notable problem area, including the fact that crime rates in an area influence the perception of customers. In other cases some firms reported issues with the theft of the infrastructure (e.g. cable and pipe theft) around them as affecting their operation.

Crime and theft is a broad and complex theme as such spanning issues of theft around the establishment and small-scale theft such as stock shrinkage. Nevertheless, it was reported in 2013/14 as a major constraint by around 35% of establishments and as a moderate constraint by another 43% of establishments.

The responses are sensitive to where the firms are located. Around 28% of establishments who stated crime and theft to be a major problem area are establishments located in the North of Durban with the area as defined by the Municipality (that is on the North Coast Road/Briardene, Riverhorse Valley, Verulam, etc.). Almost 39% of establishments that reported “crime and theft” as a major problem area to expansion are located in the West (that is the Inner West area of New Germany, Pinetown, etc. or Outer West, that is Hammersdale, Waterfall, etc.) There are statistically significant differences in the responses across the miscellaneous main spatial areas in which the establishments operate. Further insights are provided on spatial issues further below in Section 5 of this report.

In the case of “corruption in government” this was reported as a major constraint by about 46% of establishments (and as moderate by another 20%).

Both corruption and crime as obstacles are significantly less problematic *in relative terms* now than when compared to a decade ago but its prevalence of these constraints as a problem area remain in eThekweni. Corruption in government is not well laid out by respondents however. It corresponds to a general sentiment and to the view that money being wasted or public funds being misused is one aspect of it (as reported by around 12% of respondents in establishments that see corruption in government to be a major problem area for expansion). Interestingly, 28% of respondents in establishments for which corruption in government was listed as a major growth obstacle made comments on the corruption being around government contracts and/or tenders. And on this, local firms tend to find local and provincial government opportunities hard to access.³⁷

³⁷ The questionnaire does not probe from firms that have tenders whether the tender was national or not. Comments were made on these instead which are still to be analysed. Nevertheless, the data reveal that a relatively small proportion of medium and large manufacturing establishments in eThekweni submitted tenders for government contracts in 2011 and in 2012: around 15% of these establishments submitted tenders in either years.

5 SPATIAL AND SCALE VARIATIONS IN RESPONDENT REPORTING ON CONSTRAINTS, COMPETITIVE ADVANTAGES AND DISADVANTAGES

The design of the research instrument sought to obtain explicit feedback from respondents about both their interactions with the public sector at different levels (national, provincial and local) and with processes pertaining to global, national, provincial and local economic infrastructure and regulatory processes. This allows for the directing of respondent feedback at the appropriate scale and in relation to matters pertaining to different spatial contexts. The relevant questions were largely qualitative and allowed for free responses in order to avoid preempting answers. This section provides some descriptive and analytical insight into these responses.

5.1 Competitive advantages at different spatial scales

In order to guide policy makers and industry actors, the questionnaires looked at both matters that enterprise respondents identified as constraints and well as those where they identified some advantages. This was specifically introduced to avoid some of the bias noted in the 2002/2003 survey, where the focus was almost exclusively on constraints.

In terms of the national spatial scale, when enterprise respondents were asked about the competitive advantages of locating in South Africa, the responses were quite muted. Of the firms responding to the question, 30% indicated that they felt there were no particular competitive advantages that they could note. A close look at some of the responses suggests that firms view South Africa as not having stand-out competitiveness features when compared to locations where firms' competitors were located (see Table 5). Here it is worth noting that some firms locate in a country for factors other than specific competitiveness features. For instance it might be because the founders happen to have made that choice, and not because of any specific other competitive advantages. Furthermore, comparative advantage factors (as distinct from competitive advantages) might still be influential such as links to local suppliers, availability of basic factors or proximity to forms of infrastructure.

Of those firms that did identify competitive advantages the most significant set of comments were those where location dynamics were a feature. Around 25% reported on a variety of location elements as being important related to proximity to suppliers and/or customers, 6% reported on location in relation to infrastructure such as ports and 6% reported on proximity to growing/developing African markets and suppliers as being a factor. Cumulatively these responses highlight varied factors related to location advantages. This reinforces the idea that there are benefits to firms from being in a large city such as Durban, with a relatively complex set of economic activities located in the city and with good connections to other major South African and foreign centres of economic activity.

The responses reveal other elements: around 11% noted strengths in government policies and programmes which shows that some elements of government programmes feature in firms' views of what makes the country a sound place to locate a business. Notably, 8% noted matters relating to access to a specific pool of labour and skills as being a competitive advantage. Although this issue is featured as significant constraint elsewhere in the document, once again it does suggest that some firms have overcome challenges faced by most firms to report on skills and labour advantages.

Other advantages receiving consistent support from firms included proximity to suppliers (8%) and customers (about 6%) as well as proximity to African markets (about 6%), infrastructure and transport systems (about around 6%) and specific market structure dynamics (5.5%).

Table 5. National competitive advantages reported by CEOs/MDs in medium and large manufacturing establishments in eThekweni (2013/14) – selected themes

Main Comment type	% of all establishments making comment type
A particular technology translates into an advantage in	1

being in SA	
Stability of/Confidence in the SA economy	1
Comment on general market conditions made in the discussion of advantages to being in SA	2
An element related to some production characteristics/competitiveness of establishment in a particular context SA	4
An element related to the market/market structure as a specific strength of the establishment mentioned in the advantages of being in SA	6
Infrastructure/transport positive element mentioned	6 (12.5*)
Comment on location offering access to opportunities in Africa	6
A particular customer/customer base mentioned as an advantage in being in SA	6
Access to supplies/link with suppliers mentioned as a specific advantage in being in SA	8
An element pertaining to labour/skills/work ethic in the list of advantages of being in SA	8 (14%*)
Some general comment on location mentioned reported in the list of advantages of being in SA	10
Government Support & Policy/Regulation in place	11 (15%*)
Other location/proximity comment	12
No advantage of being in SA reported by establishment	24 (30%*)

Notes:

- relates to an analysis of open-ended qualitative responses to the question of what competitive advantages remain from being located in South Africa. The analysis of the responses is subjective;
- *: the figures in brackets report the proportion excluding establishments which made no comment.

Source: Own analysis of project data qualitative responses.

Respondents struggled to offer any distinguishing location comments at the provincial level. They tended to argue that these were either captured in their comments on local advantages or constraints or national factors.

What is of some significance here, in terms of a discussion on advantages, is that not only were firms generally quite reticent to specify much about this, when they did raise issues these were generally static or comparative advantages in that they were generally factors that were often quite fixed. Some refer to these as qualifying criteria to firms that want to compete but consider them as being less likely to confer more dynamic advantages, for example in terms of more explicit references to specialized skills or an innovative milieu. For firms to continuously reference these more basic factors is something that would need attention in longer term industrial development processes. Authors such as Lall (1992, 2000) and Porter (1985, 2000) have noted that countries competing around more basic factors are often at risk of having their ability to compete undermined by new entrants. For example Porter (2000) makes the point that

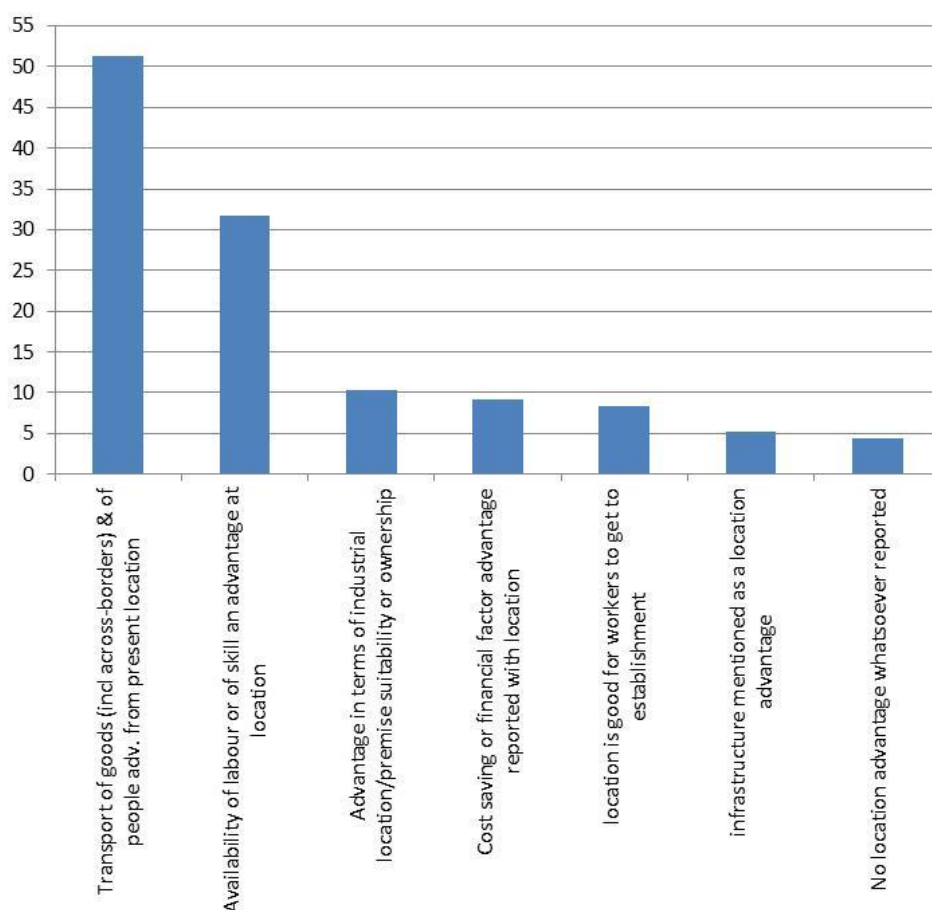
... the sophistication of how companies compete in a location is strongly influenced by the *quality of the microeconomic business environment*. Some aspects of the business environment (e.g. the road system, corporate tax rates, the legal system) cut across all industries. These economy-wide (or “horizontal”) areas are important and often represent the binding constraints to competitiveness in developing economies. In more advanced economies and increasingly elsewhere, however, the more decisive aspects of the business environment for competitiveness often are cluster specific (e.g., the presence of particular types of suppliers, skills, or university departments). (Porter, 2000: 19)

Lall refers to the imperative for countries to support firms in ways which enable three layers of capabilities (physical investment, human capital and technological) to operate in support of one another (Lall, 1992: 170).

5.2 Greater Durban/eThekweni specific location advantages and disadvantages

Whilst the above discussion referred specifically to firms' comments on the national context, the material which follows talks more specifically to eThekweni or Durban-wide advantages and disadvantages. Figure 7 below provides an indication of the percentage share of respondents reporting on key advantage factors. The dominant, and perhaps not surprising, advantage is that related to transportation of goods. Over 50% of establishments reported that this was a notable advantage. A little over 30% of establishments note a location in eThekweni has advantages arising from the availability and skills. Slightly over 10% of firms report that the specific site and/or premises of the enterprise plant provide an advantage in that it suits their specific production and strategy needs. Separately, 9% note that their location in eThekweni offers cost advantages that might accrue through a variety of factors such as land costs or labour costs. Accessibility of enterprise premises to labour markets and infrastructure are also reported on as advantages. Only 4% (5% excluding the missing answers) of establishments report observing no specific advantages from their location in eThekweni. These few advantages are once again quite simple advantages (noting prior comments on work by Lall and Porter) but importantly firms do report on them as conferring advantages.

Figure 7. Main advantages of current location in eThekweni/Durban (% of establishments)



Note: relates to an analysis of open-ended qualitative responses.

Source: Ibid.

As noted previously, work on agglomeration effects from firms locating in cities highlights three sets of effects that need to be understood. The first of these are urbanisation economies where city scale effects bring advantages of market size and the availability of a large pool of labour. The second of these is that of industrialization economies where proximity of relevant suppliers and customers can confer gains, for instance those associated with clustering. Thirdly, localisation economies are those benefits that raise around proximity to a specific facility, for example a specialized waste treatment plant or a specific transport facility. All three of these are likely to be factors in firms' perspectives of

their location.

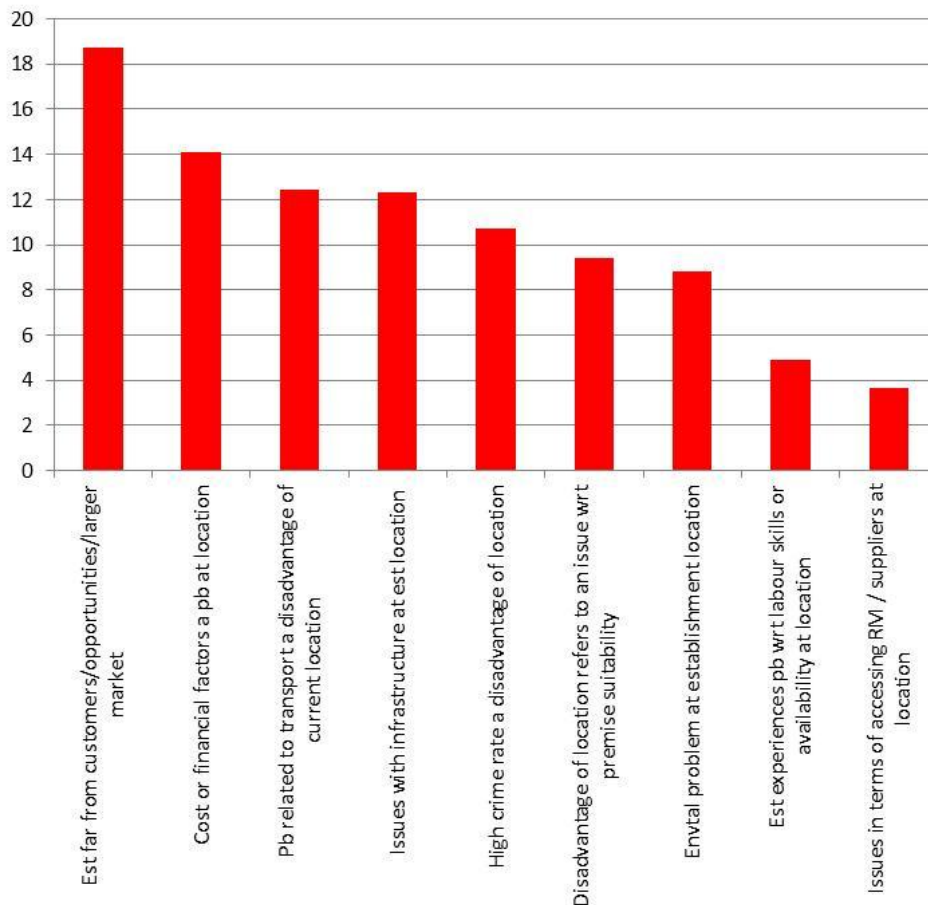
In terms of the responses to the questions asked, urbanisation economies and localization economies appear to be more significant, although a closer look at qualitative responses suggest that there are firms reporting on industrialization economies. However, the respondents in the survey also noted a range of disadvantages. Some of these coincide with broader constraints noted above in the report but they are factors which actors need to take specific note of in that they are deemed to compromise firms' operations in the eThekweni area. These disadvantages are not shared by all firms but a range of them are noted by many respondents. Further analysis can reveal if there are any specific sector concerns but at a general level the following are noteworthy:

- A little over 18% of establishments report that distances from major markets/customers are a concern to them. This could pertain to national markets/customers or international markets/customers. The constraints discussed elsewhere, of high transport costs, would clearly aggravate this;
- Around 14% of establishments report on a range of cost issues generating disadvantages for their location in eThekweni. These exclude municipal costs but would include issues such as land costs, high operating costs and labour costs.
- Despite firms reporting very strongly that transport advantages are key in Durban, just over 12% of establishments report on issues around transportation blockages of one sort or another. Here factors like congestion or industrial estate specific factors could be of significance. A similar proportion of establishments (just over 12%) reports on infrastructure problems generating disadvantages. These issues could include unreliability or inadequacy factors affecting things like electricity or water or roads.
- Over 10% of establishments report on concerns related to crime in the locality as generating disadvantages for their operations.

It should also be of interest to municipal officials that almost 10% of establishments report on issues relating to their existing premises as being unsuitable for one or other reason. This could include issues about changing firm processes generating problems with an existing site, for example firms noting concerns around decline in an industrial estate or their own challenges in handling complex logistics operations. It is also worth noting that the bulk of firms operating in the region are located in what one might refer to as mature industrial estates where the design of supporting infrastructure and the factory units themselves would have been informed by dynamics of prior industrial eras. Probably the one of most stand-out feature would be that pertaining to the rapid raise in just-in-time supplying and in the road-based logistics industry (much of the latter connected to the port). These processes have combined to generate significant growth in truck traffic in and around industrial estates on roads and on production sites that were never designed for this purpose. Any visitor to well located industrial estates in the greater Durban area can witness the inadequacy of infrastructure to serve this activity and the consequent negative externalities imposed on road networks, pavements, neighbouring businesses and the like.

Firms also reported on some issues with respect to environmental approvals and accessibility of some locations to various types of suppliers. The latter could include matters of distance, navigability and congestion or infrastructure issues. With regard to the latter the management of industrial estates and different uses is a matter that firms noted – where for instance unregulated logistics operations might regularly block roads designed for small vehicles and less traffic.

Figure 8. Main disadvantages of eThekweni/Durban as a location (% of establishments)



Note and source: As for Figure 7.

5.3 Opportunities for sub-metropolitan spatial assessments of constraints/disadvantages

The firms in the survey sample were drawn from areas throughout the eThekweni Municipality. However, the survey was not intended to be strictly representative of all industrial estates. That being said, it is possible to offer some additional analysis, where samples allow, of different constraint factors as they pertain to different regions of the municipality (central/port, South Basin, South/Umbogintwini, West, North). A preliminary analysis finds that regions do not share all the same challenges when it comes to the enterprises within them. Whilst this survey has as its focus manufacturing firms some of these aspects might also have some congruence with issues faced by other sectors in these different regions.

For the purposes of this document some preliminary analysis of qualitative findings on the nature of challenges faced by enterprises is presented with a sub-metropolitan spatial perspective. Three areas highlighted here are skills, transport infrastructure and crime and theft. It is possible to take this analysis further to look at items such as electricity, environmental regulations, services costs and the like that were identified as issues by firms across the metro area. Thus this section serves more as a pointer to what can be done with the data rather than a comprehensive sub-metropolitan assessment. It should also be noted that data could also allow, within some methodological limits, a testing of these results in terms of firm size, age, sector and potentially other characteristics.

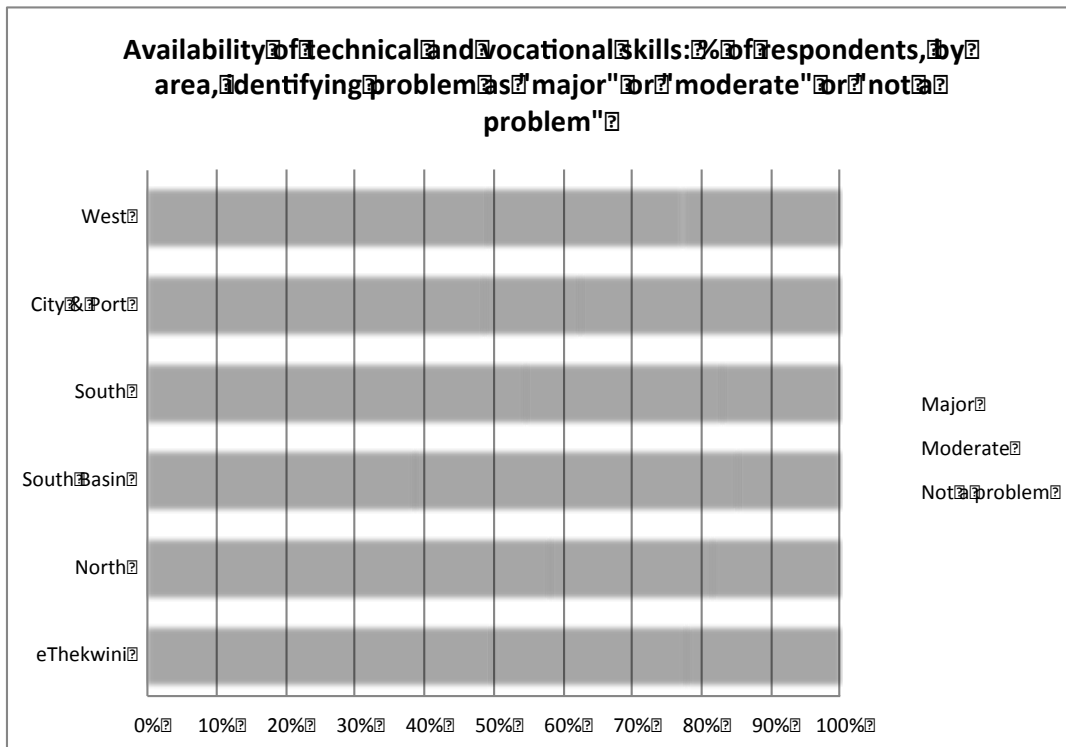
5.3.1 Availability of technical and vocational skills

In terms of firms view of constraints for operating in South Africa the issues of the availability of technical and vocation skills features as a significant constraint. This is given less attention by firms

when exploring their views of being located in eThekweni because firms generally associate these skills issues as vesting with national government.

Although over 30% of establishments in the sample identify access to skills as an advantage of being in Durban it is not a consistently features strength in the survey results. When analyzing factors in eThekweni that are major or moderate problems or not problems at all it is interesting to note that just over 50% of those that identified it as an issue felt it was a major problem area for their enterprises (Figure 8). Combining this with the moderate responses one can see that it is an issue concerning the bulk of enterprises, although those in the environs of the port and city centre have slightly less of a problem – something that might have something to do with the higher skills profile in the local population and the relatively higher density and greater range of institutions in the area offering skills training and the like.

Figure 9. Availability of technical and vocational skills: problem rating by area

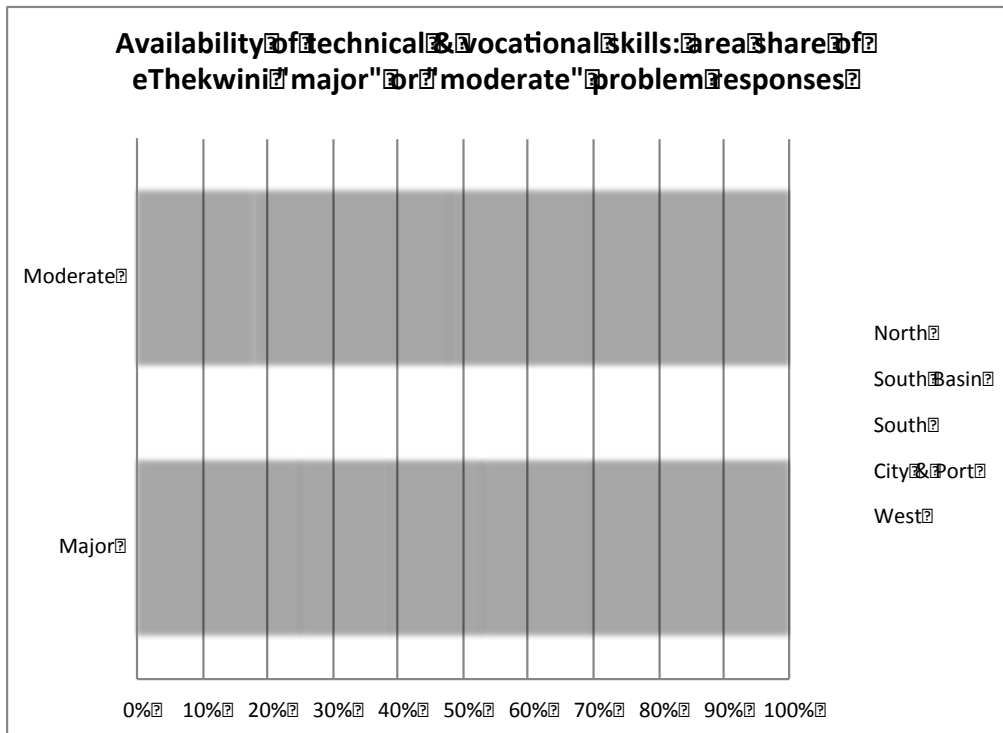


Note: The areas are as defined by the Municipality with West including the Inner and Outer West region.

However, taking this one step further it is also possible to try and assess what proportion of all eThekweni establishments from the sample (with the aforementioned issue of spatial representation – representativeness - not having been sought by the survey) that rate skills as a major or moderate problem are located in any one area. This gives a different perspective as to where problems might lie in a spatial sense.

From Figure 10 it can be observed that almost two thirds of eThekweni respondents viewing skills as a moderate issue are located in the South Basin and the West whilst the North and the West feature as dominant areas in terms of major problem responses. This would suggest that policy makers and industry bodies and the like should give some attention to this.

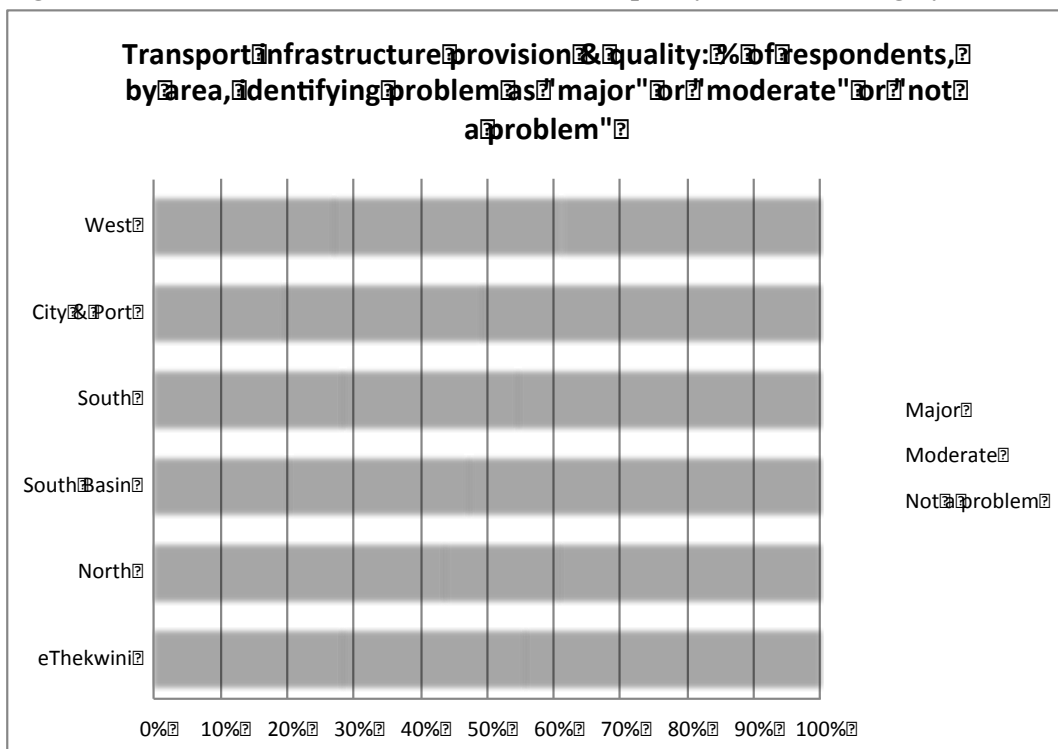
Figure 10. Availability of skills: share of eThekweni “major” and “moderate” problem ratings by area



5.3.2 *Transport infrastructure provision and quality*

Issues of transport infrastructure have also received some attention in the responses captured in the survey. At a sub-metropolitan level the North seems to stand out as experiencing transport issues as a problem more than other areas although when combining major and moderate responses it can be seen that the west also faces issues.

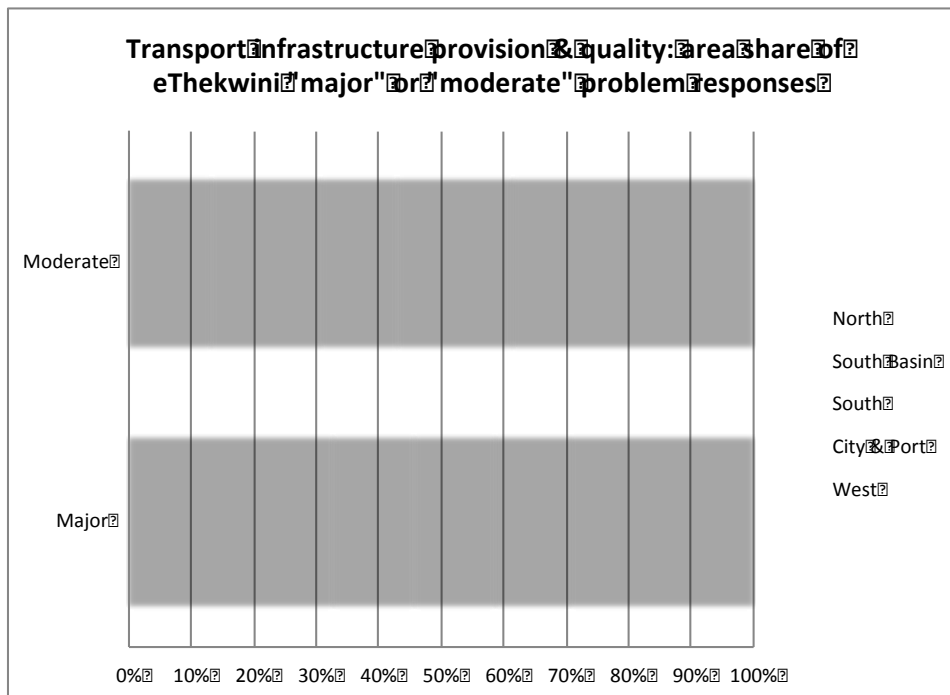
Figure 11. Transport infrastructure provision and quality: problem rating by area



In

Figure 12 shows that the north and west dominate the contributors to the “major problem” ranking for eThekweni as a whole.

Figure 12. Transport infrastructure: share of eThekweni “major” and “moderate” problem ratings by area



5.3.3 Crime and theft

Issues of crime and theft are also a persistent concern. Recent crime data showing some increases in crime against businesses suggests that this is something policy makers need to attend to.

Over 30% of eThekweni firms identified crime and theft as a major issue in eThekweni but combined with moderate concerns this rises to over 80 percent - as high as issues of access to skills. Figure 13 shows that it is more of a major issue amongst firms in the North and West compared to the other areas. Almost 40% of firms identifying the issue as a major issue (see Figure 14) are located in the West with 25% being located in the North.

Figure 13. Crime and theft: problem rating by area

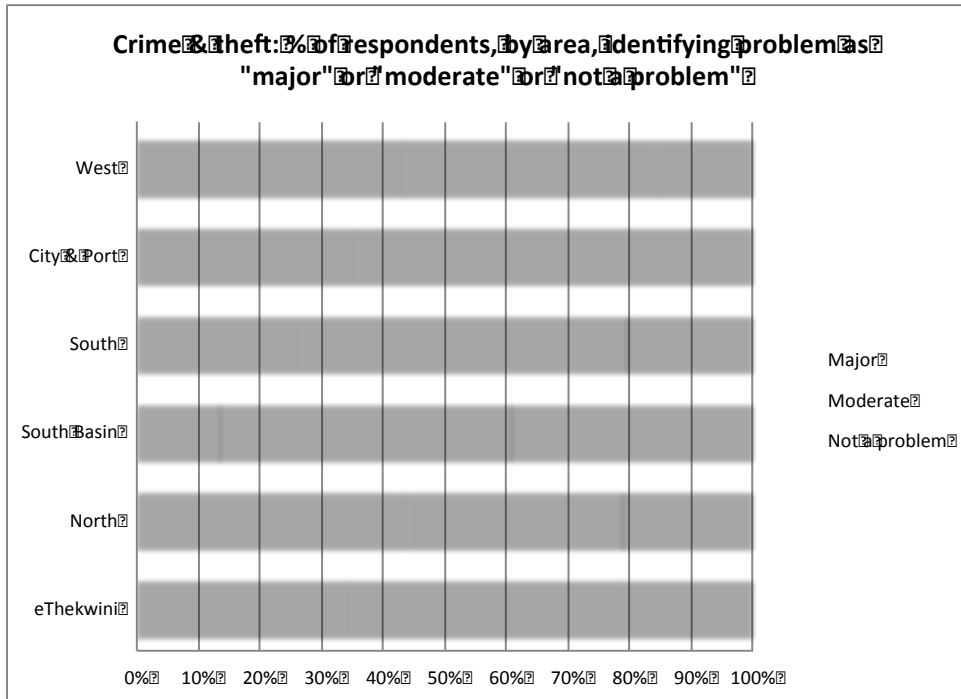
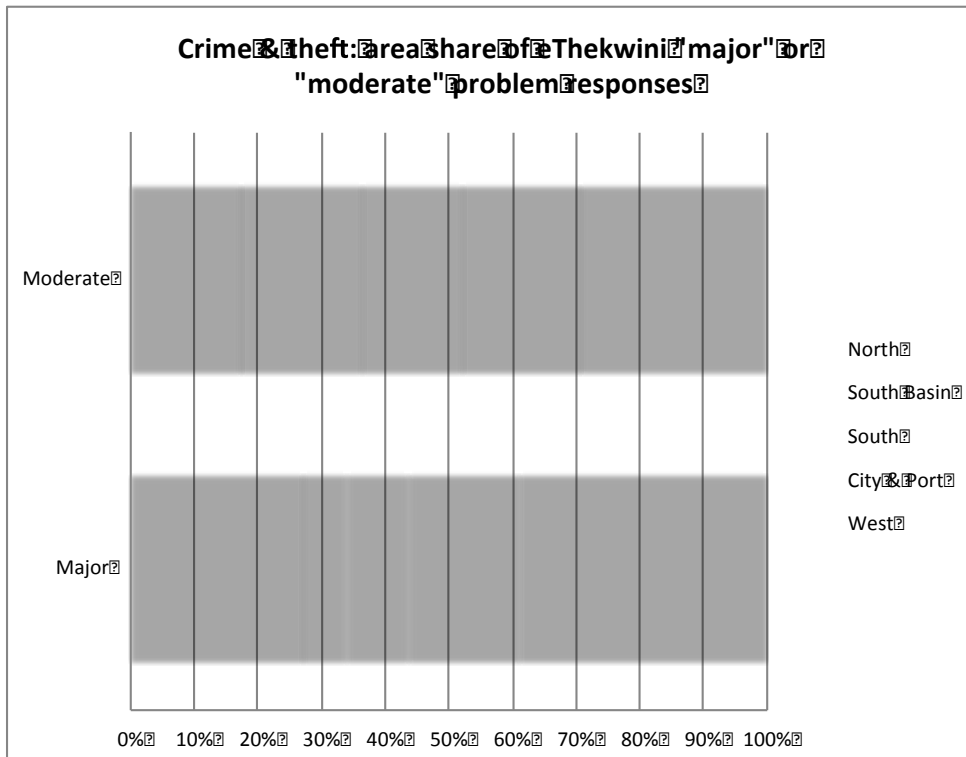


Figure 14. Crime and theft: share of eThekweni “major” and “moderate” problem ratings by area



6 LOCAL POLICY ELEMENTS

6.1 Role of local government

In order to contextualize the basic elements set out above on the constraints to growth, firms were

asked to specify what they considered to be areas for further progress that are still required from the Municipality and from national government. While the responses showed that there were overlaps, the perceptions are useful.

Figures 15 and 16 show the areas for national and local government in which further progress is required as directly ranked by the respondents in 2013/14. Three areas of interventions for which further progress is required stand out at the national level and these are: 1) addressing the high cost of utilities; 2) promoting an efficient skills development system (e.g. as managed by the SETAs for the relevant manufacturing sectors); and, 3) maintaining infrastructure. Positively, there are signs, in the responses, that sectoral-support (mechanisms and programmes) are currently working for those able to access them, though this is still an extremely important area of national government where further progress is needed.

In spite of a much smaller set of pre-specified options in the questionnaire for the Municipality, maintenance of existing infrastructure is set out as the highest area for further progress at the local level by respondents. This is ahead of new infrastructure with seven in every ten establishment reporting on the extreme importance of maintenance compared to one in every five reporting on new infrastructure. Sector-specific support is mentioned as an area for which further progress is extremely importantly required by around 39% of establishments.

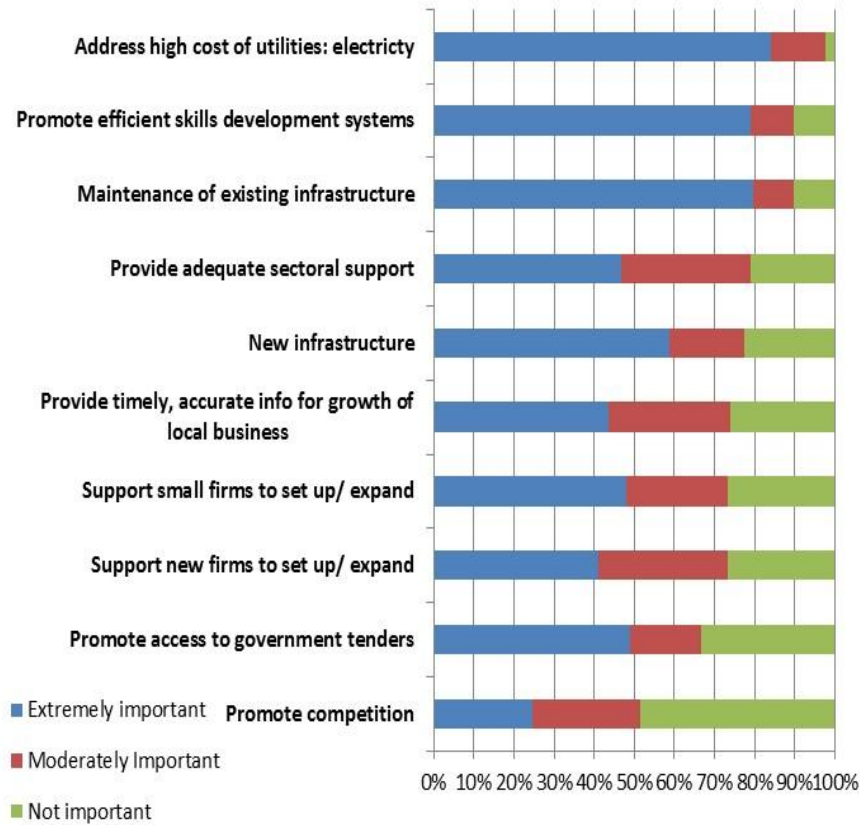
6.2 Inefficiencies in Local and Provincial government

The questionnaire probes into whether inefficiencies in local and provincial government act as a constraint to growth. On this specifically, the data reveal that inefficiencies in local and in provincial government are listed by around 33%-35% of establishment as a major constraint to growth. The responses on provincial government are somewhat surprising given that 50% of establishments reported, in a preliminary question, that there was no element at the provincial level that was shaping their expansion. In other words, firms were finding it hard to establish elements specific to the province that mattered for the business.

The qualitative responses help to identify some of the problems areas at the local level. Focusing on establishments that have commented on local government in terms of how business queries (unspecified in nature in the questionnaire) were handled reveals that timely response is a major problem area. This was raised by around 19% of eThekweni establishments that provided feedback to the question. Another issue that was raised by the firms was in terms of the problem which set the queries into motion not being resolved or addressed. This was reported by around 12% of establishments that provided comments.

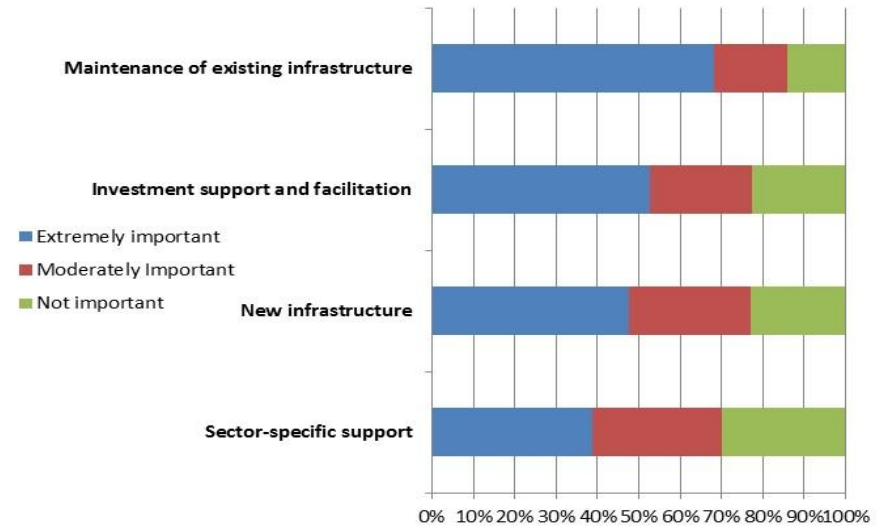
Also of concern is that 6% of establishments felt that they could not communicate the importance of the problem to staff in eThekweni. A variety of comments were made on this, including responses such as: “it is very difficult to get the queries across [to eThekweni Municipality staff] – you end up paying people to get through to the Municipality”; “we are not sure if the requests are followed through”; the problem “is one of facelessness”; “turnover of staff [at the Municipality] means that there is no one to deal with consistently that can be identified”, etc. Separately, a little over 5% of establishments reported lack of knowledge or expertise by the staff at the Municipality with whom they had to interact for their queries. Positively, 20% of firms had a positive experience when placing a business query to staff at the Municipality.

Figure 15. Areas in which further progress is required by national government



Source: Own calculations from project data.

Figure 16. Areas in which further progress is required by local government



The responses revealed that, 25% of establishments who were asked to comment on the manner in which the Municipality handled queries for their business reported that they have no dealing/do not deal with the Municipality. If one interprets this proportion as establishments that have not had encountered problems that are the responsibility of eThekweni, this would mean that the counterpart, that is 75% of manufacturing establishments, have had to make a query of some form in the past for their business.

6.3 Local property rates

An analysis of open-ended comments on the elements of the local arena influencing expansion reveals that rates are a much more prominent issue than infrastructure. Specifically, around 58% of establishments reported that the local property rates were a problem area. When comments are made by the establishments on the local property rates it emerges that almost 77% of establishments were found to have commented on the rates as being high or too high. Respondents also commented on the rates being high relative to the service level provided; 18% of establishments who made comments on the rates made such comments. Also significant were comments that the high local property rates have diverted resources away from the firm, fuelling inflation and increasing cost generally.³⁸

Although they are found to be high or very high by the firms, a lack of consultation on the rates was mentioned by one in every ten establishments. In parallel, almost 20% of establishments felt that the rates acted as a perverse incentive and that there was confusion in terms of the signal which the Municipality wanted to give businesses through the rates. The question raised by one respondent of whether the “City wants industry to move to the periphery” captures the spirit in which a number of CEOs/MDs consider local property rates. However, it is typically laid out as another cost, which the business needs to take into account and to absorb in order to remain competitive.

6.4 On the sectoral interventions/sector specific interventions supported by the Municipality

Currently, a few sector-specific interventions have been put into place in the Municipality that are strongly supported by the Municipality. Yet around 40% of medium and large manufacturing firms in eThekweni see this as important. Furthermore, when establishments are asked to comment on which support instruments they are aware of that are outside of a list of support measures and programmes, they occasionally refer to industrial cluster programmes. When these are referred to, they are all described as very useful even though awareness of these is limited to either the Durban Automotive or Chemicals clusters rather than to other clusters that are in place in the Municipality (e.g. the KwaZulu-Natal Clothing and Textiles Cluster, the Furniture Cluster, the Fashion Council or the Metals and Tooling Cluster). These are important in line with issues of competitiveness/productivity improvements that translate into the firms being vulnerable to adverse demand shocks and high/rising operating costs that cut across the various constraints to growth. But, more awareness needs to be provided to all firms. It should be noted that eThekweni support for these has stayed impressively consistent over the years but has fallen considerably behind funds invested in other “economic development” ventures such as event support. Lessons from other contexts suggest that industrial support measures at the local level can mature into important partnerships with other private and public bodies to attend to issues such as R&D, skills production, and other fields. Considering the paucity of institutions in the region – and the country – doing this type of work this might be something to explore further in ongoing engagements with industry and other relevant bodies.

Although relatively little funding is available to incorporate a higher number of firms in the existing clusters and/or to expand the clusters to other economic sectors, sector-specific interventions tend to be seen as the domain of national government.

7 CONCLUSION

The very fact that the survey that is the focus of this paper was conducted in a particular urban area of South Africa with a particular human capital profile, that the firms approached have a particular sea

³⁸ It is not possible to verify this directly in the finance data.

advantage in terms of their access to some foreign markets compared to firms located away from the coast but disadvantaged in terms of their distance from the main economic hub of the country would generate data on activities that are shaped by the very nature of the area where the production establishment is located. In turn, however, the fact that some young firms are setting up in new industrial zones in eThekweni, some of which are being developed by the Municipality, means that the dynamics are not static but also subject to local development and industrialization influences. Picking these up would require, as noted above, a sampling frame that has spatial elements. This is not the case with our survey that is focused on the key elements that are part of the business climate as traditionally conceived. Still, our survey has yielded a large and detailed dataset on a range of aspects pertaining to medium and large manufacturing establishments in eThekweni. Although only a few selected themes have been presented in this paper, we show that particular problems confront the medium and large manufacturing establishments in eThekweni, a number of which relates to developments in the local arena.

Indeed, although some elements, that tend to impact on the firms, are set nationally (e.g. labour regulations) and firms would have responded (and will continue to respond) to this by engaging with internal changes some elements, such as those that linked to costs (e.g. local property rates) and infrastructure have a local dimension. There are areas that are identified by respondents as domain of interventions by local policy-makers. For instance, respondents in medium and large manufacturing establishments emphasized that a prime area of intervention for the Municipality is the maintenance of infrastructure. This issue has been noted in the Municipality's own industrial land studies, in previous area based management projects and is also clear to any observer of industrial parks around the city.

Energy provision and quality ranks seventh as a constraint to growth amongst a list of 29 constraints, and there are questions about the state of that particular infrastructure in eThekweni. From a local policy perspective, the state and condition of electricity sub-stations which are the domain of the Municipality is worth noting (in particular when outages cause production equipment damage in plants). A few establishments (e.g. three medium and large manufacturing establishments) reported on this in comments and/or on water pressure damage and production stoppage spontaneously. This is an area which has not been probed in the survey questionnaire although miscellaneous comments indicate some confusion by respondents in terms of what is the domain of national as opposed to local government with regards to infrastructure interventions.

Crime is another problem area and the data show sub-spatial nuances and this and on the aforementioned.

In turn, the firms made a number of varied comments on their interactions with local and provincial government although it is evident that the relevance of provincial government to businesses is not clear to half the medium and large manufacturing establishments in eThekweni. The data shows that the quality of the interaction is uneven. Room for progress is in terms of the speed at which a query is addressed and in terms of the level of knowledge of local staff for the purpose of addressing a business query.

Each element sets out might has some implications for the growth of firms and of the Municipality from an economic length. It is also important for employment. Moreover, in a number of instances, some macro-economic factor bears on the firm. Worryingly, employment growth and investment are constrained by the lack of a "sustained increase in market demand". Given that 57.5% of establishments reported needing more export in order to grow their workforce, the demand would have to emanate from both the domestic and export markets. And what is referred to as domestic means from Durban and from other Provinces in South Africa. The demand side effect is strong as reflected by the fact that cheaper imports is less important than increased exports from the perspective of job creation in the manufacturing firms. This is a pattern which is distinct from that of the early 2000s when firms were finding their integration in the global economy problematic and when firms tended to see trade protection as offering enhanced opportunities.

More broadly, the survey analysis reveals that firms have become concerned with a larger number of issues than in the past. This is illustrated by the fact that *more elements* are now considered as constraints to growth by the businesses than a decade ago. A greater proportion of firms, compared to the early 2000s, in turn report a number of themes as major and moderate problem areas. At least in part this is likely to have something to do with the growing globalisation of production systems and markets that has occurred in parallel to this period of change in South Africa. This is also possibly indicative of a greater vulnerability of firms at present although the firms tend not to be turned towards local but rather towards national

interventions to help them on this front.

It is also worth briefly reflecting on the survey instrument itself. In the context of South Africa's ongoing challenges with respect to growth and employment, and in particular within the manufacturing sector, an imperative exists for interested parties and regulators to gain improved insights. What this survey does demonstrate is that by exploring micro-level firm data at a sub-national scale a wide range of factors can be identified that talk to both opportunities and constraints. Furthermore, what little evidence is available suggests that these opportunities and constraints are not distributed evenly across space and, at times, present themselves in ways that are best understood with additional local insights and not without them. Thus, the case for further exploration of firms using these instruments which allow for such local insights and perspectives of national considerations from a local point of view is suggested to hold some potential in a context where evidence continues to mount that local foundations of economic processes have significance in national economic dynamics.

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9 APPENDICES

9.1 Age of medium and large manufacturing establishments in eThekweni

The set up date varies widely across establishments. Some establishments started production at current location as far back as 1893 although the sample contains 25 establishments that started production at the location in which the interview took place in 2008 or subsequently.

On average, firms started production at location in 1994 though the date that appears the most frequently in the data is 2006.³⁹ From Appendix Table 1, which shows when the firms initiated production at their current premise, it can be seen that most manufacturing establishments in eThekweni are old: around 55% of the establishments were set up before 1994 with 21.5% of establishments set up prior to 1971. However, the data show that an extra 19% of establishments were set up between 1994 and 2000. The favourable economic climate of the mid-2000s is seen to have been associated with new production in eThekweni; 17% of establishments started production between 2001 and 2007 (see Appendix Table 1).

Appendix Table 1. Period when establishments started producing at location

Period	% of establishments
Pre-1971	21.5
1971 to 1989	23.4
1990 to 1993	10.0
1994 to 2000	19.2
2001 to 2004	7.6
2005 to 2007	9.3
2008 to 2013	9.1
Total	100.0

Changes of ownership happened in Durban. Whilst for 34% of establishment the current owner took over prior to 1994, 25% took over between 2001 and 2007. Another 21% of owners did take over in 2008 and subsequently (see Appendix Table 2).

Appendix Table 2. Period when current owner took over

Period	% of establishments
Pre-1994	33.6
1994 to 2000	20.2
2001 to 2007	24.8
2008 to 2013	21.4
Total	100.0

9.2 Size of the establishments & employment across sectors

Missing information influences averages. A problem arose with the data from the fact that a number of respondents did not answer the question on the number of full time employees at the establishment. This problem is compounded by missing data for a particular part of the questionnaire from a few firms. Miscellaneous sources were consulted to help fill in the gaps and Appendix Table 3 shows the average number of FTEs in medium and large manufacturing establishments in eThekweni. The average size is 255 FTEs although this figure is influenced by some outliers with one establishment reporting 3000 FTEs. Generally the data captured would account a total of 111,000 FTEs.⁴⁰

³⁹ The median date, that is the date for which half the firms reported production at location, is 1999.

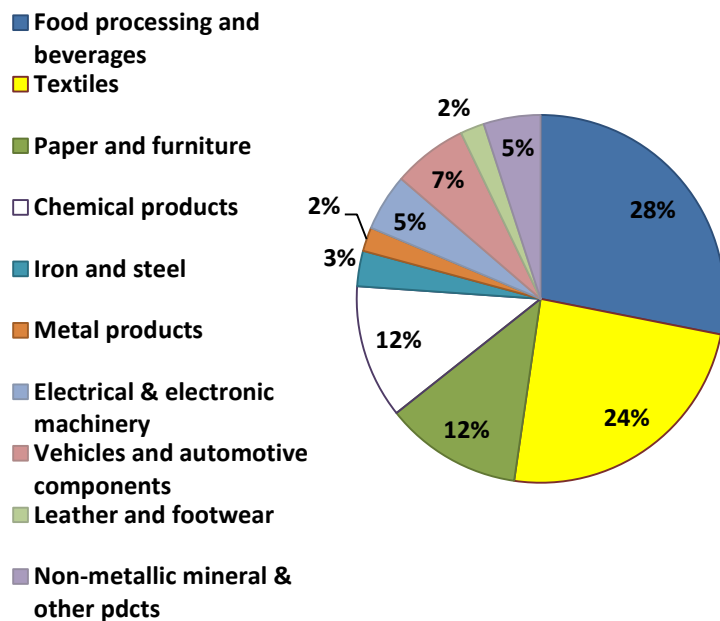
⁴⁰ This is below the figures from private data sources for eThekweni though in line with those from Quantec. This suggests that there might

Appendix Table 3. Number of FTEs in establishments

Sector	Mean	Median
Food processing and beverages	551	180
Textiles & Clothing	270	150
Paper and furniture	212	187
Chemical products	136	95
Iron and steel	176	124
Metal products	106	90
Electrical & electronic machinery	385	193
Vehicles and automotive components	337	250
Leather and footwear	190	190
Non-metallic mineral & other products	202	129

Appendix Figure 1 reports the distribution of full-time employees across the miscellaneous manufacturing sub-sectors. The figure shows that almost one in every three full time manufacturing employees would be in the food processing & beverages sector.

Appendix Figure 1. Sectoral distribution of all FTEs in medium and large manufacturing establishments in eThekweni



Source: Own calculations from project data.

still be some establishments missing from the population list although this would be the figure specific for *full-time* employees rather for all employees.