



CONFERENCE
Strategies to Overcome Poverty & Inequality
"Towards Carnegie III"
University of Cape Town, 3 - 7 September 2012



This paper was presented at "Towards Carnegie III", a conference held at the University of Cape Town from 3 to 7 September 2012.

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Paradoxes, the tyranny of structures and enterprise development in South African towns

by

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Introduction

Learning is the changing of behaviour. The goal of the change is to arrive at a form of behaviour that corresponds better to the goals of the learner, i.e. behaviour that is more effective (Swieringa and Wierdsma, 1992). If South Africans have over the past two decades effectively learnt to deal with the high rate of unemployment in the country, lower unemployment rates would have been evident over time. But this is not the case. Instead, the stubbornly high unemployment rate is continuously bemoaned by many political and other groups, suggesting that little has been learnt about the causes and dynamics of unemployment.

In order to advance South African learning, lessons from important paradoxes such as those we call the Chateau Margaux and Coca-Cola Paradoxes and the fact that the gift of President Zuma to the Queen of England during a state visit was produced by peasant artists from the midlands of Natal need to be linked to the factors that drive enterprise development in towns of rural South Africa.

The race to the bottom is business jargon for the situation in which enterprises compete with each other to reduce costs in order to stay competitive. These enterprises end up with low unit prices for their commodity-like products or services. The Chateau Margaux winery in France has for more than 200 years been one of the top wineries of France and has continuously been able to attract high unit prices for its wines. It did not become part of a 'race to the bottom' and the challenge is to understand why not.

Coca-Cola supports a brand valued in 2011 at \$71.9 billion by Interbrand (2012). It is a simple product that has been described as 'sugar water with dubious taste', yet it has been the basis on which a tremendous asset value has been built. The challenge is to understand why this was possible.

The gift offered by President Zuma to Queen Elizabeth is a ceramic art object made by Zulu potters of Ardmore, an enterprise in rural Natal. The artists were capable of producing a gift that is 'fit for a queen'. The paradox is that there are world-class abilities in the rural populations of South Africa yet this is not appreciated. The challenge is to understand how such abilities can be discovered and employed.

After World War II a new discipline, Systems Dynamics, with Professor Jay Forrester as founder developed (e.g. Forrester, 1969). System dynamics combines the theory, methods, and philosophy needed to analyse the behaviour of systems in not only management, but also in environmental change, politics, economic behaviour, medicine, engineering, and other fields (Forrester, 1991).

Forrester (1991) pointed out that in designing an engineering system, say a chemical plant, engineers realize that the dynamic behaviour is complicated and that the design cannot successfully be based only on rules of thumb and experience. There would be extensive studies of the stability and dynamic behaviour of the chemical processes and their control. He remarked: “But observe how differently social systems are designed. We change laws, organizational forms, policies, and personnel practices on the basis of impressions and committee meetings, usually without any dynamic analysis adequate to prevent unexpected consequences”. He also indicated that even more important than finding unexpected behaviours of a specific system is the discovery of general characteristics that are applicable to a broad class of systems, or even to nearly all systems. His statements also apply to economic systems.

The paradoxes outlined above and ideas from Systems Dynamics are not explained by or included in the current thinking about local and rural development in South Africa. This contribution addresses these issues. We firstly examine reasons for South Africa’s high unemployment rate, then present explanations for the paradoxes. We then draw upon research of proportionalities occurring in the enterprise structures of South African towns to illustrate the systemic nature of these structures. We then link our results to considerations of broad entrepreneurial and market types as well as the ‘tyrannical nature’ of systems. We discuss the paradoxes further before presenting some conclusions.

Why high unemployment in South Africa?

Many reasons have been advanced for the high South African unemployment rate: jobless growth (Du Plessis and Smit, 2007), labour market inflexibility (Barker, 2003), a mismatch of required skills levels, the labour force and employment opportunities (Burger and Woolard, 2005; Pauw et al. 2008), increases in the capital intensity of production (Bhorat and Oosthuizen, 2006; Pauw et al. 2008), increased concentration in the manufacturing sector (Fedderke and Szalontai, 2003), sectoral changes in demand (Bhorat and Oosthuizen, 2006) and the prevalence of HIV/AIDS in the country (Arndt and Lewis, 200).

Toerien (2005; 2011) additionally explained South Africa’s ‘biggest conundrum’ as follows: the country needs foreign exchange to fund imports of products and services that the country cannot supply itself. South Africa’s exports consist mostly of commodities. Globalisation is forcing the commodity-based South African exporters to become more technology-intensive in order to remain price-competitive. As a result, commodity-focused industries replace low-level workers with machines to achieve higher productivities. Workers made redundant in the process are mostly poorly skilled and schooled and have not been prepared for alternative careers. Hence, strategic positioning choices (to produce/deliver commodity

products/services or to produce/deliver differentiated products/services) and technological choices (to use low technology or to use high technology) are central to the reasons for having the conundrum (and finding solutions for it)

Toerien (2005) discussed these issues at length and Toerien (2011) used examples to illustrate the above dynamics. He suggested that ignorance of the key success factors for enterprise competitiveness and disregard by politicians and government officials of the role of technology and the need for strategic positioning of enterprises to build sustainability are the banes of sustainable job creation in South Africa.

Toerien (2005; 2011) used a playing field metaphor to explain his ideas. He suggested that sport lovers will immediately recognise a schematic outline of the playing field on which their favourite sport is played. The fans and players have knowledge of the rules of the game in relation to the playing field. There is an appreciation of strategies and tactics that could lead to success (a win) and ample scope for the creative development of new strategies. The nature of technology used and strategic positioning are the two important elements that define another playing field, namely the enterprise or competitive ‘playing field’. It is bounded by two continuums: technology and strategic (competitive) positioning (Figure 1).

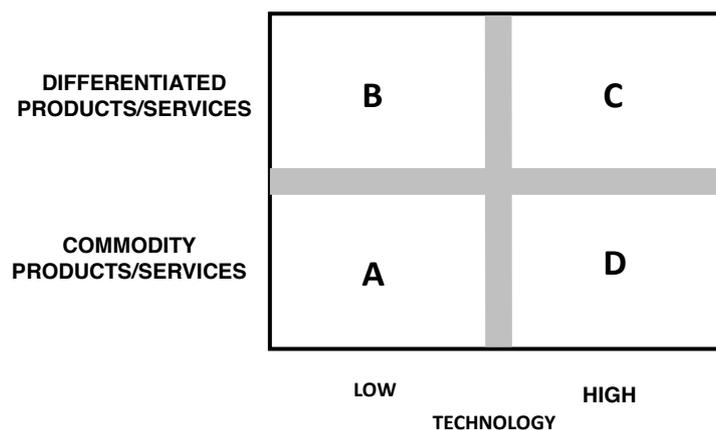


Figure 1: The enterprise “playing field” (Toerien, 2005).

Entrepreneurs have four basic choices of strategically positioning their enterprises:

- Producing/rendering low-tech commodity products/services (A),
- Producing/rendering low-tech differentiated products/services (B),
- Producing/rendering high-tech differentiated products/services (C), or
- Producing/rendering high-tech commodity products/services (D).

In domain A cost leadership or at least cost parity is needed to be competitive (Toerien, 2011). Competition in this domain can be fierce, often ending in ‘a race to the bottom’. When facing fierce competition, entrepreneurs in this domain will often resort to the use of higher technology (i.e. a shift to domain D) to remain competitive and profitable. This gives rise to the ‘machines in, humans out’ phenomenon.

In domain B differentiation of products/services is needed. Some enterprises of this domain are centuries old and are still very competitive (e.g. Chateau Margaux winery). They have not succumbed to the ‘race to the bottom’. Competitiveness in this domain is primarily based on human talent and/or know-how and/or attractions (Toerien, 2005). Additional success factors include brand building, quality and logistics management, obtaining market intelligence, marketing and product innovation.

In domain C differentiated products and/or services are based on high technology. Product or service uniqueness confers competitiveness and cutting edge science and technology and the availability of risk capital and protection of intellectual assets such as patents are prime success factors (Toerien, 2005).

In domain D commodity products/services are produced/rendered by high-tech means. Cost leadership is needed to confer competitiveness to the domain’s commodity products/services. Process automation and computerisation are strategies that are often used by entrepreneurs in this domain (Toerien, 2005). With the prospect that computers could be as intelligent as humans by the middle of the 21st century (Kennedy, 1993), there is no end in sight to the further development and use of smart machines and the continuation of the ‘machines in, humans out’ phenomenon, particularly for enterprises that are positioned to produce/deliver low-tech products/services (Figure 2).

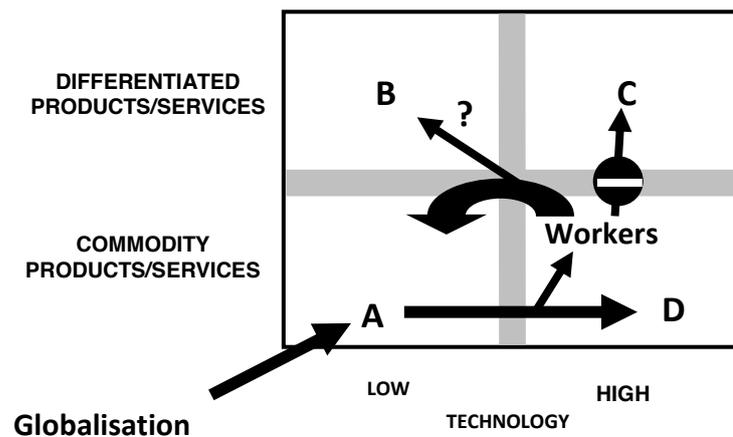


Figure 2. Globalisation and the competitive playing field

As enterprises in domain A come under pressure from global competitors, they acquire more sophisticated machines, move to domain D and shed workers in the process (‘machines in, humans out’). These workers are not educated and skilled enough to migrate to opportunities in domain C and little is known about how to plan for and start new enterprises in domain B. Therefore, the redundant workers are mostly recycled to domain A where they could once more be subject to the pressures of globalisation.

Toerien (2011) analysed statistics about the agricultural sector in South Africa to illustrate the realism of the above ideas. He showed how over decades increases in agricultural productivity were accompanied by losses of basic workers from the agricultural sector (‘machines in, humans out’). The number of Africans (the least educated and trained group)

nearly halved (from about 1.4 million workers to about 700 000) between 1971 and 1996. The numbers of coloured workers decreased by about 10% whilst the numbers of white workers (not owners of farms) (the best educated group) increased by about 40 per cent. The introduction of smart machines in agriculture decreased the requirements for ordinary workers and increased the need for knowledge workers required to operate and maintain more sophisticated equipment.

Toerien (2011) also examined the South African wine industry. The prime lesson from this industry that grew its exports from US\$ 6,5 million in 1975 to US\$716.3 million in 2009 (FAOSTAT undated) is that it is possible to build a sustainable low-tech industry based on the talents of viticulturists and wine makers (explaining the Chateau Margaux Paradox). The wine industry provides significant rural employment opportunities in South Africa and will continue to do so in the future.

President Zuma's gift to Queen Elizabeth was a vibrant piece of Ardmere sculptural art in the decorative African tradition. The Ardmere Ceramic Art Studio was established by Fee Halsted-Berning (Scott, 1998). The studio's now has many artists who continue to reflect the gentle simplicity of myth and legend in their own work. Many of them have had no formal education or training in art, yet they have illustrated that they have world-class talents that form the basis of the success of the enterprise.

Central to the success of Coca-Cola is a recipe for their syrup that is not shared with outsiders. For instance, Coca-Cola left India in 1977 when it refused to give the Indian government its secret syrup formula (New York Times, 1990) and it stayed out of this large market until 1993. The recipe represents know-how, part of the intellectual property of the Coca-Cola Company, and is the main reason for its commercial success and tremendous brand value.

Success in creating sustainable low-technology enterprises that can provide sustainable employment opportunities to people with limited schooling should be sought in domain B of Figure 1 (Toerien, 2005; 2011). We will illustrate that South Africa's track record in this regard has been rather poor (except for the wine industry and the successes of individual entrepreneurs in limited localities).

Drivers of enterprise development in South African towns

Twenty four Karoo and Free State towns (Table 1) for which demographic and economic data were available for 2010 were selected to demonstrate our suggestion that an approach based on Systems Dynamics can help us to develop approaches that build upon the paradoxes. The economic and demographic data were supplied by the firm Global Insight. We also used enterprise structure data for these towns from our database. The enterprise data were estimated for 19 different business sectors according to our method (Toerien and Seaman, 2010). We used statistical methods, in particular correlation and regression estimates, to examine the relationships between different economic, demographic and enterprise characteristics of the selected towns. Microsoft Excel software was used for this purpose.

Table 1. The 24 towns selected for the study

Towns	Towns	Towns
Aberdeen	Hofmeyr	Steynsburg
Beaufort West	Jagersfontein	Steytlerville
Bethulie	Jansenville	Sutherland
Bothaville	Middelburg	Trompsburg
Carnarvon	Pearston	Venterstad
Colesberg	Philippolis	Victoria West
Cradock	Prince Albert	Williston
Graaff-Reinet	Somerset East	Willowmore

Gross Domestic Product (GDP) as a driver of local economies

We firstly examined the relationship between GDP and other economic and demographic characteristics of the selected towns. The first regression equation:

$$\text{Population number of town} = 33.67(\text{GDP of town [Rand million]}) + 542.2 \quad (1)$$

with $r = 0.92$ and $n = 24$ is statistically highly significant ($P < 0.01$) and explains 84.6 per cent of the variance. It suggests that the higher the GDP of a town the more people will be resident there (and vice versa). We have elsewhere (Toerien and Seaman, 2012a,b) suggested that people who are not satisfied with their current situation will scan for opportunities elsewhere and move to where they perceive better opportunities to make a living. If their perceptions do not materialise they will move once more. In broad terms the number of people in a town, therefore, reflects the financial strength of the town. Money is a strong attractant of people and in the selected towns there are approximately 34 people for every million Rand of GDP.

The second regression equation:

$$\text{Total number of enterprises in a town} = 0.212(\text{GDP of town [Rand million]}) - 5.4 \quad (2)$$

with $r = 0.95$ and $n = 24$ is also statistically highly significant ($P < 0.01$) and explains 90.3 per cent of the variance. This shows that there is a strong proportionality between the degree to which value is added in a town (and its environs) and the total number of enterprises in the town. To grow the enterprise numbers of towns requires that more value be added in those towns and their environs. In the selected towns approximately 4.7 million Rand of GDP is needed to sustain a single enterprise.

The third regression equation:

$$\text{Total personal income in a town (Rand million)} = 0.75(\text{GDP of town [Rand million]}) + 38.2 \quad (3)$$

with $r = 0.98$ and $n = 24$ is also statistically highly significant ($P < 0.01$) and explains 96 per cent of the variance. It indicates that a large part of the GDP of a town (about three-quarters in the selected towns) ends up as personal income, justifying the expectations of the people who stay in the town and its environs.

Personal income as a driver of local economies

The fourth regression equation:

$$\text{Population no. of town} = 45.70(\text{total personal income of town [Rand million]}) - 1396.8 \quad (4)$$

with $r = 0.95$ and $n = 24$ is also statistically highly significant ($P < 0.01$) and explains 90.3 per cent of the variance. It illustrates the proportionality between number of people and the money they have at their disposal. In the selected towns there will be about 46 persons in a town for each million Rand of personal income. It also supports the contention that money is a strong attractant of people.

The fifth regression equation:

$$\text{Total number of enterprises in a town} = 0.28(\text{total personal income of town [Rand million]}) - 14.5 \quad (5)$$

with $r = 0.95$ and $n = 24$ is also statistically highly significant ($P < 0.01$) and explains 90.3 per cent of the variance. It indicates that just over 3.5 enterprises will be carried by each million Rand of personal income and it probably means that total personal income is the main driver of the number of enterprises in a town.

Population number as a driver of local economies

Finally the sixth regression equation:

$$\text{Total number of enterprises in a town} = 0.0052(\text{population number of town}) + 10.5 \quad (6)$$

with $r = 0.85$ and $n = 24$ is also statistically highly significant ($P < 0.01$) and explains 72.3 per cent of the variance. It illustrates the relationship between the number of people and the number of enterprises. In the selected towns about 190 residents are needed to ‘carry’ a single enterprise.

This regression equation completes the illustration of the inter-linkages between activities (production of products or delivery of services) that add value and create income for South African towns (and their environs) and demographic and enterprise dynamics. The value added (or money earned) attracts people who earn wages/salaries from and spend money in local enterprises. The magnitude of the personal income of towns determines in broad terms the total number of enterprises that can be ‘carried’ in towns. We have referred to this dynamic as the creation of entrepreneurial space (Toerien and Seaman, 2012b). It is now necessary to examine aspects of entrepreneurial spaces further.

Proportionalities in the enterprise structures of South African towns

The money available to be spent in a local economy determines the total entrepreneurial space in a town. A question is how this space will be divided among different business sectors? We have explored this earlier and found that there were specific proportionalities in the enterprise structures of South African towns (Toerien, 2012a,b). As a consequence, we also investigated the proportionalities in the enterprise structures of the towns selected for study in this contribution.

The 19 business sectors used in classifications include six considered to be economic drivers in South African towns and twelve considered to be primarily service sectors (Table 2; Toerien and Seaman, 2010). The economic driver sectors are probably very important in bringing money into a town whilst the service sectors are important in circulating money in towns (Toerien and Seaman, 2010).

Table 2. The business sectors used in the classification of enterprises

No.	Economic Drivers
1	Agricultural Products & Services Sector
2	Processing Sector
3	Factory Sector
4	Construction Sector
5	Mining Sector
6	Tourism & Hospitality Sector
	Service Sectors
7	Engineering & Technical Services Sector
8	Financial Services Sector
9	Legal Services Sector
10	Telecommunications Services Sector
11	News & Advertising Services Sector
12	Trade Sector
13	Vehicle Sector
14	General Services Sector
15	Professional Services Sector
16	Personal Services Sector
17	Health Services Sector
18	Transport & Earthworks Sector
19	Real Estate Sector

How are these sectors related to the total entrepreneurial spaces of towns, measured as the total number of enterprises in the towns? This question essentially addresses: (i) if there is proportionality in the degree to which each business sector occupies part of the total entrepreneurial space of the selected towns, and (ii) what portion of the total entrepreneurial spaces of towns is occupied by each sector. To answer these questions we again used correlation and regression analyses performed with the aid of Microsoft Excel software. In judging the results obtained we considered the statistical significance of the correlation coefficients obtained as well as the degree to which variance was explained by the regression equation obtained.

Table 3 summarises the results obtained. Two issues are evident. Firstly, in 17 of the 19 sectors the sector enterprise numbers were highly significantly ($P = 0.01$) correlated with the

Table 3. Proportionalities in the enterprise structures of the selected towns. Correlation coefficients and variances explained reflect the relationship between the number of enterprises in a sector and the total number of enterprises. The regression coefficients reflect the portion that a specific sector occupies of the total entrepreneurial space.

Sector	Correlation coefficient	Variance explained (%)	Intercept	Regression coefficient	n
Trade services	0.99	98.4	0.91	0.237	24
Vehicle services	0.97	94.8	-2.24	0.103	24
General services	0.96	91.8	-0.73	0.051	24
Financial services	0.96	91.8	0.13	0.068	24
Transport & earthworks services	0.95	91.0	-0.42	0.031	24
Personal services	0.95	89.7	0.33	0.074	24
Professional services	0.92	83.8	-0.42	0.035	24
Telecommunication services	0.91	82.9	-0.26	0.010	24
Health services	0.89	79.8	1.29	0.052	24
Construction services	0.89	79.0	-1.93	0.062	24
Real estate services	0.88	78.3	-0.32	0.024	24
Legal services	0.87	75.8	0.61	0.016	24
Tourism & hospitality	0.87	75.3	1.83	0.124	24
Engineering & technical services	0.86	74.1	-0.12	0.028	24
Agricultural products & services	0.78	60.4	1.60	0.063	24
Processing plants	0.73	54.0	-0.19	0.015	24
News & advertising	0.70	48.3	-0.17	0.004	24
Factories	0.37	13.3	0.04	0.003	24
Mines and mining services	-0.14	2.0	0.07	0.000	24

total enterprise numbers of the selected towns. The factory and mining sectors were the exceptions. There were, thus, strong proportionalities in the 17 sectors. When the total number of enterprises was high, the number of sector enterprises was also high, and vice versa. Each of these sectors tended to occupy a fairly constant portion of the total number of enterprises (i.e. of the total entrepreneurial space).

Secondly, the degree to which the variances of the regression equations were explained differed quite a bit. In the cases of the trade services, vehicle services, general services, financial services, transport and earthworks services, personal services, professional services and telecommunication services 80 per cent or more of the variances were explained, indicating that these sectors were especially tightly linked to the total entrepreneurial space. Given the fact that the enterprise structures of the 24 towns were analysed independently of one another, we conclude that entrepreneurial spaces available in these sectors were used very effectively and that entrepreneurial opportunities did not remain unutilized for any length of time. Thus there could not have been a lack of entrepreneurs to pursue opportunities when they arose. We have earlier referred to these entrepreneurs as ‘run-of-the-mill’

entrepreneurs (Toerien and Seaman, 2012a,b). These sectors were all identified as service sectors, not economic driver sectors (Table 2).

For a second group of sectors the regression equations explained more than 70 but less than 80 per cent of the variances (Table 3). This group included the following sectors: health services, construction services, real estate services, legal services, tourism and hospitality, and engineering and technical services. In general, but not always, larger towns had more of these enterprises than smaller towns. The construction services and tourism and hospitality sectors are economic driver sectors (Toerien and Seaman, 2012a,b). The entrepreneurial spaces of these sectors were not as closely related to the total entrepreneurial spaces and there might have been some space for ‘special entrepreneurs’, i.e. people who can ‘see’ opportunities that other people cannot ‘see’ (Toerien and Seaman, 2012a,b).

For five sectors, i.e. the agricultural products and services, processing, news and advertising, factories, and mines and mining services, 60 per cent or less of their variances were explained (Table 3). There was only one service sector in this group, namely the news and advertising sector. The others were all economic driver sectors. It must be noted that the selected group of towns did on purpose not include mining towns in order to avoid having a distortion in the results. The numbers of enterprises of the other sectors did not show tight proportionalities with the total number of enterprises in towns (or entrepreneurial spaces). It is evident that there is scope for ‘special entrepreneurs’ in these sectors.

The regression coefficients presented in Table 3 reflect the contributions of the different sectors to the total enterprise structure of the selected towns. The trade sector (23.7 per cent) dominated by far followed by the tourism and hospitality (12.4 per cent) and vehicle services (10.3 per cent) sectors. Only nine of the sectors, namely trade services, tourism and hospitality, vehicle services, personal services, financial services, agricultural products & services, construction services, health services and general services contributed 83.5 per cent of the total enterprise structure. The other ten sectors contributed only 16.5 per cent, indicating that they are relatively minor contributors. The minor sectors included the economic driver sectors of processing and factories.

Systems Dynamics and enterprise structures of South African towns

Earlier in this contribution reference was made to the ‘tyranny of structures’. Senge (1990) pointed out that systems give the outcomes inherent to their structures. You cannot have a ‘beer’ system that provides ‘champagne’ outcomes. In this sense systems, including economic systems, are tyrannical – they will not give more than what they are capable of. It is, therefore, necessary to understand if the enterprise systems of South African towns are capable of providing the outcomes sought in terms of employment and wealth creation.

The GDP of a town measures the degree to which value is added in its domain by the products produced or services rendered to make a profit (or money). It serves as a window on the attractiveness/repulsiveness of a town as a place to live in, to move to or to move from.

The GDPs of the selected group of towns were correlated with personal incomes (Equation 3). The GDP created the money with which workers were recompensed (personal income) and also provided the profit of owners of enterprises/entrepreneurs without which their enterprises were in jeopardy. The money, thus, contributed to the attractiveness or reputation of towns to draw: (i) people, and, (ii) entrepreneurs. A lack of money did the opposite.

The correlation between GDP and population numbers of the selected towns (Equation 1) suggested that there was a dynamic balance between the money entering into and/or circulating in the economies of the towns and the number of people resident in their domains. The rise or decline of a town was directly linked to the money entering into or circulating in it and was expressed in its population number.

Toerien (2012) and Toerien and Seaman (2012a,b) suggested that the needs and wants of a population determine the relative distribution of enterprise types in enterprise ecosystems. If the needs and wants are sufficiently large in scope, there is ‘entrepreneurial space’ for entrepreneurs to utilize. A town’s reputation influences decisions by entrepreneurs, particularly ‘run-of-the-mill’ entrepreneurs, to start and continue operating enterprises in specific localities.

The links outlined above are captured below in a causal loop diagram (Figure 1). In its

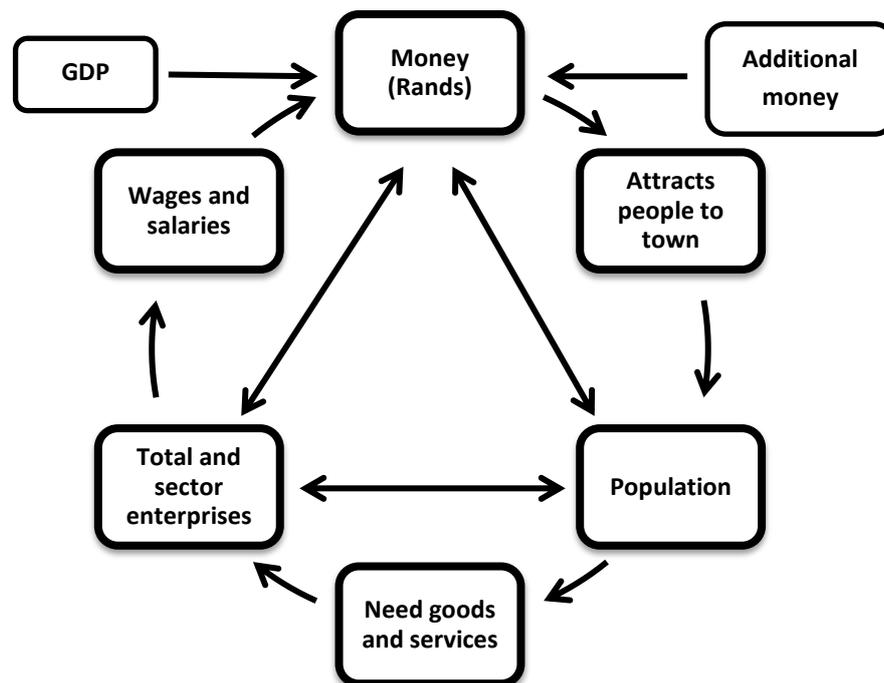


Figure 1. Causal loop diagram of the dynamics between money, people and enterprises in the selected towns (double-sided arrows represent statistically significant correlations observed)

reinforcing mode the loop suggests that the money in a town, which is derived from the products produced or services rendered to local or external markets, serves to attract people to the town. As a result a dynamic balance develops between personal income and population numbers and is expressed as a significant correlation between personal income and

population numbers (Equation 4). The population has specific needs and wants, which determine the total number of enterprises (expressed as significant correlations between population and enterprise numbers (Equation 6) and the relative proportions of different enterprise types, especially those with strong proportionalities (Table 3). In addition, the number of enterprises is in balance with the GDP and the personal income of the town (expressed as significant correlations between GDP and enterprise numbers, and between personal income and enterprise numbers (Equations 3 and 5).

The portion of the GDP spent in a town together with other sources of money (e.g. government welfare payments, returns on personal savings and investments of residents, pensions paid to elderly residents, new investments by investors or entrepreneurs, etc.) determine the amount of money in the town.

In its vicious (negative) mode the causal loop diagram suggests that if the flow of money to a town diminishes, people will be less attracted to the town and current residents may even become dissatisfied and decide to move elsewhere. This reduces the total needs and wants that determine the total number of enterprises as well as the relative distribution of enterprise types. The reduction in money and enterprises will negatively influence the reputation of towns, perhaps reducing the flow of investment and pension money to the town. Over time towns can deteriorate, a phenomenon that has been observed in South Africa (Nel and Hill, 2008).

Implications for LED and employment creation

Although there is an intuitive understanding that money drives the economies of towns, this understanding rarely results in explicit quantitative statements about the link between money and LED/employment. This study has made this link explicit and quantified the relationships between GDP, personal incomes, population numbers and enterprise numbers for the selected group of towns. In addition, presenting these links in the form of a systems model provides an understanding of what is possible and what not in terms of enterprise development and employment creation.

Much attention is currently being given to LED planning and policies in many countries including South Africa (Rogerson, 2011; 2012). One reason for this is the perceived decline of rural towns in South Africa and elsewhere, and the need to regenerate the rural areas (Funk and Bailey, 2000; Nel and Hill, 2008). Figure 1, which is in essence a systems model, suggests that the regeneration of towns is primarily about generating new sources of money for these towns. This would attract more people and entrepreneurs, generate more needs and wants, and stimulate the development of new enterprises that would create more jobs and return more money by way of wages and salaries that could be spent in the towns.

The proportionalities or regularities in the enterprise structures of the selected towns are extremely important in LED plans because it indicates that in many business sectors the entrepreneurial spaces are rapidly occupied. In LED plans, entrepreneurial development often receives a lot of attention. We have suggested earlier (Toerien and Seaman, 2012a,b) and this contribution has provided additional support that there are two broad entrepreneurial

categories in South African enterprise ecosystems, i.e. ‘run-of-the-mill’ entrepreneurs and ‘special’ entrepreneurs). The former serve ‘markets of proximity’ which have limited entrepreneurial spaces and there is usually no lack of such entrepreneurs. Training more people to be such entrepreneurs might add little to economic development. The latter pursue business opportunities normally associated with ‘markets of globality’, which have unlimited scope. Training of people to be such entrepreneurs makes a lot of sense and might add to successful LED efforts. These are the entrepreneurs that often find new ways of bringing money into communities (e.g. Toerien, 2012a,b).

The successful ‘special entrepreneurs’ mostly operate in domain B of Toerien (2005: 2011). Their enterprises are primarily based on human talent and/or special know-how and/or attractions, natural or man-made. The success stories of entrepreneurs such as Feé Berning (Ardmore in the KwaZulu midlands), Ilse Appelgryn (Kapula Candles in Bredasdorp, Western Cape), Carrol Boyes (in Cape Town), Elmien Scholtz (Biosculpture in Clocolan, Free State), Ina Paarman (Paarman Foods in Cape Town), Annique Theron (Annique products), Robert Brozin and Fernando Duarte (Nando’s) and many more as well as the remarkable success of the wine industry’s export effort, illustrate that it is possible in South Africa to create (sometimes in the unlikeliest places) sustainable low-tech enterprises built on human talent and/or know-how and/or attractions. These enterprises export products and bring money into towns and cities and provide sustainable jobs. As shown in this study, the country still has too few of these enterprises and concerted efforts are needed to:

- learn the lessons from their successes,
- convert these lessons into plans to develop/train entrepreneurs to operate in domain B,
- develop support and funding systems to create/support more businesses in domain B, and,
- develop plans to train/retrain workers made redundant by the ‘machines in, humans out’ dynamic in domain A, to have sustainable jobs in domain B enterprises.

Somehow politicians and officials have to become convinced that the consideration of technology choices is important and that low-tech enterprises that produce/deliver differentiated products/services ought to be part of LED planning.

Acknowledgements

We gratefully acknowledge the financial support of the Centre for Environmental Management, the Centre for Development Support and the University of the Free State. Annamarie du Preez provided library support and Marie Toerien analytical support.

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