A panel data analysis on the formal-informal sector linkages in South Africa

Faeez Nackerdien & Derek Yu

Department of Economics, University of the Western Cape

ABSTRACT: This study explores the labour market linkages between the informal and formal sectors, using the first four waves of the National Income Dynamics Study (NIDS) data. The main focus is on three groups of workers: working in the formal sector in all waves; working in the informal sector in all waves; moving between the two sectors across the waves. Those working in the formal sector in all waves are predominantly highly educated male Africans, while those working in the informal sector in all waves are more likely to be females with low educational attainment. Also, only 26% of informal sector workers in wave 1 transitioned to the formal sector in wave 4. Lastly, the econometric analysis indicates that highly educated males and those with greater increase in years of educational attainment between waves 1 and 4 are associated with a significantly greater likelihood of transitioning to formal sector employment.

KEYWORDS: Informal sector; Formal sector; Linkages; Labour market; South Africa
JEL: J40, J42

CHAPTER ONE: INTRODUCTION

Since Hart (1973) first introduced the concept "informal sector", there have been many studies about the definition of the informal economy and the informal sector, the characteristics and work activities of the informal sector workers. As a developing country, South Africa's informal sector is an international outlier (Kingdon & Knight 2004:392) due to its relative smallness compared to other developing countries. The country's informal sector employment has surprisingly been quite stable, fluctuating around the 2.0-2.5 million ranges over the years. The workers in this sector are predominantly self-employed Africans without Matric, engaging in activities in the wholesale and retail industry in the Eastern Cape, KwaZulu-Natal and Gauteng provinces, and earning less than R1 000 per month in 2000 prices (equivalent to about R2 500 in 2016 prices) (Essop & Yu, 2008a).

Nonetheless, measuring the informal sector employment size as well as examining the personal and work characteristics of the workers in this sector only provide a static analysis, which does not examine an individual worker's movement between the formal and informal sectors, and the final labour market outcome of workers who have exited the informal sector (that is, whether they end up inactive, unemployed or employed in the formal sector). In South Africa, there are rarely studies on examining the formal-informal sector labour market linkages by adopting a dynamic approach to track the formal/informal sector activities of the workers over time.

Therefore, this study aims to fill this existing research gap with the primary aim of examining the formal/informal labour market transitions (if any) of the workers by using the first four waves of the National Income Dynamics Study (NIDS) data. The study also contrasts the demographic, education and work characteristics of various categories of workers, for example, individuals who remain in the formal sector for the entire duration as opposed to those individuals who move between the two sectors.

This study is organised into five chapters: Chapter One introduces areas of research concerned with this study. Chapter Two focuses on building the conceptual framework, theoretical framework and review of past empirical studies. Conceptual framework will define "informality" and the various types of informal-formal linkages. The theoretical framework covers informal-formal sector link through unemployment derived from the formal sector. It also looks at the formal-informal sector models e.g. the dualistic model. The review of past empirical studies looks at the informal-formal linkages; it also reviews studies on estimates of informal sector employment, barriers of entry to informal sector, government's past policies to promote informal businesses amongst many other studies.

Chapter Three discusses methodology used to analyse the hypothesis derived from Chapter Two. It then selects the appropriate data and variables needed to apply the methodology. After discussing the data, limitations of the study will be discussed. Chapter Three also provides insight on certain variable derivations related to informal and formal employment using an operational definition based on the employer and employee relationships. Chapter Four analyses the empirical findings related to the methodology covered in Chapter Three. Chapter Five concludes the study and provides some of the usefulness insights.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The concept of the informal sector and its establishment as a labour market concept arose in the 1970s, and has since brought about much debate on how it should be defined. This debate stems from differences in the make-up of informal sectors (the observed characteristics of the informal sector) between countries and the inability to find one definition which applies to all countries. The debate has led to defining the informal sector based on two core themes (i.e. informal sector based on firm or worker characteristics). As a result, researchers and labour organisations have designed surveys to collect and analyse data on informal sectors and formulate new methods to better capture a country's characteristics or the available data.

The debate arose due to the informal sector becoming more visible in developing and developed countries. As time has progressed, the informal sector has increasingly captured a large proportion of economic units (mainly due to researchers' better understanding of the informal sector and improved questionnaire designs and sampling techniques to capture informal sector activities); making it a point of focus for researchers and politicians. The main dynamics addressed in this study revolves around movement of labour in and out of the informal sector and how households are connected within the informal sector. This dynamics are analysed in relation to the formal sector.

This chapter consists five sections. Section 2.1 has already provided a brief introduction of the chapter. Section 2.2 discusses the conceptual framework, concentrating on historical development, definition of informality according to the International Labour Organisation (ILO) and definition of various types of informal-formal linkages. Section 2.3 discusses the theoretical framework with regard to the linkage between formal and informal sectors as well as the informal-formal models. Section 2.3 also discusses the methods to distinguish informal workers based on the conceptual idea of informality. Section 2.4 concentrates on past studies by focussing on empirical work conducted on the informal-formal sector models and the types of linkages between the informal and formal sector. Lastly, Section 2.5 concludes the chapter.

2.2 Conceptual Framework
2.2.1 The History and Definition of Informality

The development of the concept 'informality' is a means to bridge between first-world and third-world countries with formality being more likened to the first world and informality to the third world. Keen & Kanbur (2015) and Meagher (2013:2) define formality as the domain of a collection of laws and the adherence to it, while informality is seen as its complement.

The first ever study to introduce the 'informality' concept was conducted by Keith Hart in 1971 upon studying unskilled migrants between Northern Ghana and its capital Accra. The Hart (1973) study sparked considerable debate on what exactly is an "informal economy". The 1970s would be known as the incubation years in terms of informal sector studies. Many of these studies were spearheaded by the ILO, which embarked on multi-faceted studies in developing countries surrounding the notion of informality introduced by Hart (ILO 1972; Chen 2012:2). The first study by the ILO studied marginal activities as well as firm profitability and efficiency in the traditional sector of Kenya. Both the Ghanaian and Kenyan study provided positives of the existence of an informal sector. According to Chen (2012:2), Hart believed many internal migrants were involved in informal activities while the ILO study showed the informal sector's potential to increase employment and decrease poverty.

The studies of the 1970s mostly concentrated on urban unemployment and over the course of time, it would later be referred to as "the urban informal sector". The studies on the urban informal sector were void of direct remedial programmes and traditional technical assistance projects as the concept was new and not widely accepted at the time. Valodia & Devey (2011:4) likened the urban informal sector to a transitory "backward" sector under which growth and development would disappear, according to Lewis's labour theory. In 1976, the ILO, at the World Employment Conference, endorsed development strategy programmes for basics needs in the rural areas. This would further reduce the focus on urban informal sector studies (Bangasser 2000:13).

The 1980s (the dispersion years) would see further development into the concept of the urban informal sector as it became one of five core themes under the ILO government body. The late 1980s would see the inclusion of informal sector into the activities of many governments. Remedial programmes became a focus in these studies too but these remedial programmes were adopted from the formal sector concepts (Bangasser 2000:14). The expansion included investigations into advanced economies as production had become more small-scaled, less centralised, more flexible and specialised. These production changes were seen as the informalisation of certain aspects of the formal sector for advanced countries. Besides production processes normal jobs were being restructured into hourly wages with a reduction in fringe benefits. Crises in Latin America and Asia, structural adjustments in Africa and economic transition in Central and Eastern Europe brought about more informalisation as a means of job creation. The informalisation in the 1980s brought forth the notion that the informal sector was a permanent and a sub feature of the economy (Chen 2012:2-3).

The 1990s saw the intensification of informal sector debate and research. Three events were the main contributors to the intensification of informal debate and recognition. The first event in 1991 at the International Labour Conference was the international tripartite debate on the informal sector. It was the first conference where the informal sector was an agenda item to be discussed by attendees of the conference who were not directly involved in informal studies and were not specialists. The key issue discussed was how the informal sector challenges traditional concepts on economic governance (Bangasser 2000:17). It discussed how economic growth had not led to the informal sector disappearing. Another main issue discussed was whether the informal sector could not only be associated with rural areas but also urban areas.

The second event in 1993 at the 15th International Conference of Labour Statisticians (ICLS) discussed the recommended statistics used to capture employment statistics in the informal sector. It marked the culmination of 10 years of research which dealt with conceptual and definitional issues. At the 15th ICLS, the informal sector was distinguished from the formal sector based on the features of the firm in which one is employed. The three main criteria proposed by the ICLS are the registration status of the firm according to the regulations of the country such as taxes and commercial regulations, the labour regulations of the firm and the size of the firm (Altman 2008:6; Valodia & Devey 2011:4). According to these criteria, the informal sector could be an unregulated sector with no government taxes being adhered to, labour regulations being ignored or consisting of fewer than a certain number of employers.

The final event of 1990s by the ILO involved an international office-wide inter-departmental project on the informal sector. The project was the first of its kind and aimed at improving productivity in the informal sector. In order to protect labourers and firms, the project tried to

establish an internationally applicable labour standard and to promote collective action by improving informal sector organisations.

Globalisation during the 1990s played a key role in shaping the characteristics of the informal sector by exposing economies to new markets and created new work opportunities. However, these new markets were inaccessible to small-scaled firms and certain producers as formal firms now tended to outsource their labour or hire predominately informal workers. Small firms also lacked the capacity to compete with imported goods and formal firms exports (Rodrik 1998:82).

As researches have gained more insight into the informal sector, they have preferred to use the term "informal economy" instead of "informal sector". Informal sector refers to a form of economic activity which is separate and specific to one sector, whilst informal economy refers to economic activity which can form part of every sector (Becker 2004:11). Devey *et al.* (2006:310-311) support the idea of using the term informal economy instead of informal sector; they believe the informal sector is heterogeneous in its nature comprising different economic activities and various forms of employment. The term "sector" seems to imply a clear division between formal and informal sector. Based on defining informal employment alone one has seen that formal and informal links exist. However, for this research study, the terms "informal sector" and "informal economy" will be used interchangeably.

The more recent 17th ICLS conference in 2003 defined the informal economy as "all economic activities by workers and economic units that are in law or in practice not covered or insufficiently covered by formal arrangements". An alternate definition for the informal sector/economy was introduced by considering the characteristics of the workers of the firm. The informal economy by this definition consists of employment with no secure contracts, lack of worker benefits and lack of social protection (ILO 2002; Altman 2008:6). Chen (2007:3) views the alternate definition slightly differently; Chen refers to it as the "expanded definition" as the earlier definition failed to incorporate certain types of informal employment and there was a need by observers of the informal sector to extend the focus from the firms' features to the relationship of the employees with the firms. Firm characteristics approach implies the formal and the informal sector to be two distinct separate sectors, while using the alternative or expanded approach of worker characteristics provides a non-compliance view of firms to labour market regulation (Fryer 2013:2).

However, Chen (2012:13) asserts that the employment relationship concept excludes the self-employed workers. One of the reasons attributed the employment relationship to be without legal recognition and security is that the relationship is disguised deliberately to resemble that of a different legal nature, e.g. a subcontracting relationship can be disguised as a commercial relationship. The employment relationship can be ambiguous making it difficult to determine if an employment relationship exists or not, e.g. selling goods on commission for a distributor as opposed to a set of hawkers being dependent on a single supplier. The employment relationship may not be clearly defined but the relationship exists, e.g. is a temporary worker employed by the agency who supplies him/her or the firm which hires him/her?

A contributing factor in the 21st century to the shape and form of the informal sector according to Horn (2009:12) has been the 2008 credit crisis which has resulted in many workers searching for informal employment after being retrenched in the formal economy. Chen (2012:3) believes the key to reducing poverty and inequality is to support the informal economy, which is associated with low job security and the working poor.

2.2.2 Linkages between the formal and informal sectors

Arimah (2001:117) describes linkages as connections and movements of information or resources between two or more units. In term of this study, the units are the "informal sector" and "formal sector" or any elements which they are comprised of, for example, informal companies. Formal-informal linkages essentially study the nature of the relationship between these sectors. Some of these linkages are discussed below.

2.2.2.1 Intra-sectorial linkage

Quantifying intra-sectoral linkages allows for a better understanding of the composition and reliance of intra-sectoral linkages between the formal and informal economy (Valodia & Devey 2011:6 and Budlender *et al.* 2001). An intra-sector linkage refers to the manner in which the formal and informal sectors interact within each economic sector (e.g. exploring the composition of the formal and informal sector within the industrial or financial sector). As the compositions differ from one country to another country it is not easy to exactly quantify a general relationship between the two sectors, however one is able to provide evidence for its existence.

The first approach is to characterise which sectors in a country are more formal and which are more informal. Valodia & Devey (2011:6) suggest the higher the proportion of informal activities in a sector the more likely a linkage exists between the formal and informal activities in the sector. In a similar approach, according to Valodia & Devey (2011:7), based on the input-output approach of Naidoo *et al.* (2004), one can decompose the total production into production arising from the formal sector and informal sector respectively.

2.2.2.2 Forward and backward linkages

Forward linkages are the utilisation of an informal sector's product or service as an input in the formal sector's manufacturing procedure (Arimah 2001:118).[1] Studies conducted on forward linkages have shown forward linkages to be beneficial for the informal sector because any excess supply of goods is absorbed by the formal sector. Owners of informal businesses who have forward linkages usually earn higher income compared to those without these linkages. It is because the informal sector is flexible, it is able to benefit from formal sector growth. Under these circumstances, the inability of the informal sector to grow is not due to the formal sector hindrances but due to its own inadequacies. Therefore, formal businesses may be reluctant to enter into long-term agreements with informal businesses if they believe informal businesses are not able to match the growth of the formal sector (Arimah 2001:118).

Arimah (2001:118) and Chen (2012:12) describe backward linkages as the supply of essential inputs for production from the formal sector to the informal sector.[2] Some of the inputs can be raw materials, consumption goods, information and equipment. Arimah (2001:119) explain backward linkages as usually exploitative to informal businesses. When a formal sector business is the only producer of an input required by an informal business, the informal business will be at the mercy of the formal business. The formal business may control the price and supply of the input to manipulate the informal business to comply with its demands.

---

[1] A real life example: A seamstress produces clothing at her home informally and the clothing is sold at a formal firm such as PEP clothing.

[2] A good example would be of an informal spaza shop who buys its stock from a formal wholesaler.

Both forward and backward linkages can occur through individual transactions, sub-sector network or a value chain. Chen (2012:12) explains the nature of production system determines "allocation of authority and risk between the informal and formal firm". The exchange of goods and services in an individual transaction is a pure market exchange where the formal firm usually has superior knowledge and power and therefore control the market exchange. In a sub-sector network many informal firms exchange goods and services with formal firms. It is a network with a succession of transactions with customers and sellers by individual firms. All transactions are governed by the sub-sector stylised rules and the dominant firm in the network. Value chains occur when subcontracted informal firms produce within a value chain. All transactions are governed by a lead firm that is a large local national firm or a global transnational firm.

2.2.2.3 Churning

Churning, also known as worker flows, refers to the migration of workers in and out of jobs (Tattara & Valentini 2004:3). It is concerned with the creation and destruction of jobs for a given period. For the purposes of this study, churning refers to migration of workers between the formal and informal job market statuses, for example, the movement of a worker from an informal-sector job to a formal-sector job.

Churning arises from the workers quitting their jobs to search for better employment or work environment (Tattara & Valentini 2004:3); churning can also result from the hiring and firing practices of employers to improve productivity or aid with the firm's business expanding or contacting. Churning can be analysed at an aggregate or individual basis. Aggregation refers to analysing net worker flow effects on revenue for each business or sector, while an individual analysis will track average movement for each individual between the formal and informal sectors (if movement does occur) and analyse the reasons for these movements or the lack thereof. The key part of the individual analysis is looking at the trigger events which lead to labour market status change and the characteristics of the individuals who remain unchanged in their labour market status.

2.2.2.4 Intra-household linkages

Households facilitate the sharing of resources amongst members. The most important resource that households share is the income derived from household members who are employed. According to Valodia & Devey (2011:13), formal-informal linkages can be formed between the self-employed activities and formal work of household members. Formally employed household members can sponsor or assist the self-employed activities of another household member. In this manner, both financial and human capital is transferred from the formal sector to the informal sector within the households.

2.2.2.5 Other linkages

Pagura & Kirsten (2006: 5) describe two other informal-formal linkages in their research. These linkages are closely related to forward and backward linkages because of the mechanisms through which they are linked. Direct financial linkages can exist where (formal) financial institutions aid informal institutions by broadening their source of funding by allowing them to extend loans to cover short-term liquidity issues. Facilitation linkages occur when formal institutions employ informal firms to represent them. The informal firm acts as an intermediary to facilitate transactions from its informal sector clients to the formal firm, which it represents, and vice versa. Facilitating linkages can be seen as an alternative to micro and rural firm financing as the formal firm may facilitate loans, provide payment for utilities and mobilise deposits for the informal firm.

<u>*2.2.2.6 Perspectives of formal/informal linkages*</u>
Meagher (2013:5) divides the formal-informal linkages into four perspectives: economic linkages, institutional design, governance transformation and political linkages. First, economic linkage looks at resources, inputs, outputs, labour and information movements between the informal and formal sectors. It comprises all the linkages which are already highlighted throughout Sections 2.2.2.1-2.2.2.5.

The mechanism of institutional design linkage is more of a strategic approach. It is the flow of institutional design through exploitation or complementation between the two sectors, through either co-production or first-best and second-best solutions to developing problems. Co-productions involve using informal institution arrangements in a sensible and realistic manner to provide services for the poor while first-best and second-best solutions look at utilising donor organisations and non-profit organisations to expand informal economies to cover for the lack of institutions. This in turn allows for the development of the poor's potential (Meagher 2013:13).

The third linkage category of governance transformation deals with increasing power to weak or illegal firms or depriving formal firms of regulatory process, power or duties (Meagher 2013:18). This can occur through granting informal practices more regulatory power or constructing authority arrangements where formal and informal sectors work hand in hand.

The last perspective, namely political links, looks at the contesting of governance transformations and existing distributional arrangements. This could involve informal workers forming unions to contest the backward and exploitive conditions they face when compared to the formal workers. The informal and formal unions together with local government could join forces to fight for labour and citizen rights (Meagher 2013:22).

<u>*2.2.2.7 Labour market segmentation*</u>
Fourie's (2012) compilation of unemployment research about South Africa is geared towards the organisation of unemployment, inequality and macro literature around a core theme. The research is geared to provide a more integrated approach across these studies to address the many economic challenges South Africa faces. Fourie (2012:2) characterises the informal-formal sector and the rural-urban sector as being segmented with further segmentation occurring within the informal sector. He believes this multi-segmentation and factors which enable or disable transitioning to "better" segments are essential to understanding unemployment better. Factors such as information and mobility barriers can prevent job search and entry into labour markets.

Figure 2.1: Labour market distinctions
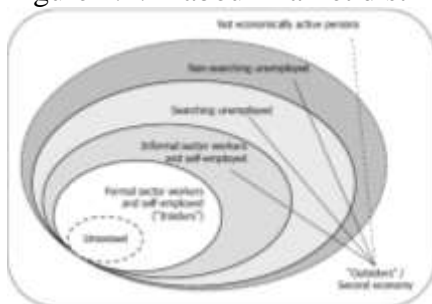
Source: Fourie (2012:7)

Figure 2.1 above depicts the segmentation prevalent in the South African labour market. The non-searching unemployed (also known as discouraged workers) are more deprived than the searching unemployed and face higher costs when searching for employment. Factors which cause the discouragement are poverty, extended periods of unemployment and the high unlikelihood of unemployment. The presence of the non-searching unemployed applies downward pressure on wages set by employers (Fourie 2012:6-7 & 10).

Segmentation between the formal and informal sector becomes more visible when contrasting earnings between the two sectors. On average, earnings in the informal sector are 71.4% (42.9% when controlling for personal characteristics) less than the earnings of the formal sector (Fourie 2012:8). Similarly, Heintz & Posel (2008) find earnings differentials not only between the two sectors, but also within the informal sector. These results support the notion of entry and mobility barriers exist within and between sectors.

Banerjee *et al.* (2006:5; 42) confirm the lack of transition from the informal sector to the formal sector using LFS data from Sept 2002 to March 2003; more than 52% of informal workers remain informally employed while only 12% become formal workers. The chances of becoming a formal worker form the searching and non-searching are less than the informal workers (9.5% and 4.2% respectively). Even though the informal sector provides a better chance to enter the formal sector, it has a limited influence. Similarly Banerjee *et al.* (2006:5; 42) finds little transitioning from searching to informally employed as only 16% transitioned forward into formal employment.

Considering the labour demand side, Rodrick (2006:2&8) and Banerjee *et al.* (2008) research points to a shift away from unskilled labour towards skilled labour (even in unskilled labour intensive sectors such as the mining, manufacturing and agricultural sector). This has contributed to the increase in unemployment amongst the young, unskilled and black population. On the supply side, a factor believed to influences labour participation levels is education as it impedes with labour market access. Experience is also believed to showcase the quality of education (Fourie 2012: 24 & 34). These factors further increase the segmentation between the formal and informal sectors.

Unionisation creates segmentation between the unionised and non-unionised workers of the formal sector and the informal sector workers. Unions prevent competition (through non-clearing wages occur and difficulty in firing workers) between workers even if these workers possess the same skills (Fourie 2012:9-10). Labour rigidities (such as increased hiring and firing costs) contribute to the lack of labour churning within and between the formal sector, informal sector and unemployment (Fourie 2012:34).

2.3   Theoretical Framework
2.3.1   Types of Unemployment
If one assumes by default, the labour force participants first search for work in the formal sector, then all informal workers are understood to have originated from the formal sector. Using standard economic theory of demand and supply elasticity, one analyses those who fail to be employed or become unemployed in the formal sector and why they remain employed or enter into the informal sector. This analysis is based on the approaches by Laing (2011:766-767), Kingdon & Knight (2001:2) and Kingdon & Knight (2004:394) on voluntary and involuntary unemployment.

Figure 2.2 depicts how the relationship between the demand labour curve and elastic supply labour curve determines the wage and employment levels in a competitive environment. In the competitive environment L_c workers are employed at a wage of W_c at point C. Wages are fully adjustable to changes in demand and supply which allows for any disturbances to be absorbed. At the going wage of W_c, L_c workseekers are employed.

Figure 2.2: Competitive labour market outlook with elastic supply curve
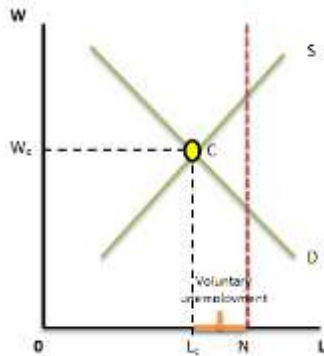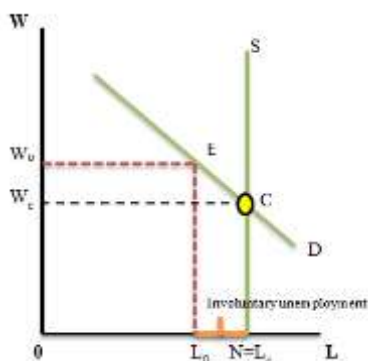

Source: Laing (2011:766)

If one assumes N is the total labour force entrants in the formal sector, then the remaining labour force entrants ($N-L_c$) who become unemployed are voluntary unemployed and should not even be countered as part of the labour force. These voluntary unemployed are considered to have high reservation wage (preferring leisure to working) according to Kingdon and Knight (2001:5) as well as Bargain & Kwenda (2010:4).

Figure 2.3 represents a special case of Figure 2.2. The labour supply curve is perfectly inelastic. This is depicted by the vertical supply curve S. The perfectly inelastic supply curve essential ensures all labour force entrants will be employed as they accept any positive wage. Any distortions created in the competitive model (e.g. a minimum wage imposed) results in involuntary unemployment. In the competitive environment with inelastic labour supply, equilibrium is located at point C in Figure 2.3. At point C, L_c people are employed which is equivalent to the total labour force, N, and each worker will receive W_c wages in the formal sector and no involuntary unemployment will be present in this sector.

Figure 2.3: Competitive labour market outlook with inelastic supply curve

Source: Laing (2011:766)

Assuming a higher wage of W_0 (e.g., as a result of minimum wage policy) exists under inelastic supply, only L_0 will be employed in the formal sector. This leaves ($N-L_0$) people as involuntary unemployed. These people have to find employment elsewhere and are faced

with many options. The first option is to accept a low-paid job in the informal sector providing it is higher than the workers reservation wage (lowest wage a worker is willing to work at). Some of the reasons for wages being low in the informal sector are: the exploitation of workers who are less protected in terms or regulations in the informal sector and the increase in supply of workers from the unemployed in the formal sector.

The second option is to become self-employed by starting his or her own business in the informal sector. Relating the informal sector to unemployment in the formal sector, Kingdon & Knight (2001:3) refer to informal sector employment as a base from which searching and waiting for a formal employment offer occurs. This relation is only possible if wages and self-employment income is less than formal wages. Part of the reason why they would be less could be due to the inferior characteristics of informal workers (Kingdon & Knight 2001:6).

The other option available to the unemployed is to continue to wait for an opportunity in the formal sector either through another worker being fired or retiring. If the unemployed is unable to find employment in the formal sector, he or she may become discouraged and stop actively seeking employment. He/She could also start his/her own business in the formal sector and thereby create opportunities for many other involuntary unemployed.

If W_o is not enforceable by labour market institutions, workers can undercut the formal wages on offer by proposing to work at a lower wage than their productively equal co-workers. This process could drive wages in general to go down and employment to increase up until point C (representing the competitive wage and employment) is reached, shown in Figure 2.2.

However, the existence of a union can ensure an efficiency wage is not reduced to the competitive wage. Figure 2.4 illustrates the simultaneous impact of a union on both the informal and formal sectors. The left vertical axis represents wages in the formal sector while the right vertical axis represents wages in the informal sector. The horizontal axis represents the total labour force which is constant and equal to LL'. Every worker wants to work in the formal sector at the efficiency wage (set by via union bargaining) W_1. D_1 represents formal sector employment demand with LN_1 formal sector employment; D_2 represents informal sector employment demand with N_1L workers available for informal work after considering formal sector employment.

Figure 2.4: The formal and informal sector of the labour market
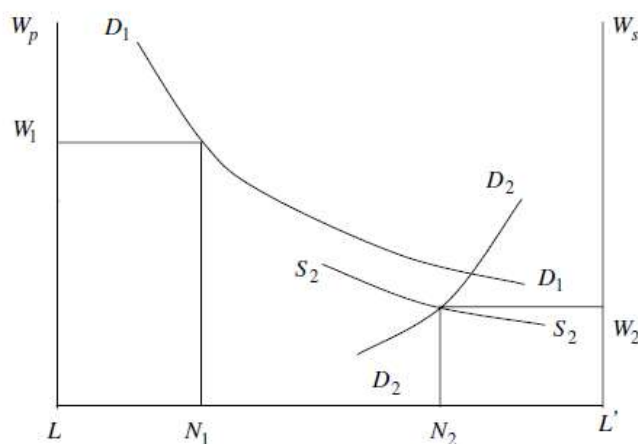

Source: Kingdom and Knight (2004:394)

The informal sector is a competitive market with wages adjusting to allow the informal sector market to clear. Hence, N_2L workers are employed at wage rate W_2 leaving N_1N_2 unemployed. These N_1N_2 unemployed are willing to work in the formal sector at W_1 wages but are unable to find work. They are also unwilling to work in the informal sector for W_2 wages and are therefore voluntary unemployed in the informal sector but involuntary unemployed in the formal sector (they are part of the N_1L' involuntary unemployed in the formal sector)

Figure 2.5 illustrates the effect a union has on a unionised sector (formal sector) and non-unionised sector (informal sector). Unions bid to increase wages in the unionised sector create less employment resulting in an oversupply of labour in the non-unionised sector lowering wages in it too. In summary, unions increase the wage differential between the unionised and non-unionised sector. Figure 2.5 assumes the same number of the labour force participants being present in unionised sector and in the non-unionised sector initially (N). Both sectors are originally at equilibrium in point E_1, with W and N being the wage and employment levels in both sectors. As a result of the trade union pressure, the minimum wage rises to W_u in the unionised sector decreasing employment in the unionised sector to N_u. A higher wage in the unionised sector may cause workers to accumulate in the unionised sector for good union jobs. This allows employees to hand pick the best workers amongst this accumulation. This effect is known as the superior worker effect.

Figure 2.5: The influence of unions on wages

(a) Unionised Sector   (b) Non-Unionised Sector
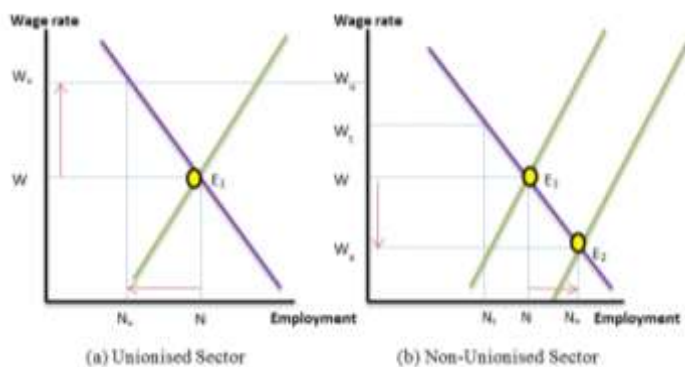
Source: Barker (2007:95)

The former unionised workers who have become unemployed (i.e. N_u-N) and are assumed not to become discouraged workseekers or inactive in the labour market need to find employment in the informal sector (non-unionised sector). This causes a rightward shift of the supply curve (depicted in Figure 2.5(b)) resulting in wages decreasing to W_s and employment rising to N_n in the non-unionised sector. This is known as the spillover effect. The wage changes between the unionised and non-unionised sectors causes increased inequality between the two sectors. The outcome in Figure 2.5(b) does not seem to be the case in South Africa, as the country's informal sector employment has stagnated at around 2 million workers even though union wages has increased over the years.

The threat effect occurs due to wage differential present between the unionised and non-unionised sectors, which cause owners of firms in the non-unionised sector to offer its employees a higher wage W_t (lower than W_u). These owners fear their employees might mimic the behaviour of their unionised counterparts and form a trade union due to the low wage W_s which they are receiving. As a result, employment decreases to N_t which is lower than the original level of N. The (N_u-N_t) people who become unemployed in the non-

unionised sector have to find another means to survive (e.g. they can become self-employed or remain unemployed and rely on social grants).

Under the Labour Relations Act (LRA), the outcomes of collective bargaining by bargaining councils can be extended to non-party firms[3] (firms not represented by bargaining councils) by the Minister of Labour. This can be problematic for non-party firms as the interests of employees and employers may not be sufficiently considered (Nattrass 2000). Outcomes such as the increase in the legal minimum wages can affect the ability of small firms to afford the higher wages[4]. This is illustrated in Figure 2.6 where bargained minimum wage is set above the affordable wage of small firms. In order to handle increased cost, small firms may be under pressure to retrench workers or even close down. The retrenched workers who are unable to find work in this rigid labour market (formal sector) are forced to seek work in the informal sector. Small firms who may want to avoid the legally binding minimum wage may be reluctant to register their business formally.

Figure 2.6: Insider-Outsider Model
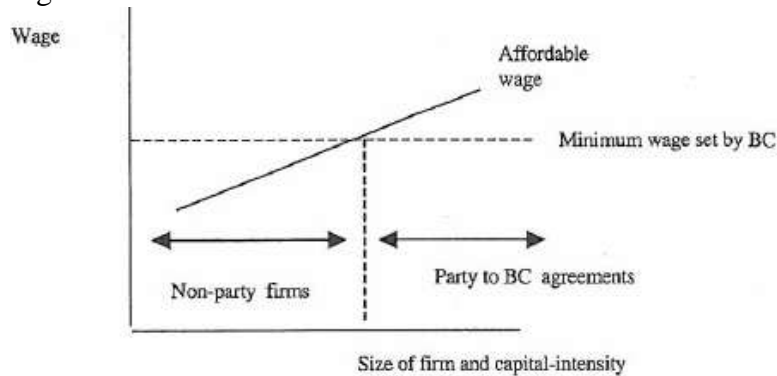
Source: Nattrass (2000:136)

2.3.2   Informal/Formal Sector Models

This section covers the four views of the interaction of the informal sector with the formal sector. According to the study of Alderslade *et al.* (2006:3), the first view "dualism" stems from the work of W. Arthur Lewis done in the 1950s. Dualists describe the informal sector as an isolated marginal sector which caters for the poor and is not directly linked to the formal sector. In the 1970s and 1980s, the "structuralist" view emerged; structuralist viewed the informal sector as a sector which serviced the formal sector by reducing costs to formal firms and thereby increase its competitiveness. Thus, the informal sector is inseparable from the formal sector. In the late 1980s and 1990s the "legalist" view became popular; legalist believe small and micro firms would manufacture informally when government legislation is burdensome and expensive. The fourth view "voluntarist" is similar to the legalist view. The key difference is that firms do not find government legislation to be burdensome; they purely choose to produce in the informal sector by deliberately avoiding regulations and taxation (Chen 2012:5). Their choice is made after weighing up the costs-benefits of formal production relative to informal production. For this study, both legalists and voluntarists are grouped under the alternative model heading.

---

[3] Large firms (capital-intensive) are one of the main constituents of bargaining councils while non-party firms are mainly small, labour-intensive firms.

[4] Firms can apply for exceptions but these are usually allocated for a period of 1 year and to small young firms.

2.3.2.1 Dualistic Labour
Dualistic labour market theory is a concept originating from the work of Lewis (1954). It involves the division of the country's economy into two sectors namely the primary / formal / urban sector and secondary / informal / marginal / peripheral / rural / traditional sector. The primary and secondary sectors are respectively seen as a permanent and temporary feature of the economy. Lewis (1954) believed that with increasing income per capita and increasing development in the economy that the secondary sector would ultimately disappear (Kingdon and Knight 2001:3; Altman 2008:9).

According to Kay (2011:5), there are three mechanisms which lead to the disappearance of the secondary sector and increase in per capita income: The first mechanism is based on Lewis's theory. Lewis assumes firms invest all their profits earned in the primary sector into capital which further increases revenue and output (productivity). The increase in revenue and output leads to an increased demand for unskilled workers, who relocate from the secondary sector to the primary sector. The process continues until all surplus labour is relocated to the primary sector.

The mechanism is based on the work of Harris and Todaro (1970) on urban (primary) and rural (secondary) sectors. A wage differential exists between the two sectors with urban sector paid more and the transitioning between the two sectors being costly. Individuals would move to the primary sector providing the benefits they gain from moving to the formal sector outweigh the transitioning cost and opportunity cost of working in the informal sector.

Fields (1975) modifies the approach of Harris and Todaro (1970) by splitting the urban sector into urban formal sector and urban informal sector. Any individual who migrates to an urban region and is unable to find work in the urban formal sector will attempt to find work in the urban informal sector.

Similarly, Kay (2011:2) refers to the informal sector as a "safety net for the unemployed" as it provides a means for alleviating poverty and protecting individuals from unemployment for lengthy periods of unemployment. Kay (2011:2) believes the sector acts as a "residual sponge" that soaks up any unskilled or extra labour from the formal sector. The informal sector requires only a subsistence pay as employment requires minimal capital and produces in a traditional manner. As there little capital accumulation and little economic growth in the informal sector and almost no links between the formal and informal sector, the informal sector is viewed as a burden to the formal sector.

2.3.2.2 The Alternative Theory
The alternative theory (better known as the legalist school) regards the informal sector as a complement to the formal sector. Individuals voluntarily enter the informal sector to establish new businesses to save on added wage costs and cumbersome procedures caused by labour regulations. It is also a means to avoid government regulations such as corporate tax. There are also low barriers of entry present with less capital inputs required (Altman 2008:7 and Kay 2011:2). These individuals accumulate capital from the formal sector before establishing new firms or contracts in the informal sector. The capital accumulation and entrepreneurial skills form a linkage between the formal and informal sectors with the informal firms possibly resembling their formal counterparts.

Based on this theory, the informal sector is seen as a voluntary strategy and a sector with high human capital and low physical capital (Altman 2008:9 and Kay 2011:3). According to Kay

(2011:2), the informal sector acts a cost-saving strategy for small firms and entrepreneurs who wish to avoid tiresome and pricey regulations. Unlike the dualistic approach, the alternate approach allows individuals to participate in job creation, innovative firms and capital accumulation (Kay 2011:9). The key component of the alternative theory is that employment in the informal sector is voluntary. Instead of being an involuntary subsistence sector it is a voluntary savings strategy.

According to the study of Alderslade *et al.* (2006:3-4), based on the work of Thomas (2001), firms in the informal economy can be divided into four categories: those in the household, informal, underground and criminal sectors. In the household sector, goods and service do not appear in the open market, as they are produced and consumed within the household. The informal sector produces legal goods and services in an unregulated setting. Similar to the informal sector the underground sector too produces legal goods and services; although the process of production or distribution may be illegal, e.g. a firm sells a good and does not have the necessary license to sell the good. Finally, the criminal sector involves the illegal production and distribution of good and services.

2.3.2.3 Structural Articulation
The third view, Structural Articulation, builds on the simplistic first and second views. The informal sector is seen as complement, substitute and a continuum for the formal economy. Structural theory attempts to explain how informal sector functions as a support for modern capitalist accumulation. One form in which the informal sector contributes to the formal sector is through risk mitigation and cost-reduction strategies. The informal economy is diverse and is divided into at least two sub-sectors; one where small firms try to develop without costly regulation. Overall, the economy benefits from lower prices and labour costs. This makes the sector pro-cyclical as it is driven by labour demand. The second sector also known as the static sector is separated from the formal sector consisting of workers who are unable to find work in the formal sector. Any policies regarding poverty alleviation would be targeted to the static sector. This informal sector is essentially split into its dynamic and static components along a socio-economic basis (Kay 2011:3). The heterogeneous nature description of the informal sector is based on "structuralists" attempting to describe the informal sector in terms of its goals and motivation (Kay 2011:14).

According to Altman (2008:9-11), one would consider the interactions between the formal and informal sector in terms of buyer-seller and employment relationships. In this manner, the informal sector helps reduce risks and costs for formal firms. Arvinrad *et al.* (2010:1) describe structural articulation as a permanent feature of the modern economy exhibiting a pro-cyclical forward linkage where the formal sector sub-contracts certain labour-intensive procedures to the informal sector. An inverse relationship may exist when formal firms crowd out informal firms. This can occur when large formal firms provide credit facilities and more convenient hours for shopping than the smaller informal firms.

2.4   Review of Past Empirical Studies
2.4.1   The Size and Characteristics of Informal Sector Workers
In South Africa, Stats SA used the enterprise characteristics approach (focusing on the registration status of the firms) to distinguish informal sector employment in 1995-2007, in its 1995-1999 October Household Surveys (OHSs) and 2000-2007 Labour Force Surveys (LFSs). Merely defining informal employment is not enough to ensure one is able to quantify it. It is important to construct surveys based on the definitions defined by the ILO or in South Africa's case by Stats SA. It is not always possible to construct variables which capture the

definition of informal employment in its entirety. For example, prior to 2007 the LFS contained a direct question as its main form of capturing formal and informal employment. This questioned allowed the respondent to use his/her own self-perception to answer the question. According to Heintz & Posel (2008:32), this may cause doubt to researchers who analysed the data derived from the surveys as respondents may confirm themselves to be formally employed when they may exhibit informal characteristics.

As a result, with the introduction of QLFS in 2008, informal employment was defined in two ways according to Stats SA (Yu 2010:9-11). The first methodology complies with the ICLS firm characteristics approach[5]. Its main concerns are VAT and income tax registration of an enterprise and the self-employment status of the individual. The second method considers the worker characteristics as proposed by the 15th and 17th ICLS. Based on this method the informally employed have informal worker characteristics and are located in the informal sector. For example, a worker who works for a registered firm but has no written contract and receives no fringe benefits from them would be classified under Stats SA first method as a formal worker because the firm is registered, while under Stats SA second method as an informal worker due to the nature of the contract and lack of fringe benefits.

To address the issues posed by the questionnaire design, Heintz & Posel (2008:32) construct an alternative measure to define informal employment. Informal employment is still based on the enterprise approach where those employed in informal jobs and informal sectors are classified as informally employed. The main difference in their approach surrounds the formal/informal status of the self-employed and the nature of the relationship between employer and employee. If the self-employed have registered businesses they are considered part of the formal sector and not the informal sector. The nature of the relationship ignores the type, location and industry of the job. It is concerned if the relationship between employer and employee is binding and the nature of benefits that the employee receives from the employer. When compared to the standard definition, Heintz & Posel (2008:33) find informal employment and self-employment levels for the LFS from 2001 to 2004 are higher for the alternative definition except for the 2003 LFS, where the informally self-employed are marginally lower than the alternate definition.

The Heintz & Posel (2008) informal employment findings are confirmed by Yu (2010:17). They estimated informal employment to be more than double than the figures estimated using the official Stats SA method applied in the LFSs; the Stats SA methodology estimation ranged from 553 000 to 870 000 while the Heintz & Posel estimates ranged from 1 346 000 to 1 967 000 between 2001 and 2007. When weighting the figures against total employment (informal and formal both included) for the duration of the LFSs, the Stats SA method's informal employment as a percentage of total employment ranges from 7.3% to 10.6% while the Heintz & Posel method ranges from 17.5% to 27.0%.

The contrasting difference in informal employment is not carried through to the informally self-employed results between the Stats SA methodology and Heintz & Posel methods. The maximum these two methods differ for any particular year of estimation is approximately 89 000 self-employed. For the Stats SA methodology the informally self-employed estimation ranges from 1.19 million to 2.06 million, while this number ranges between 1.16 million and 1.97 million using the Heintz & Posel approach. For both methods, the informally self-employed on average account for about 70% of all self-employed. The Stats

---

[5] Same as in OHS and LFS with changes made to survey questions.

SA method is only 2.4% to 5.8% larger than the Heintz & Posel calculations for any particular year (using the Stats SA method as a base) (Yu 2010:17).

Becker (2004:11) defines the informal sector in general terms as the "unregulated non-formal proportion" of the market economy which sell goods and services or trades goods and services for other remuneration. Hence, the informal sector represents all economic activities not covered or partially covered by formal agreements. The informal economy is characterised by low entry requirements with regard to capital and professional qualifications. Its scale of operations is small with skill sets different to formal education, and methods of production are labour intensive with adaptive technology. According to Kingdon & Knight (2004:398), informal sector workers' wages and living conditions on average are inferior when compared to formal sector workers.

In Section 2.2.1, it was mentioned that an individual may possess both formal and informal characteristics. Therefore, Devey *et al.* (2006:313) have proposed a 13-point index to classify an individual as either formal or informal in order to re-estimate the size of informal employment. The index consists of 13 indicators, each carrying equal weight. The highest degree of formality attainable relates to an index value of 13, while the highest degree of informality relating to an index value of 0. The higher the value of the index attained, the higher the degree of formality attained. Devey *et al.* (2006:315) found that on average formal workers scored 9.2 on the index while informal workers scored 1.2. One problem with the method of Devey *et al.* (2006), as highlighted by Yu (2010:7), is the inability to find the same indicators in other survey data sets (e.g. only six of these indicators were asked in the QLFS). The index needs to be adjusted or modified based on the variables available in a data set. Another problem relates to the arbitrary cut-off value which separates formality and informality; an empirical approach might be necessary to determine this value. Based on multiple data sets one could relate the average number of indicators which relate to formal workers. This average number could then act as a proxy for the cut-off value. Determining this proxy value is difficult as the data set has to contain as many of the indicators which are listed by the Devey *et al.* (2006) index.

Using the QLFS data (all quarters from 2008-2009), Yu (2010:21-23) estimates informal employment and self-employed levels using the methods[6] highlighted in this section. As before when using the LFS data, all methods provide dissimilar results. For the informal employees between 2008 and 2009, the Stats SA first methodology ranges from 0.66 million to 0.85 million, the Stats SA second methodology ranges from 6.07 million to 6.65 million, the Revised Heintz & Posel method ranges from 1.24 million to 1.65 million and the mini Devey *et al.* approach range from 2.54 million to 2.96 million. For the self-employed estimations the Stats SA first methodology, Stats SA second methodology and the mini Devey *et al.* provide similar results (same for the LFSs): the estimates range from 1.30 million to 1.51 million, 1.34 million to 1.55 million, and 1.31 million to 1.51 million respectively (on average, informal self-employed account for 70% of total self-employed).

It is interesting to see the results for both the informally self-employed for both the LFS and QLFS provide comparable results between methods, while for informal employment the comparability between methods brings such contrast regardless of the type of survey.

---

[6] Adjustments are made to the Heintz & Posel and Devey *et al.* method in order for them to be better suited to the QLFS data.

Therefore, the adoption of any approach other than the Stats SA methods would lead to very different estimation of the size of informal sector employment.

The 2010 Bargain & Kwenda comparative study of Brazil, Mexico and South Africa utilises the Monthly Employment Survey of Brazil (2002 to 2007), the LFS for South Africa (2001 to 2007) and Mexican National Occupation and Employment Survey (2005 to 2008). The study contrasts the earnings' of informal workers (employees and self-employed). By dividing earning of all workers (formal and informal) into deciles (Figure 2.7), informal employees are congested in the lower deciles in South Africa and Brazil but less so for Mexico.

Figure 2.7: Comparison of Labour Market Status Earnings: Brazil, South Africa & Mexico
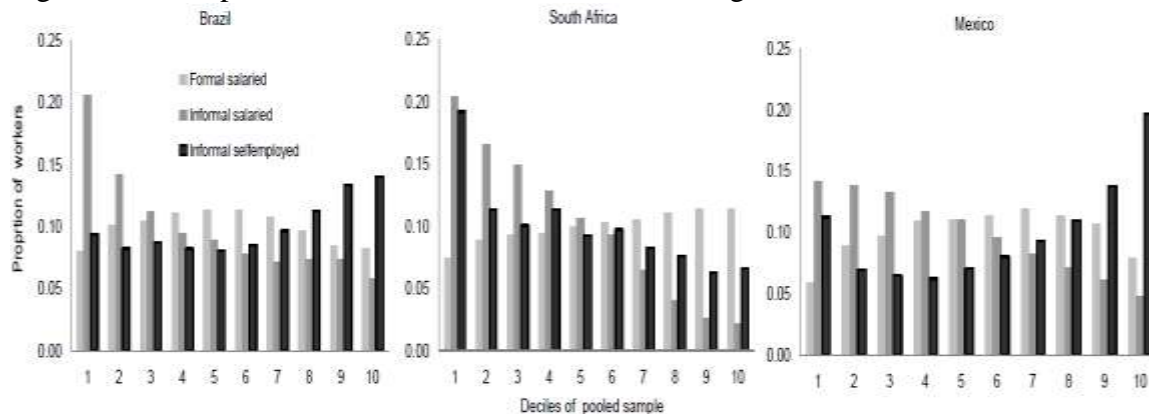
Source: Bargain & Kwenda (2010:10)
Note: no particular year is stated; a pooled estimate most likely as it is a common approach used by the authors.

In the case of the informal self-employed, only in South Africa are the informal self-employed congested in the lower deciles. For Mexicans and Brazilians the self-employed earn a premium over the formally employed with the position reversed for South Africa (about a 30% premium in South Africa's case: Kwenda & Bargain 2010:16). Kwenda & Bargain (2010:16) argue residential immobility being to be one of the key reasons for the differences in self-employment earnings between countries as much of the poor population in South Africa find themselves trapped in areas (non-urban or partially urban in nature) located far away from central areas of employment.

2.4.2   Examining the Informal-Formal Linkages
Regarding linkage issue, Budlender *et al.* (2001:13-14) research on intra-sectoral linkages in South Africa, using the Time Use Survey of 2000 and September 2000 LFS, measures informal activity by its monetary contribution to each sector; the informal sector activity is found to be largest in the trade, construction and community services industries. Informal activity proportion is 26.3% in the trade sector, 18.3% in the construction sector and 18.0% of the community services sector. If one contrasts this with 0.2% informal activity proportion in the mining sector, one would expect informal activity less likely to have linkages in the mining sector when compared to the trade sector.

Naidoo *et al.* (2004), using numerous surveys, find informal production in the traded sector comprises of 33% of the total production and in the construction sector forms 15.4%. This supports the findings of Budlender *et al.* (2001) where trade and construction sectors are highly informal. One would expect these sectors to have the most inter-linkages between the formal and informal sector. Naidoo *et al.* (2004) find informal manufacturing production to

comprise of 12.7% of total production. When compared to the 3.5% contribution by Budlender *et al.* (2001:6), this suggests the informal activities plays a bigger role in the manufacturing sector as opposed to the Budlender *et al.* (2001) results, which suggest otherwise. A possible reason for this contrast is that wages forms a large component of the cost structure of a company. In the manufacturing sector it could be lower wages are paid in the informal sector when compared to the formal sector. Lower wages will reduce supply costs, lower finished products' pricing and leading to smaller monetary contribution in the manufacturing sector even though production might be high in the informal sector.

Research by Valodia (2011:7-8) and Skinner (2005) on forward and backward linkages examines the source of supply of inputs utilised in production by informal firms. Their calculations are based on a comprehensive survey of informal enterprises in the greater Durban area in 2002. About 42% of informal businesses listed "medium to large enterprises" as their primary source of their inputs and about 58% of informal businesses listed "medium to large enterprises" as a source of their inputs. The statistics seem to support the idea strong backward linkages exist in the Durban region.

The main consumers of the informal products and services come from private consumers and households. Approximately 98% of informal businesses sold their product or services to private consumers and households while about 3% of informal businesses sold their product and services to formal businesses. The statistics suggest that the presence of formal linkages is almost non-existent (Skinner 2005; Valodia 2011:7-8)

In one of only two panel studies on labour churning for South Africa, Valodia & Devey (2011:9) exploit the panel component of the Labour Force survey between February 2002 and March 2004. The Labour Force Survey follows up on 80% of the sample from the previous wave; thus it maintains a panel element to its survey approach. The authors first examine how the labour market statuses of individuals remain unchanged over the first five waves. Out of the 5 587 individuals: 53.7% have their labour market status changed, while 21.0%, 1.3%, 19.3% and 1.3% remained working in the formal sector, working in the informal sector, remained economically inactive and remained unemployed respectively, in all five waves. When Valodia & Devey (2011:10) analyse the 1 009 people who work in the informal sector in at least one wave, and find that slightly above 50% (542) of them work in the informal sector in only one wave, while 20.0%, 10.5%, 8.7% and 7.0% work in this sector in two, three, four and all five waves respectively. Hence, churning for informal workers is high.

Looking at these 1 009 people in greater detail, Valodia & Devey (2011: 11-12) find that 18.3% (185) of them are employed in all five waves and moved across the formal and informal sectors; 37.8% of them work in the informal sector in at least one wave but have their status changed to unemployed and/or inactive in the other waves. Finally, the authors take a close look at the 185 people who moved between the two sectors, and find that 39 of them work in the formal sector for the first four waves and but only become informally employed in the fifth wave, while 19 individuals started as informally employed but ended up in the formal sector.

Valodia & Devey (2011:13) also examine intra-household linkages using the 2004 Labour Force survey, and find that 326 275 households (approximately 2.5%) of households contain at least one informal worker and one formal worker, while 254 672 contains exactly one informal worker and one formal worker. Households who contain exactly one informal

worker and one formal worker are more likely to be located in an urban area, more likely to contain more white and coloured people and more likely to be larger in household size.

Essers (2014:13-14), using QLFS 2008-2012 data, constructs a labour market transition matrix with formal employment, informal employment, unemployed searching, unemployed discouraged and not economically active as its labour market states. Formal employment is the most stable labour market status with over 90% of the formally employed remaining in formal employment from one period to the next. Over 85% of the informal sector workers remain employed (over 10% find formal employment) from one period to the next. Over 10% of the unemployed (both discouraged and searching) find employment from one period to the next with over 65% remaining unemployed searching and over 43% remaining unemployed discouraged. It not any good news for the not economically active as only over 3% find employment from one period to the next with over 79% remaining inactive. It is important to note that since Essers (2014) conducts quarterly analysis the empirical results show less movement than a yearly analysis.

Essers (2014: 14-17) also conduct a probit analysis of formal sector transitions, by constructing a binary dependent variable where 1 represents staying in formal employment and 0 exiting the formal sector. It is found that the marginal probabilities increase as one moves to a higher age cohort for both males and females. A significant difference also exits between white and black people where white people are more likely to remain in the formal sector. Semi-skill and skilled workers are also associated with a greater likelihood of staying in the formal sector. The males' likelihood of remaining in the formal sector increases if they participate in mining but is negatively correlated with transport, communication, wholesale and retail. However, females are correlated with a greater likelihood of being involved in community, social and personal occupations.

In an augmented transition matrix analysis, Cichello *et al.* (2014:72) study labour market status movements between wave 1 and wave 2 of NIDS data. Their study fails to distinguish between informal and formal employment but utilises economically inactive, discouraged, searching and employment labour market states. They find that for males, 50% of the economically inactive in wave 1 remain inactive and 29.2% find employment while the rest of them remain unemployed (discouraged or seeking). For females, the authors find that 59.5% of them remain inactive while 19.2% found employment. Concerning the male employed in wave 1, 77.5% remained employed, 6.7% became seeking, 3.3% discouraged and 12.4% inactive. For females they find 65.4% remained employed, 24.7% became inactive, 3.2% became discourages and 6.7% became searching. For discouraged males 44.1% transitioned into employed higher than the female value of 22.7%. The searching male transition rate into employment is again higher when compared to females (38.7% to 29.1%).

Anand *et al.* (2015) are concerned with the contribution of unemployment towards inequality. Their study utilises QLFS data from the first quarter of 2008 to the third quarter of 2014. Similarly to Valodia & Devey (2011:12) they utilised a matching algorithm (through matching individuals in sample) to construct a panel data set to utilise the rotating panel element of the QLFS. In this study, the authors' main concern is how labour market transitions of an individual are affected by individual-level characteristics (e.g. education, experience or race). Anand *et al.* (2015:6) construct three dependent variables, namely: "job-finding rate" which is concerned with an individual who is unemployed in quarter t but is employed in quarter t+1, "job exiting rate" which is concerned with an individual who is employed in quarter t but is unemployed in quarter t+1, and lastly "probability of

transitioning to formal employment" which is concerned with an individual who is either informally employed or unemployed in quarter t but is formally employed in period t+1. A probit regression is run on each dependent variable analysing the effects of individual level characteristics on each dependent variable. The independent variable utilised in their study are the usual demographic variables, long term unemployment dummy, experience dummy, sector of employment categorical variable amongst a few others.

The probit on "job-finding rate" finds no significant effect of education and race. Anand *et al.* (2015:8) believe the high reservation wages associated with having a higher education and being white could be the reason why no significant effect was founded. They do however find significant effect of experience on finding employment in the next quarter. Those with experience are almost twice as likely to find employment as opposed to those without experience (after controlling for the other independent variables). When decomposing the effect of experience into age cohorts, Anand *et al.* (2015:8) find experience to play a larger role for the youth. Youth who have work experience are more likely in the next quarter to find employment as opposed youth who have no work experience.

The probit on "job-exit rate" provides different results to the "job-finding rate". Education, race and age are important factors for "job-exit rate". For example, university educated individuals are three times less likely to become unemployed when compared individuals who have primary school only. White people have lower job-exit rate than black people (slightly less than 70%), while 55 to 64 year old individuals are 82% less likely to become unemployed in the next quarter. Anand *et al.* (2015:9-10)

For the probit on "probability of transitioning to formal employment", Anand *et al.* (2015:10) find race and education to affect the probability of transitioning to formal employment. For example, individuals who have university level education and are white are more like to transition to formal employment when compared to black primary level educated individuals. The unemployed who have worked before are more likely to transition to formal employment when compared to the unemployed who have never worked before. Lastly the informally employed are 55% more likely to transition to formal employment when compared to the unemployed.

Using a multinomial logistic model and QLFS data, Verick (2010:11-12) determines the predicted probabilities of labour force status (unemployment, discouraged workers and informal sector employment) for certain population groups and education levels. Verick (2010) finds black females and males are more likely to be unemployed, discouraged and informally employed when compared to their coloured and Indian/Asian counterparts for each quarter of their investigation. There are however very little significant changes from one quarter to another except when considering informal sector employment for black females and the discouraged black males.

2.4.3   Barriers to Entering the Informal and Formal Sector
Kingdon & Knight (2001:3) believe the dualistic labour theory is the most commonly accepted perspective and is believed to capture the labour dynamics of the South African economy well. Their argument is supported by the government under the presidency of Mbeki, where they viewed the nature of the economy as a dual economy namely "first" and "second" economy. The state viewed the second economy as being characterised by underdevelopment, contributing minimal to GDP, containing a fair share of the population, containing the rural and the urban poor and lastly being isolated from the first economy

(Valodia and Devey 2011:1). The end of apartheid has created the perception of increased work opportunities in South Africa and has resulted in the migration of individuals from rural areas to urban areas; further supporting the idea of the dualistic nature of the South African economy (Kay 2011:6). However, there is no empirical literature available to test how well the dualistic view captures South African economy.

Most of the work opportunities are created in the formal sector. This sector has contributed significantly to output for South Africa. There are however, some barriers that prevent free entry to working in the formal sector. Becker (2004: 9) provides a description of some of these barriers to the formal sector; this study explained that entering the formal sector is quite costly for which most of the unemployed individuals seeking employment in the formal sector cannot afford. Such costs may include the cost of attaining human capital as this sector requires labour with a broader skills base. Acquiring such skills has proved to be costly for many individuals and as a result they are unable to find employment in the formal sector.

The other barrier of entering the formal sector is strict government regulations. Government has put in place rules for which any participant willing to partake in the formal sector employment has to abide to. Such regulations include following formal procedures in business start-ups, attaining business and work permits and formal registration of any business organisation. Government has put in place these regulations to monitor all operations within the formal sector. Without meeting such requirements, these potential participants are restricted from entering the formal sector. Hence, these government regulations have barred many participants from entering into the formal economy (Becker, 2004: 9). The formal sector is also infested with corruption where individuals are joining the sector based on who they know rather than based on their merits. Networks and personal links have led to the attraction of some labour into the formal sector whilst those who are not well connected have been shunned from some work opportunities within the formal sector. Such labour market activities have hindered the entrance of some of the potential candidates into the formal sector.

The imposition of minimum wages for all firms within an industry is also another barrier to entry and growth for firms in the informal sector. The Bargaining Councils and Wage Boards decide and sets minimum wages and such minimum wages are enforceable for firms in that industry. These wages and conditions are mainly set by large firms which already hold large capital outlays. To these large firms, these minimum wages are affordable; however, for the small operations in the informal sector, such wages are significantly high costs which impose a huge burden on these firms. As a result, these small firms exit the market and the potential entrances are barred from entering (Kingdon & Knight, 2004: 404). Chandra *et al.* (2001:30), citing the World Bank SMME survey, find more than 60% of small firms and more than a third of micro firms[7] employing temporary workers to provide more flexibility and combat the burden imposed by minimum wages. In the presence of bargaining councils, Magruder (2011:26), using LFS data from 2000-2003 and South African Government Gazette, finds 7-16% less employment and 10-21% higher wages in smaller firms. Bargaining council areas having 8-13% less employment than adjacent areas without any bargaining councils.

The other factor that has contributed towards restricting labour from entering the formal sector is having weak institutions. Becker (2004: 9) describes weak institutions as the low capability of formal institutions to provide adequate and quality education as well as enough

---

[7] These firms paid taxes.

training and skills development to equip the workers with the required market skills set to be competitive in the formal sector. With low quality education and a narrow skills base, some of the labour participants have been barred from entering the formal sector.

Limited absorption of surplus labour has proved to be another factor for consideration. Most of the labour supply seems to possess skills that are not required within the labour market. Hence, skills mismatch emerges. As a result, there is an abundance of labour force participants who are unable to find employment in the formal sector due to the labour skills they possess. Therefore, some of the skills possessed by some job seekers acts as their barrier to entering the formal sector if such skills are not required in the market (Becker, 2004: 9).

With these barriers to entering the formal sector, some labour force participants decided to seek employment opportunities in the informal sector whilst others remain unemployed. Like in the formal sector, the informal sector also has barriers to entry and Altman (2008: 17) discusses some of these barriers. Kingdon and Knight (2004: 396) also explained unemployment as being voluntary and involuntary. These authors explained that unemployment has supply as well as demand side factors. The supply side factors are when the unemployed decide to be unemployed as they prefer leisure over work. These individuals can afford more leisure hours. On the other hand, the demand side factors hinder the unemployed from attaining work in the informal sector. These factors are the barriers to entering the informal sector (Kingdon & Knight, 2004: 396).

The main barrier to entering the informal sector is lack of start-up capital for most operations (Kingdon & Knight, 2004: 404). Substantial capital is required to open and run a business in the informal sector and most of the new informal operators have to rely on themselves for such funds as they do not have any access to either formal or informal credit. Chandra *et al*. (2002: 26, 30) observed that most of these informal operators did not have the money (which either come from borrowings from relatives and friends or from their own savings) and entering and operating in the informal sector proved to be significantly challenging. The failure to acquire formal credits was due to complicated borrowing procedures, lack of required collateral and the enormously high costs of borrowing (Kingdon & Knight, 2004: 404). This factor has proved to be significant factor in hindering the entrance into the informal sector for many business operators as the needed start-up capital averages at 2.5 times the monthly earnings calculated from the sample (Chandra *et al.* 2002: 26, 30).

The Skinner (2006: 29, 31) study researches loan support programs; for the Small Enterprise Development Agency (SEDA) program they find only well-established small firms (older than 2 years) are supported with loans less than R100 000 offered. The Western Cape branch prefers not to offer small loans as the administrative costs associated with smaller loans are similar to those of larger loans. For the Red Door program (which provides a range of services for new and existing firms), the main challenge it faces is the lack of business advisors, mobile and static offices which service the populated disadvantaged areas of the Western Cape. According to Devey *et al.* (2003:159-160), programs such as the Sector Education and Training Authorities (SETA) and National Skills Fund do not target informal activity. The SETA program is funded by employers in the formal sector and thus firstly sees to the needs of those who fund the program. The National Skills Fund is dependent on training providers who are reluctant to aid informal activity as it provides little incentives to them (lack of profitability, new methods needed to handle the non-traditional methods and the mobility and assessing of informal workers).

The other barrier to entering the informal sector is the legacy of Apartheid, which is still persistent today (Altman 2008: 17). This legacy brings the perception that certain members of labour supply have poor entrepreneurial and artisan base and are incompetent to take part in the informal sector opportunities. These participants will not have a fair chance in seeking employment in the informal labour market. Additionally, some of the labour force resides in areas that are far away from centres of economic activity and they such participants do not have adequate public transportation. Such factors have disrupted some of the labour force from taking up opportunities in the informal sector.

Network is another barrier of entering the informal sector. Kingdon and Knight (2004: 402) explain that participants in the informal sector also require experience and contacts for better operations in this sector. However, some of the job seekers (mainly Africans) have weak business networks and low levels of work experience. Such weakness makes the accessibility of business opportunities difficult to attain even in the informal sector for such job seekers. Hence, these participants are barred from entering and working in the informal sector.

With such barriers to entering both the formal and the informal sector, government has to intervene to ensure that these sectors absorb most of the unemployed labour. According to Kingdon and Knight (2004: 403), a 1999 informal sector survey based in Johannesburg area indicated that there was a lack of government support in promoting informal business operations. The authors explained that government took inadequate measures to prevent crime within the informal sector, failed to develop infrastructure within the sector, did not provide sufficient training to informal operators and did not provide adequate credit to new informal business operators. There was evidence of 81% of informal sector operators who did not receive any business assistance from government and 61% never had access to support centres implemented by local government (Kingdon & Knight, 2004: 404). Xaba, Horn, and Motala (2002: 25) substantiate this idea by explaining that support for small, medium and microenterprises (SMMEs) was mainly focused towards formal sector operations and minimally (to none support at all) in the informal sector of South Africa.

Government should provide financial support for the new operators in the informal sector. The report by Nedlac (2006: 6-8) emphasised the significance of providing smaller loans to the new entrance. In addition, government has to provide adequate business support services were training and business strategies are provided equally to the SMMEs in the formal and informal sectors. With greater relevant skills and improved knowledge, participants become more productive and more efficient in the informal economy. The National Skills Development Strategy (NSDS) was launched with one of its main objectives being to improve skills development amongst small businesses. Furthermore, government should invest more into infrastructure for the informal sector operations which include operating spaces, storage space and sanitation facilities. Additionally, government should also loosen some of the regulations to provide flexibility to firms and employees as regulations may hinder entrance into both the formal and informal sector (Fryer 2013:6).

To gain a deeper insight into why informal firms remain unregistered and why both informal and formal firms close down, one can look at the Doing Business 2016 report undertaken by the World Bank Group (WBG). The Doing Business 2016 report measures the regulatory quality and efficiency of South Africa. Based on the ease of doing business[8] in South Africa, WBG (2016:6) ranks South Africa 73rd out of 189 countries. Two of the components of

---

[8] Some of the components taken into consideration are starting a business, construction permits, getting electricity, enforcing contracts and property registration.

doing business at which South Africa excels are protecting minority interest (ranks 14th) and paying taxes (ranks 20th) (WBG 2016:9-15).

One of the components in which South Africa does poorly is starting a business, where it ranks 120th. This is mainly due to the 46 days of paper work and the capital investment needed to start a business. The capital required to start a business is about 10 times the GNI per capita for a standardized firm. Another important component and resource at which South Africa performs poorly is electricity (rank 168th). The procedures to install electricity take around 226 days and costs 670.50% of income per capita to a new location according to WBG (2016:36). Also, property registration cost is approximately 6.4% of the property value (ranked 101st). Trading across borders (rank 130th) is associated with high import and export costs and taxes, which equal to approximately 28.8% of profit on average (WBG 2016:17, 36, 45, 70, 76).

Another key component which leads to firms staying away from formalisation of the businesses is the enforcement of contracts (South Africa is rank 82nd) with contract disputes taking 600 days to be settled on average. Labour market regulation ensures workers are entitled to leave and other fringe benefits. If a worker's occupation becomes redundant to the firms, he/she first needs to be retrained before any steps can be taken to retrench the worker (WBG 2016:82, 98). To conclude, the World Bank Group report seems to support the idea that doing business in South Africa is costly, time consuming and that firms will undertake some measures to avoid the formality of binding contracts.

2.5   Conclusion

Chapter Two has presented the development and understanding of informalisation by labour authorities (ILO, Stats SA) and researchers alike. This had led to Stats SA developing two methodologies based on firm and worker characteristics and to researchers developing their own methodologies (e.g. Heintz & Posel) based on these themes. Calculations based on these methodologies have provided dissimilar results when comparing informal workers but similar results when comparing the informally self-employed.

Different linkages exist between the formal and informal sectors. The most researched linkages are forward and backward linkages with forward linkage benefiting both sectors. Depending on the sector or location investigated, forward or backward linkages are deemed to exist or not exist. Household linkages have shown the entrepreneurial and finance advancement to the informal sector via formal workers in a household while labour churning shows the likelihood of informal sector workers in changing their labour market status when compared to formal sector workers.

Studies have also shown South African informal economy to be smaller when compared to many other developing countries, as the South African informal employment has hovered around the 2.0-2.5 million mark and has shown little significant growth. The main reason attributed is the government regime of both the past and present. The "past" being the stifling mechanics of Apartheid and the "present" being the lack of support to the informal sector based on its dualistic view.

The chapter also reviewed the rare local studies that examined formal-informal sector linkages in terms of labour market activities (Valodia & Devey 2011; Anand *et al.* 2015). The chapter concludes by reviewing the recent studies examining the barriers of entry to the formal sector and informal sector respectively, with the latter being the primary focus.

CHAPTER THREE: METHODOLOGY AND DATA

This chapter discusses the methodology and data employed for the empirical analysis. The data employed represents the South African labour force. It is a 6-year panel data (consisting of four waves in total) which allows for a dynamic panel study and transitional analysis of labour outcomes as opposed to a conventional cross-sectional and static analysis.

3.1   Methodology

The National Income Dynamics Study (NIDS) data does not clearly decompose labour market statuses into formal and informal classifications. To correct the deficiency, there is a need to create the division between formal and informal. As discussed in the literature and guided by the Heintz and Posel method the division can be made either based on firm characteristics or worker characteristics.

Referring to the NIDS metadata, the only question concerning firm characteristics concerned tax and VAT registration: *"Is the business registered for income tax and/or VAT?"* This question related only to the firms of the self-employed and not to the firms of any of the employed in the survey. The question will be relevant when classifying the formally and the informally self-employed. An alternative question asked employees the name of the firm for which they worked. One has to manually research each firm and determine which sector they would fall in. Going through over 10 000 observations and then researching the firms for each of these observations would be a difficult and tedious task. Therefore, forming a distinction between formal and informal based solely on enterprise registration characteristics would not be ideal.

The task to distinguish formal from informal employees becomes easier when one considers the employment relationship between the firm and the employees, as there are questions asked on deductions to UIF, pension funds, medical aid, and whether a written contract exists between employer and employee. In this study, informal sector employees are defined as those without medical aid AND without pension funds AND without UIF deductions. Also, employees working in private households are all classified as informal sector employees. The informal sector employees could be estimated more accurately had the firm size been considered. Unfortunately, the question on firm size was only asked in wave 4.

The self-employed are classified as informal if they report their businesses are not registered for income tax or VAT. Furthermore, for those who declare they are casual workers[9] but don't have a main job as employees or self-employed, they are all regarded as informal sector workers. Finally, all other individuals who are listed as employed but cannot be classified into any formal or informal sector employment or self-employment categories are classified as "other employed". These individuals are not of much interest to this study and will be overlooked for most of the statistical analysis.

Figure 3.1 below summarizes how the informal sector workers are distinguished in this study. In other words, for those employed who are not defined as informal sector workers, they are classified as formal sector workers.

---

[9] One big difference between OHS/LFS/QLFS and NIDS is that in the latter questionnaire, there are detailed questions asked to capture casual work activities.

Figure 3.1: Derivation of informal sector workers
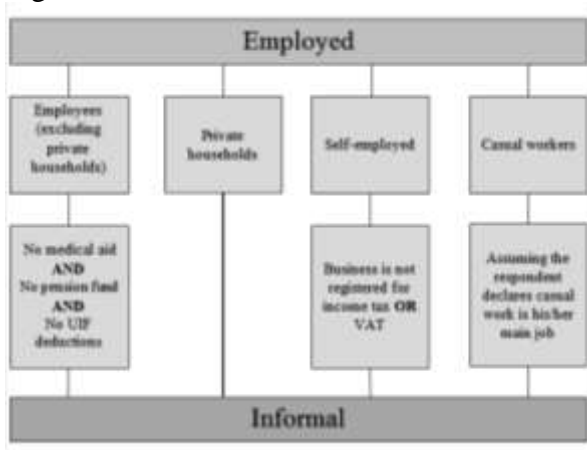
The first part of the empirical analysis focuses on the descriptive summary statistics of each wave and the comparison of the results across the waves. The main summary statistics for this study is centred on the informal/formal labour market status of the employed, for example the formally employed or informally self-employed. Summary statistics for each labour market status describing demographic factors and individual characteristics (e.g. education) and other factors will be tabulated and compared for each wave.

The second part of the analysis starts with a 5×5 matrix representation (columns and rows are represented by five main categories: inactive, unemployed, formal workers, informal workers, and other employed) of condition transitions and proportional transitions on labour market status across the four waves. In the 5×5 matrix representation, formal sector employees and formal sector self-employed are grouped under same "formal" category; similarly, both the informal sector employees and informal sector self-employed are grouped under the "informal" category.

The difference between standard and conditional transition matrix is in the former the rows sum to 100% whereas for the latter the columns sum to 100%. The proportional transitional matrix allows for the proportion of the entire sample present in each cell of the matrix rather as opposed to the conditional probabilities related to the starting point of each labour market status.

The third part of the empirical analysis will construct a final labour market status that will consider the labour market status of an individual over all four waves. It will consider whether and individual has been informal, formal, inactive for all four waves, how many waves they have been employed for and if there has been movement between the informal and formal wave if they have been employed for all four waves.

The final part of the analysis will be conduct four probit and one multinomial logistic regressions. The first probit will analyse unemployed individuals transitioning to employment (job finding rate). The dependent variable will be binary. Individuals who are unemployed in wave 1 and unemployed in wave 4 will be coded as 0, whilst individuals who are unemployed in wave 1 and employed in wave 4 will be coded as 1.

The second probit regression will analyse employed individuals transitioning to unemployment (job exiting rate). The dependent variable will be binary. Individuals who are

employed in wave 1 and employed in wave 4 will be coded as 0, whereas those who are employed in wave 1 and unemployed in wave 4 will be coded as 1.

The third and fourth probit regressions will analyse formal-informal sector transitions. The third probit (lenient approach) will analyse individuals who are either unemployed or informally employed and transition to the formal sector. The dependent variable will be binary. Individuals who are unemployed or informally employed in wave 1 but unemployed or informally employed in wave 4 will be coded as 0. In contrast, individuals who are unemployed or informally employed in wave 1 but formally employed in wave 4 will be coded as 1.

The fourth probit (strict approach) will analyse individuals who transition from the informal sector to the formal sector. The dependent variable is once again binary. Individuals who are informally employed in both wave 1 and wave 4 will be coded as 0, while individuals who are informally employed in wave 1 and formally employed in wave 4 will be coded as 1.

The last regression (multinomial logistic regression) will be based on the final labour market status to be mentioned in Table 4.5 of Chapter Four. The categorical dependent variable will not be ordinal and will consist of five categories. The first group (base category) is represented by individuals who were never employed (i.e. they were unemployed for all four waves, inactive for all four waves, or transitioned between inactive and unemployed across the four waves). Individuals who worked for one to three waves will be the second group, while the third and fourth groups represent individuals who remained in the informal sector and formal sector in all four waves respectively. The fifth and final category represent individuals who are were employed in all four waves but moved between the two sectors.

Some of the covariates to be included for these regressions would be race, gender, years of education, province and some household variables (such as head of household present and amount of children). The key part in this investigation is to investigate which covariates lead to transitions examined in the regressions mentioned earlier.

3.2   Data
This study will use the National Income Dynamics Study (NIDS) data which is the first national panel study in South Africa, conducted by the South African Labour and Development Research Unit (SALDRU), University of Cape Town. The study would utilise the first four available waves from 2008 to 2014/2015 and focus on the working-age population (aged 15-65 years) with specified labour market status, providing they exist in all four waves. In the original datasets, there are 28 226 individuals in wave 1 (2008), 34 098 individuals in wave 2 (2010/2011), 37 436 in wave 3 (2012) and 42 337 in wave 4 (2014/2015). After merging all four waves and controlling for the abovementioned restrictions, there are 8 631 individuals remaining. Finally, for the forthcoming empirical analysis, all results would be weighted with the panel data weights, as derived by SALDRU when the fourth wave data was released.

3.3   Limitations
Due to the nature of the questions being asked in the NIDS, it is not possible to examine intra-sectorial, forward and backward linkages. The nature of the questions asked in NIDS are not related to production and economic activities. These questions concentrate on the employment activities of the individuals providing a more focus study on labour market transitions between the informal and formal sectors.

CHAPTER FOUR: EMPIRICAL FINDINGS

4.1 Introduction

The aim of this section is to provide the statistical results based on the methodology mentioned in chapter. Section 4.2 provides a descriptive analysis of the 8 631 individuals present in each wave. Section 4.3 provides a further analysis with transitional matrices, labour market status paths as well as the econometric analysis (by means of probit and multinomial logistic regressions) to examine the factors which possibly influence changes in labour market status. Lastly, section 4.4 concludes the chapter.

4.2 Descriptive statistics

Table 4.1: Demographic characteristics of the final sample

	Frequency	Percentage (%)
Province of residence		
Western Cape	1 550 378	8.25
Eastern Cape	1 944 310	10.35
Northern Cape	451 510	2.40
Free State	1 024 346	5.45
KwaZulu-Natal	3 720 247	19.80
North West	928 750	4.94
Gauteng	4 554 214	24.23
Mpumalanga	1 519 172	8.08
Limpopo	1 539 130	8.19
Province of residence changed	1 561 611	8.31
Total	18 793 668	100.00
Geo-type of residence		
Traditional	5 241 444	27.89
Urban	10 258 913	54.59
Farms	746 216	3.97
Geo-type changed	2 547 095	13.55
Total	18 793 668	100.00
Gender		
Male	8 370 750	44.54
Female	10 422 918	55.46
Total	18 793 668	100.00
Population group		
African	15 748 826	83.80
Coloured	1 460 708	7.77
Asian/Indian	455 385	2.42
White	1 128 749	6.01
Total	18 793 668	100.00
Age cohort at the time of wave 1		
15-24yrs	6 200 516	32.99
25-34yrs	4 611 521	24.54
35-44yrs	3 949 670	21.02
45-54yrs	3 019 736	16.07
55-65yrs	1 012 225	5.39
Total	18 793 668	100.00

Source: Own calculations using NIDS data

Table 4.1 depicts 8.31% of individuals have their province of residence changed between 2008 and 2014. The remaining 91.69% resided in the same province across all four waves. For example, 24.23% of individuals have remained in Gauteng and 19.8% have remained in the KwaZulu-Natal. Looking at the geo-type of residence, 27.89% individuals resided in traditional land, 54.59% on urban land and 3.97% on farms in all four waves. Only 13.55% have had their geographic type changed at least once. Also, the weighted sample consists of 44.54% males and 55.46% females. There are 83.8% Africans, 7.77% Coloureds, 2.42% Asians/Indians and 6.01% Whites. In addition, over 55% of individuals were younger than 35 years while only 5.39% were 55 years or older, at the time of wave 1.

Table 4.2 shows the educational attainment levels, labour market status, occupation of the employed and the industry of employment for the final sample of each wave. The changes in educational level achieved indicates the working-age population has become more educated over the years as expected with an ageing sample. This is observed by the decrease in number of individuals with no education, incomplete primary education, incomplete secondary education and matric, and an increase in the number of individuals who have a higher qualification than matric form wave 1 to wave 4. For example, the proportion with no education dropped from 6.18% in wave 1 to 5.62% in wave 4, whereas the share with post-Matric qualifications increased from 8.68% to 18.27% during the same period.

One expects that a higher educational attainment is associated with a greater likelihood of finding employment, particularly former sector employment. This argument seems to be supported by the results in the table: the proportion of them working increased from 45.09% in wave 1 to 56.43% in wave 4. Furthermore, labour force participation rate increased from 67% to 71% while unemployment rate dropped from 33% to 21%.

Focusing on the employed only, the number of informal sector workers increased from 3.3 million in wave 1 to 4.21 million in wave 4 (they accounted for about 39% of all employed in both waves), whereas the number of formal sector workers increased from 4.54 million to 6.16 million (they accounted for about 54% of all employed in wave 1 but this share rose to 58% in wave 4). As far as the skills level of employed is concerned, the number of workers increased across all three skills level, but such increase was most rapid in both absolute and relative terms for the semi-skilled workers – increasing from 3.72 million to 5.61 million, with their share of all employed rising from 43.9% to 52.9%, between wave 1 and wave 4.

Looking at the broad occupation category of the employed, the share accounted for by the "elementary occupation" category has always been the greatest in both absolute and relative terms (they were 2.75 million and 25.9% respectively in wave 4), but the category "service workers" has been rapidly catching up across the waves, as the number of employed in this category more than doubled from 0.95 million in wave 1 to 2.21 million in wave 4, while the relative contribution increased from 11.2% to 20.9%.

It is a pity that the proportion of employed with other or unspecified industry category was quite high in the first two waves (35.4% and 23.1% respectively). Nonetheless, Table 4.2 shows clearly that the share of employed accounted for by the two categories "community, social and personal services" and "wholesale and retail" has always been the greatest; at the time of wave 4, a quarter of employed worked in the former industry while 17% was involved in the latter industry. Finally, at the time of wave 4, nearly 70% of employed were involved in tertiary sector activities, while the corresponding shares were only approximately 10% and 19% for the primary and sector sectors.

Table 4.2: Educational and labour market characteristics of the final sample

	Wave 1		Wave 2		Wave 3		Wave 4	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Highest educational attainment								
None	1 161 431	6.18	1 073 771	5.71	1 069 851	5.69	1 056 777	5.62
Incomplete primary	2 367 625	12.60	2 196 676	11.69	2 185 838	11.63	2 066 897	11.00
Incomplete secondary	9 830 006	52.30	9 403 688	50.04	8 913 666	47.43	8 959 615	47.67
Matric	3 766 331	20.04	3 839 829	20.43	3 775 093	20.09	3 232 686	17.20
Matric & certificate/diploma	1 279 735	6.81	1 820 142	9.68	2 264 734	12.05	2 753 158	14.65
Degree	350 876	1.87	444 107	2.36	560 758	2.98	681 170	3.62
Other/unspecified	37 664	0.20	15 455	0.08	23 728	0.13	43 365	0.23
Total	18 793 668	100.00	18 793 668	100.00	18 793 668	100.00	18 793 668	100.00
% with at least Matric	28.72		32.47		35.12		35.47	
Labour market status								
Inactive	6 172 132	32.84	7 390 982	39.33	5 905 373	31.42	5 434 670	28.92
Unemployed	4 148 582	22.07	3 331 672	17.73	3 831 304	20.39	2 756 022	14.66
Employees	5 883 054	31.30	6 331 590	33.69	7 086 411	37.71	8 183 823	43.55
Self-employed	1 157 086	6.16	905 108	4.82	1 057 505	5.63	1 284 897	6.84
Casual workers	768 069	4.09	630 307	3.35	726 657	3.87	903 129	4.81
Unclassified employed	664 745	3.54	204 009	1.09	186 418	0.99	231 127	1.23
Total	18 793 668	100.00	18 793 668	100.00	18 793 668	100.00	18 793 668	100.00
Labour force participation rate (%)	67.16		60.67		68.58		71.08	
Unemployment rate (%)	32.86		29.22		29.73		20.62	
Formal/Informal sector status of employed								
Informal	3 269 251	38.58	3 320 958	41.15	3 609 959	39.86	4 214 309	39.75
Formal	4 538 958	53.57	4 546 047	56.33	5 260 614	58.08	6 157 540	58.07
Unclassified employed	664 745	7.85	204 009	2.53	186 418	2.06	231 127	2.18
Total employed	8 472 954	100.00	8 071 014	100.00	9 056 991	100.00	10 602 976	100.00
Skills level of employed								
Highly-skilled	1 292 399	15.25	1 383 669	17.14	1 776 997	19.62	1 870 691	17.64
Semi-skilled	3 718 207	43.88	3 696 425	45.80	4 372 486	48.28	5 607 801	52.89
Unskilled	1 966 927	23.21	2 120 325	26.27	2 550 087	28.16	2 749 763	25.93
Skilled level not known	1 495 421	17.65	870 595	10.79	357 421	3.95	374 721	3.53
Total	8 472 954	100.00	8 071 014	100.00	9 056 991	100.00	10 602 976	100.00

Table 4.2: Continued

	Wave 1		Wave 2		Wave 3		Wave 4	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Occupation of employed								
Managers	363 974	4.30	336 875	4.17	441 492	4.87	502 959	4.74
Professionals	697 136	8.23	773 874	9.59	949 407	10.48	898 981	8.48
Technicians	231 289	2.73	272 920	3.38	386 098	4.26	468 751	4.42
Clerks	590 691	6.97	372 167	4.61	455 462	5.03	675 105	6.37
Service workers	952 708	11.24	1 512 840	18.74	1 727 663	19.08	2 213 427	20.88
Skilled agriculture	337 046	3.98	48 960	0.61	21 002	0.23	46 349	0.44
Trades	1 132 860	13.37	1 028 993	12.75	1 215 580	13.42	1 560 643	14.72
Operators	704 902	8.32	733 465	9.09	952 779	10.52	1 112 277	10.49
Elementary occupation	1 966 927	23.21	2 120 325	26.27	2 550 087	28.16	2 749 763	25.93
Other/Unspecified	1 495 421	17.65	870 595	10.79	357 421	3.95	374 721	3.53
Total	8 472 954	100.00	8 071 014	100.00	9 056 991	100.00	10 602 976	100.00
Industry of employed								
Agriculture	417 557	4.93	387 810	4.80	558 554	6.17	627 448	5.92
Mining	263 990	3.12	274 563	3.40	345 492	3.81	382 326	3.61
Manufacturing	926 780	10.94	705 055	8.74	819 979	9.05	978 597	9.23
Utilities	59 957	0.71	56 271	0.70	123 715	1.37	164 047	1.55
Construction	317 909	3.75	386 766	4.79	492 466	5.44	881 306	8.31
Wholesale and retail (W&R)	743 212	8.77	1 185 680	14.69	1 427 746	15.76	1 822 369	17.19
Transport	314 353	3.71	376 980	4.67	567 782	6.27	606 085	5.72
Finance	599 966	7.08	542 288	6.72	645 165	7.12	960 643	9.06
Community, social & personal services (CPS)	1 297 639	15.32	1 760 887	21.82	2 220 997	24.52	2 624 494	24.75
Private households	532 026	6.28	528 894	6.55	1 160 174	12.81	1 252 259	11.81
Other/Unspecified	2 999 565	35.40	1 865 820	23.12	694 921	7.67	303 402	2.86
Total	8 472 954	100.00	8 071 014	100.00	9 056 991	100.00	10 602 976	100.00
Sector of employed								
Primary	681 547	8.04	662 373	8.21	904 046	9.98	1 009 774	9.52
Secondary	1 304 646	15.40	1 148 092	14.22	1 436 160	15.86	2 023 950	19.09
Tertiary	3 487 196	41.16	4 394 729	54.45	6 021 864	66.49	7 265 850	68.53
Other/Unspecified sector	2 999 565	35.40	1 865 820	23.12	694 921	7.67	303 402	2.86
Total	8 472 954	100.00	8 071 014	100.00	9 056 991	100.00	10 602 976	100.00

Source: Own calculations using NIDS data

Table 4.3 depicts the proportional transition matrices of labour market status between two waves. Focusing on what happened between wave 1 and wave 4, for those identified as inactive in wave 1, 40% of them remained inactive, 20% became unemployed (despite entering the labour force), and only about 38% found work (20% in the formal sector and 18% in the informal sector) in wave 4. For those defined as unemployed in wave 1, about 29% of them became inactive (this result suggests that these people may have lost hope of finding work and they eventually decided to leave the labour force), 21% remained unemployed but 48% of them found work in wave 4 (with half of them working in the formal sector and the remaining half working in the informal sector).

Table 4.3: Labour market status transitional matrices

		Formal/informal status in wave 4					
		Inactive	Unemployed	Informal	Formal	Unclassified	Total
Formal/ Informal status in wave 1	Inactive	39.89	20.19	20.18	18.15	1.60	100.00
	Unemployed	29.31	21.16	24.13	24.04	1.36	100.00
	Informal	23.72	9.83	38.42	26.58	1.45	100.00
	Formal	13.63	5.28	13.62	67.02	0.45	100.00
	Unclassified	54.52	10.68	14.06	19.48	1.26	100.00
	Total	28.92	14.66	22.42	32.76	1.23	100.00
		Formal/Informal status in wave 2					
		Inactive	Unemployed	Informal	Formal	Unclassified	Total
Formal/ Informal status in wave 1	Inactive	66.36	19.27	8.78	4.22	1.36	100.00
	Unemployed	40.42	28.69	18.86	10.24	1.79	100.00
	Informal	26.19	14.32	38.93	20.15	0.41	100.00
	Formal	7.39	7.66	14.74	69.85	0.37	100.00
	Unclassified	64.20	20.52	8.21	4.69	2.37	100.00
	Total	39.33	17.73	17.67	24.19	1.09	100.00
		Formal/Informal status in wave 3					
		Inactive	Unemployed	Informal	Formal	Unclassified	Total
Formal/ Informal status in wave 2	Inactive	51.10	26.05	13.51	7.90	1.43	100.00
	Unemployed	32.30	31.73	18.99	15.36	1.62	100.00
	Informal	19.93	14.49	41.00	23.99	0.59	100.00
	Formal	6.86	6.82	12.92	73.24	0.16	100.00
	Unclassified	38.33	28.21	14.54	18.91	0.00	100.00
	Total	31.42	20.39	19.21	27.99	0.99	100.00
		Formal/Informal status in wave 4					
		Inactive	Unemployed	Informal	Formal	Unclassified	Total
Formal/ Informal status in wave 3	Inactive	53.29	17.77	17.57	9.46	1.92	100.00
	Unemployed	30.14	27.13	24.62	17.12	0.99	100.00
	Informal	16.81	10.28	46.46	25.20	1.25	100.00
	Formal	8.40	5.22	9.37	76.58	0.42	100.00
	Unclassified	45.25	11.48	34.04	2.51	6.71	100.00
	Total	28.92	14.66	22.42	32.76	1.23	100.00

Source: Own calculations using NIDS data

For those working in the informal sector in wave 1, 38.4% of them still worked in this sector in wave 4, but 23.7% and 9.8% of them became inactive and unemployed respectively. The percentage of wave 1 informal sector workers finding work in the formal sector in wave 4 was quite low at 26.6%. Finally, for those working in the formal sector in wave 1, two-thirds of them still worked in this sector in wave 4, whereas 13.6% ended up working in the informal sector, 13.6% became inactive and 5.3% became unemployed in wave 4. These

findings suggest that the likelihood of those who initially worked in the formal sector to later becoming informal sector workers, unemployed or inactive is lower. Graphically, this is depicted in Figure 4.1.

Figure 4.1: Labour market status transition
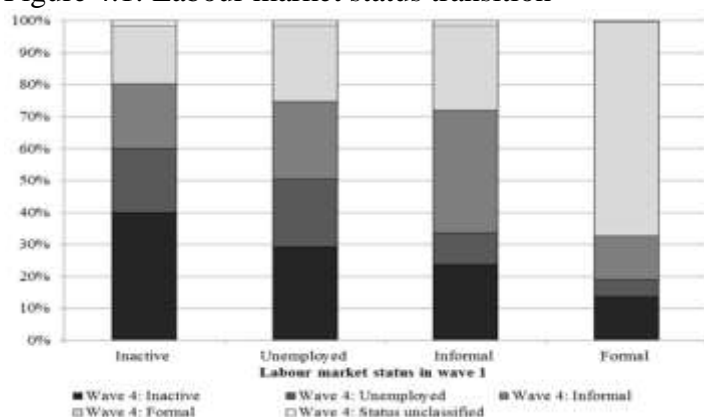
Source: Own calculations using NIDS data

Table 4.4: Number of waves employed: formally, informally and combined

	Frequency	Percentage
Employed		
Never	4 422 064	23.53
One wave	4 021 410	21.40
Two waves	3 134 657	16.68
Three waves	2 948 937	15.69
All four waves	4 266 600	22.70
Total	18 793 668	100.00
Informal sector workers		
Never	10 099 306	53.74
One wave	4 942 485	26.30
Two waves	2 261 653	12.03
Three waves	1 012 210	5.39
All four waves	478 014	2.54
Total	18 793 668	100.00
Formal sector workers		
Never	10 026 396	53.35
One wave	3 031 921	16.13
Two waves	1 959 063	10.42
Three waves	1 552 040	8.26
All four waves	2 224 248	11.84
Total	18 793 668	100.00
Transition between sectors (if employed in all 4 waves)		
Formal in all four waves	2 224 248	52.13
Formal in three waves; informal in one wave	*727 322*	*17.05*
Formal in two waves; informal in two waves	*445 932*	*10.45*
Formal in one wave; informal in three waves	*333 357*	*7.81*
Informal in all four waves	478 014	11.20
Other (formal/informal sector status not classified in at least one wave)	57 727	1.35
Total	4 266 600	100.00
Employed having their sector status changed	*1 506 611*	*35.31*

Source: Own calculations using NIDS data

Table 4.4 depicts the number of waves an individual was either employed and the sector in which they were employed. For the entire 6-year duration, only 4.27 million (22.7%) were employed in all four waves. A very high 8.69 million worked in the informal sector for at least one wave, but only 0.48 million (2.5%) worked in this sector in all four waves. In contrast, 8.77 million worked in the formal sector for at least one wave, but 2.22 million (11.84%) worked in this sector in all four waves. The last part of Table 4.4 focuses on the 4.27 million people who were employed in all four waves; as already mentioned above, 2.22 million (52.1%) and 0.48 million (11.2%) worked in the formal sector and informal sector respectively, across all four waves. In contrast, 1.51 million (35.3%) workers moved across the two sectors.

Table 4.5 summarised the final labour market status of the working-age population, categorised into the following 10 groups: inactive in all four waves (RIA); unemployed in all four waves (RU); working in the informal sector in all four waves (RI); working in the formal sector in all four waves (RF); working in all four waves but moving between the two sectors (E4M); working in all four waves but formal/informal sector status could not be identified clearly in some waves (E4U); working in three waves only (E3); working in two waves only (E2); working in one wave only (E1); others who never worked, but the labour market status changed between inactive and unemployed across the four waves (O).

While not the main focus on this study, it can be seen that 1.37 million (7.3%) remained inactive in all four waves and 0.18 million (0.9%) remained unemployed in all four waves. Only 0.48 million (2.5%) has always been an informal sector worker in all four waves, whilst 2.22 million (11.8%) worked in the formal sector in all waves. Also, 2.87 million (15.3%) fall under the 'other' category.

Table 4.5: Final labour market status

	Frequency	Percentage
Remain inactive (RIA)	1 373 032	7.31
Remain unemployed (RU)	176 009	0.94
Remain informal (RI)	478 014	2.54
Remain formal (RF)	2 224 248	11.84
Employed all 4 waves, moving between formal and informal sectors (E4M)	*1 506 611*	*8.02*
Employed all 4 waves & movement unknown (E4U)	57 727	0.31
Employed in 3 waves only (E3)	2 948 937	15.69
Employed in 2 waves only (E2)	3 134 657	16.68
Employed in 1 wave only (E1)	4 021 410	21.40
Other (O)	2 873 023	15.29
Total	18 793 668	100.00

Source: Own calculations using NIDS data

Table 4.6 shows the characteristics of each of the 10 groups of working-age population as derived from Table 4.5. The discussion below would focus on the following three groups: those who worked in informal sector in all waves (RI), those who worked in formal sector in all four waves (RF) and those working in all waves but moved between the two sectors (E4M). The Gauteng share was most dominant in all three groups (exceeding 30%), but this share was the highest for RF (40.5%). Also, for all three groups, more than 60% of the people lived in urban areas but this share was the highest for the RF group (79.6%).

Table 4.6: Composition of each final labour market status

	RIA	RU	RI	RF	E4M	E4U	E3	E2	E1	O	Total
Province of residence											
Western Cape	4.64	7.11	10.44	11.21	14.33	16.79	11.26	7.99	5.06	5.68	8.25
Eastern Cape	18.30	3.07	13.35	6.51	7.50	1.81	8.31	9.54	11.12	13.01	10.35
Northern Cape	2.32	3.10	3.61	2.51	2.94	2.70	2.20	2.23	2.33	2.32	2.40
Free State	5.00	4.17	3.85	6.34	5.98	7.19	6.03	5.46	5.18	4.78	5.45
KwaZulu-Natal	25.39	17.06	12.91	10.93	11.64	43.80	17.51	22.65	24.38	21.91	19.8
North West	5.11	2.62	3.44	4.15	6.15	3.64	5.26	3.73	4.83	6.41	4.94
Gauteng	14.87	41.30	32.16	40.47	30.80	0.00	25.71	21.42	19.93	18.39	24.23
Mpumalanga	4.92	5.37	8.72	7.12	10.55	1.61	8.34	8.28	8.15	8.67	8.08
Limpopo	11.00	9.34	8.77	5.36	5.92	6.55	6.70	7.78	9.50	10.24	8.19
Province changed	8.46	6.85	2.74	5.40	4.19	15.89	8.69	10.92	9.52	8.59	8.31
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Geo-type of residence											
Traditional	41.52	29.40	22.97	7.71	14.25	43.57	21.23	28.58	34.77	41.00	27.89
Urban	40.41	61.77	62.84	79.63	65.88	28.49	60.36	52.08	45.60	44.15	54.59
Farms	4.84	0.43	8.62	4.28	10.21	2.69	4.16	2.90	2.66	2.33	3.97
Geo-type changed	13.22	8.40	5.57	8.39	9.66	25.24	14.25	16.44	16.97	12.52	13.55
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Gender											
Male	25.64	26.57	33.36	66.18	64.02	52.65	51.21	46.21	37.59	30.46	44.54
Female	74.36	73.43	66.64	33.82	35.98	47.35	48.79	53.79	62.41	69.54	55.46
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Population group											
African	84.03	89.82	96.09	66.01	77.92	90.03	83.04	83.32	88.97	92.06	83.80
Coloured	5.27	6.55	3.28	9.11	13.18	2.90	9.17	9.36	6.51	4.61	7.77
Asian/Indian	3.88	0.43	0.28	5.94	1.97	0.00	1.72	2.11	1.74	1.79	2.42
White	6.82	3.20	0.35	18.94	6.94	7.06	6.06	5.21	2.78	1.54	6.01
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 4.6: Continued

	RIA	RU	RI	RF	E4M	E4U	E3	E2	E1	O	Total
Age cohort at the time of wave 1											
15-24 years	40.73	32.29	9.36	3.21	13.56	36.34	24.31	37.09	45.97	52.73	32.99
25-34 years	3.77	42.39	29.10	32.83	35.43	34.19	27.15	27.35	19.83	21.12	24.54
35-44 years	8.97	22.51	39.93	37.85	32.18	10.42	25.12	17.59	15.08	12.69	21.02
45-54 years	26.59	2.81	19.92	21.95	16.83	7.80	17.66	13.71	13.45	11.04	16.07
55-65 years	19.94	0.00	1.69	4.16	1.99	11.25	5.76	4.27	5.66	2.43	5.39
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mean (years)	36.38	28.78	37.15	38.62	35.45	31.64	34.93	31.44	30.24	27.67	32.81
Highest educational attainment at the time of wave 1											
None	16.98	0.47	10.27	0.98	4.21	1.08	6.06	5.13	8.15	4.36	6.18
Incomplete primary	23.78	11.66	18.95	7.69	11.39	19.47	11.12	11.48	14.23	11.00	12.60
Incomplete secondary	53.14	65.30	51.66	29.35	47.93	50.49	46.97	53.60	56.46	69.57	52.30
Matric	3.52	17.16	14.21	31.95	23.17	16.50	23.53	23.87	18.16	13.17	20.04
Matric + certificate	2.26	5.42	3.95	19.67	10.52	1.18	10.46	5.19	2.71	1.52	6.81
Degree	0.28	0.00	0.47	10.20	2.52	11.29	1.60	0.60	0.13	0.07	1.87
Other/unspecified	0.03	0.00	0.49	0.17	0.26	0.00	0.27	0.13	0.16	0.30	0.20
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mean (years)	6.38	9.48	8.02	11.10	9.64	9.83	9.35	9.25	8.49	8.84	9.05
Highest educational attainment at the time of wave 4											
None	15.49	0.47	8.59	1.56	4.58	1.08	5.12	4.47	7.26	4.00	5.62
Incomplete primary	20.03	6.03	19.34	6.45	9.61	9.95	10.40	10.80	12.88	8.05	11.00
Incomplete secondary	43.91	67.33	51.88	30.11	48.41	47.02	47.07	48.54	47.73	60.39	47.67
Matric	12.57	15.22	12.35	18.64	15.12	11.21	15.81	19.16	18.60	17.78	17.20
Matric + certificate	6.81	8.29	7.37	28.44	18.58	19.46	17.71	13.98	11.50	9.16	14.65
Degree	0.80	0.00	0.47	14.75	3.30	11.29	3.90	2.58	1.82	0.51	3.62
Other/unspecified	0.38	2.65	0.00	0.06	0.40	0.00	0.00	0.47	0.21	0.11	0.23
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mean (years)	7.49	9.94	8.17	11.47	9.95	11.07	9.76	9.74	9.23	9.58	9.63

Source: Own calculations using the NIDS data

It is interesting that a much higher share (two-thirds) of those from the RI, RU. RIA and O group were females, but it is rather the male share that was more dominant (two-thirds as well) for the RF and E4M group. In other words, this means that females are associated with a greater likelihood of not being employed and that males are associated with a greater likelihood of always working in the formal sector or moving between the two sectors. In addition, the African share was extremely high (96.1%) in the RI group (meaning Africans were more likely to work long-term in the informal sector), while this share was "only" 77.9% and 66.0% for the E4M and RF groups respectively. In addition, the African share was above 88% for the RU, O and E1 groups indicating that Africans have a greater likelihood for being unemployed or maintaining work for short periods only. Also, for the three focus groups, approximately two-thirds of workers were aged 25-44 years at the time of the survey. On average RU and O groups were the youngest (under 30 years of age in wave 1), this could be because youngsters have the least amount of experience and have not lost hope in job market searching yet (not exposed long to the job market).

Finally, as expected, those from the RF group were most educated (mean years of education being 11), followed by those who moved across the two sectors (10 years on average) while those from the RI group were least educated (8 years on average). Across all groups, the RIA group is the least educated (7 years on average) followed by the RI group. It is also interesting that the RI group's average years of education were less than the RU and O groups (9 years on average each). This may be attributed to the O and RU groups having a higher reservation wage than RI group.

Table 4.7 shows some information on the work activities of the three groups in wave 4. The share of workers who worked as self-employed was the highest for the RI group (29.9%) and this result is nothing surprising, as informal sector workers are associated with a greater likelihood of being self-employed (instead of working as employees). Workers in the RI group were associated with a greater likelihood of involving in unskilled or semi-skilled occupations (nearly 90%), with the majority of them (46.1%) working in elementary occupations. In contrast, only 10% of the RF group were involved in unskilled occupations but a relatively high 35.7% of them were engaged in highly-skilled occupations. For the E4M group, 57.5% and 23.8% of them were involved in semi-skilled and unskilled occupations respectively.

A very high 82.8% of RI people worked in the tertiary sector, with more than half of them working in private households. For the RF people, 69.3% of them worked in the tertiary sector, with the majority of them working in community, social and personal services industry. Furthermore, 62.8% of the E4M group worked in the tertiary sector in wave 4, and once again, a high proportion of these people worked in the community, social and personal services industry. Finally, the RI workers only earned approximately R1 800 per month in real terms (2012 December prices), but as expected, the average labour income was higher for those from the RF (R10 678 in wave 4) and E4M (R6 343 in wave 4) groups.

To conclude, those who worked in all four waves but had their formal/informal sector status changed (i.e. the E4M group) are more likely to be male Africans aged 25-44 years residing in the urban areas in Gauteng, with about 10 years of education, working as employees in the semi-skilled elementary occupations in the tertiary sector, and earning about R6 300 per month in 2012 December prices.

Table 4.7: The composition of selected final labour market statuses

	RI	RF	E4M
Labour market status in wave 4			
Employees	58.68	96.22	84.38
Self-employed	28.97	3.78	11.13
Casual workers	12.35	0.00	4.49
Total	100.00	100.00	100.00
Occupation in wave 4			
Managers	2.93	10.97	5.58
Professionals	5.86	16.98	6.79
Technicians	0.46	7.71	6.00
Clerks	1.43	10.21	6.22
Service workers	21.02	12.87	18.97
Skilled agriculture	0.09	0.56	0.66
Trades	11.65	13.04	18.15
Operators	9.60	15.96	13.49
Elementary occupation	46.12	9.92	23.83
Other/unspecified	0.85	1.78	0.31
Total	100.00	100.00	100.00
Industry in wave 4			
Agriculture	3.12	3.55	10.73
Mining	0.00	7.80	3.30
Manufacturing	2.81	12.38	12.82
Utilities	0.17	1.51	1.34
Construction	9.17	4.33	8.65
Wholesale & retail	17.28	11.06	16.87
Transport	4.81	7.99	5.48
Finance	0.04	12.37	10.28
Community, social and personal services	14.28	37.90	24.13
Private household	46.40	0.00	5.98
Other/unspecified	1.93	1.11	0.40
Total	100.00	100.00	100.00
Skills level of work in wave 4			
Highly-skilled	9.25	35.67	18.37
Semi-skilled	43.78	52.64	57.49
Unskilled	46.12	9.92	23.83
Skilled level not known	0.85	1.78	0.31
Total	100.00	100.00	100.00
Sector of work in wave 4			
Primary	3.12	11.35	14.03
Secondary	12.14	18.22	22.81
Tertiary	82.80	69.32	62.75
Unknown industry	1.93	1.11	0.40
Total	100.00	100.00	100.00
Mean monthly labour income (2012 December prices)			
Wave 1	1 237	8 843	3 393
Wave 2	1 796	8 042	3 634
Wave 3	1 799	9 659	4 334
Wave 4	1 865	10 678	6 343

Source: Own calculations using the NIDS data

The last part on the descriptive analysis compares the years of education and real income of transitions between wave1 and wave 4 which involve the permutations between the informal and formal sector (see Table 4.8). First, although it is expected that those who worked in the

formal sector in both waves are most educated (about 11 years), it is interesting that it is those who moved from informal sector (wave 1) to formal sector (wave 4) showing the greatest increase of mean years of educational attainment – an increase of 0.42 years. Such increase was only 0.18 years for those who remained in the informal sector. Hence, this result suggests that those whose educational attainment has improved over the years are the ones who are more likely to successfully move out of the informal sector to find work in the formal sector.

Table 4.8: Change in education and real income for those having the sector status changed between wave 1 and wave 4

	Years of education in wave 1	Years of education in wave 4	Difference in years of education
Formal in wave 1; formal in wave 4	10.88	11.27	0.39
Informal in wave 1; informal in wave 4	7.87	8.05	0.18
Formal in wave 1; informal in wave 4	9.12	9.42	0.30
Informal in wave 1; formal in wave 4	9.86	10.28	0.42
	Income in wave 1	Income in wave 4	Difference in income
Formal in wave 1; formal in wave 4	7 823	10 018	2 194
Informal in wave 1; informal in wave 4	1 226	1 956	730
Formal in wave 1; informal in wave 4	3 421	3 791	370
Informal in wave 1; formal in wave 4	2 081	3 912	1 831

Source: Own calculations using the NIDS data

It can also be seen in Table 4.8 that those who worked in the formal sector in both waves earned the highest on average and enjoyed the greatest increase of real income (an increase of R2 194 between wave 1 and wave 4). This is followed by those who successfully moved from informal sector to formal sector: their mean real monthly labour income nearly doubled from R2 081 to R3 912, representing an absolute increase of more than R1 800.

4.3 Further analysis

First, Table 4.9 presents the results of the four probit regressions. The first probit reveals that males have a 10% higher probability of finding employment than females. Education exhibits a positive non-linear (convex) relationship with employment; indicating the probability of finding employment significantly increases at an increasing rate for each additional year of education. Looking at geo-type and province one finds living in a traditional area and residing in Gauteng, Eastern Cape and Northern Cape significantly diminishes the probability of finding employment. Lastly, the household-level variables reveal that being the head of the household significantly increases the probability of finding employment; the head of a household may feel more responsible for the livelihood of the household and make a concerted effort to provide for them.

The second probit reveals males are significantly less likely than females to become unemployed. Education exhibits a negative non-linear (concave) relationship with unemployment; indicating the probability of becoming unemployed significantly decreases at an increasing rate for each additional year of education. Also, if education increases by one year between wave 1 and wave 4 the probability of becoming unemployed significantly decreases by 1.7%. The increase in education they experience may increase their skill level and productivity for their current occupation. Also, living on a farm and residing in Gauteng, Mpumalanga and Limpopo and being the head of the household significantly decreases the probability of becoming unemployed.

Table 4.9: Probit estimates or labour market transitions from wave 1 to wave 4

	Job finding rate	Job exiting rate	Transitioning to formal sector (lenient approach)	Transitioning to formal sector (strict approach)
Gender				
Male	0.1003**	-0.0584**	0.1441***	0.1999***
Population Group				
Coloured	0.0485	0.0410	0.0667	0.1593
White	0.0621	0.0062	0.0180	-0.0210
Indian	dropped	0.0399	0.1395	0.3199*
Age				
Age	0.0092	-0.0458***	-0.0056	0.0110
Age Squared	-0.0001	0.0007***	0.0000	-0.0003
Education				
Years of education	-0.0544***	0.0121	-0.0209	-0.0044
Years of education squared	0.0047***	-0.0019***	0.0041***	0.0030*
Change in education years	-0.1832	-0.0174*	0.0447***	0.0782***
Geo-type				
Traditional	-0.1043*	0.0580	-0.0435	-0.0779
Urban	-0.0257	-0.0637	0.0472	0.0194
Farm	0.1032	-0.1433***	0.1559*	0.0890
Province				
Western Cape	-0.0374	-0.0651	-0.0138	-0.1363
Eastern Cape	-0.1660*	-0.0819	-0.1252*	-0.1989
Northern Cape	-0.1661*	-0.0837	-0.0522	-0.1670
Free State	-0.0983	-0.0849	0.0051	0.1170
Kwa-Zulu Natal	-0.0784	0.0359	-0.0073	-0.0353
North West	-0.0895	-0.0301	-0.0273	-0.1376
Gauteng	-0.1501*	-0.1038*	-0.0636	-0.0578
Mpumalanga	-0.0790	-0.1296**	0.0552	-0.0617
Limpopo	-0.1832*	-0.1433***	-0.0639	-0.0887
Household variable				
Head of household	0.0848*	-0.0793***	0.0594	0.0374
Married/partner present	-0.0677	-0.0057	0.0449	0.1052*
Number of children	0.0102	0.0070	0.0200**	0.0113
Number of elderly	-0.0283	0.0299	0.0109	0.0561
Observed probability	0.7032	0.2809	0.3515	0.4094
Predicted probability (at x-bar)	0.7151	0.2535	0.3327	0.3874
Number of observations	1 265	3 485	2 364	967
Probability > chi-squared	0.0019	0.000	0.0000	0.000
Pseudo R-squared	0.0565	0.1439	0.0987	0.1562

Source: Own calculations using the NIDS data.
Notes: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The average marginal effects based on panel-weighted binary probit regression. Omitted/Baseline variables: female, Africans, geo-type changed, province of residence changed, not household head; not married or no partner

Under both the lenient and strict approaches (i.e. the third and fourth regressions respectively), males are significantly more likely to transition to the formal sector with the probability being higher for the strict approach. Again, education exhibits a significant positive non-linear (convex) relationship with the probability of transitioning to the formal sector (under both the lenient and strict approaches). Also, a one-year increase in education between wave 1 and wave 4 results in a significant increase in probability of working in the formal sector by 4.5% under the lenient approach and 7.8% under the strict approach. These significant results support the earlier descriptive statistics of Table 4.8 that the formal sector is male dominated with high education levels.

Considering population groups and locations, Indians are associated with a significant higher probability of transitioning from the informal sector to the formal sector. Under the lenient approach those who live on farms are significant more likely to transition to the formal sector. Lastly, looking at the household-level variables, being married or having a partner within the household significantly increases the probability of moving to the formal sector by 10% under the strict approach (maybe due to the stability it brings) and having children significantly increases the probability of moving to formal sector under lenient (maybe due to added responsibility and need to find permanent work to support the children).

Next, Table 4.10 presents the results of the multinomial logistic regressions. Note that the base category stands for those who never worked in all four waves. First, as expected, being male significantly increases the probability of being employed (compared to group 1). More precisely, males are 140% more likely to work in the informal sector (for all four waves), six times more like to work in the formal sector (for all 4 waves), 50% more likely to work for at least one wave and less than four waves (but this result is insignificant) and 4.7 times more likely to work in both sectors (for all 4 waves) than their female counterparts.

Being Coloured significantly increases the probability of being in group 2, group 4 and group 5. More precisely, coloured's are 90% more likely to be in group 2, 140% more likely to be in group 4 and 110% more likely to in group 5 than Africans. However, coloureds, whites and Indians are significantly less likely to be in group 3 than in group 1. For instance, whites and Indians are 95% less likely to be in group 3 when compared to Africans. These results depict Africans to be significantly more likely to work in the informal sector for all four waves. An older individual is associated with a significantly greater likelihood of being in groups 2-5, and this probability at an increasing rate the individual ages. Similarly, a more educated individual is significant more likely to belong to groups 2-5 rather than group 1, with the probability increasing at an increasing rate as the more educated the individual becomes. Also, each additional year of education between wave 1 and wave 4 significantly increases the probability of being in group 4 by 27% when compared to group 1.

Living on traditional land decreases the probability of being in groups 2, 4 and 5 (when compared to group 1). An individual living on traditional land is 50% less likely to be a part of group 2, 80% less likely to be part of group 4 and 65% less likely to be part of group 4 when compared to those who lived on more than one type of geographical land. This is expected as traditional land is usually associated with unemployment and informal work. Also, living in the Western Cape increases the probability of working in all four waves (informal/formal or a mixture). The probability increase ranges from 140% (formal only) to 400% (informally only) when compared to those who lived in more than one province.

Table 4.10: Multinomial logistic estimates of grouped final labour market transitions from wave 1 to wave 4

	Relative risk ratio (RRR)			
	Employed for 1-3 waves (Group 2)	Informal sector in 4 waves (Group 3)	Formal sector in 4 waves (Group 4)	Either formal or informal in 4 waves (Group 5)
Gender				
Male	2.4231***	1.4793	7.2113***	5.7734***
Population Group				
Coloured	1.8902***	0.2214***	2.4416***	2.1544**
White	0.6055	0.0470**	2.0715	0.3166
Indian	0.9514	0.0449***	1.6493	0.9269
Age				
Age	1.2453***	1.9784***	2.2280**	1.7901***
Age Squared	0.9971***	0.9911***	0.9899***	0.9923***
Education				
Years of education	0.8489***	0.8474	0.8046**	0.8150***
Years of education squared	1.0188***	1.0151**	1.0395***	1.0290***
Change in Education	1.0416	0.7945	1.2736***	1.0846
Geo-type				
Traditional	0.5074***	0.7095	0.2213***	0.3617***
Urban	0.7157**	1.5254	0.7649	0.7961
Farm	0.7779	5.1498***	1.1708	3.2455***
Province				
Western Cape	1.1176	4.9331**	2.3842*	3.2379***
Eastern Cape	0.8356	1.9235	1.1941	1.2974
Northern Cape	0.7376	3.0969	1.2625	1.5515
Free State	1.2040	1.0214	2.3486*	2.1521*
Kwa-Zulu Natal	1.2939	1.5042	1.3403	1.7700
North West	0.9046	1.1277	1.9256	2.2149*
Gauteng	1.1260	2.3661	2.9675**	2.3717**
Mpumalanga	1.2938	1.9977	2.5298**	2.9325***
Limpopo	1.1032	2.3013	2.4236*	1.9920
Household variable				
Head of household	1.5690***	1.9597***	3.2741***	2.7549***
Married/partner present	0.9880	0.9061	1.3378	1.3012
Number of children	1.0002	0.7566***	0.8980*	0.9105*
Number of elderly	0.9365	0.7963	0.7507	0.8832
Constant	0.0496***	0.0000***	0.0000***	0.0000***
Number of observations	8 595			
Probability > chi-squared	0.0000			
Pseudo R-squared	0.1953			

Source: Own calculations using the NIDS data. Normalising category: never employed (group 1). Omitted/Baseline variables: female, Africans, geo-type changed, province changed, not household head, unmarried or not living with partner

Moving on to the household-level variables, being the head of the household significantly increases the probability of being employed when compared to group 1. Being the head of

the household increases the probability by 55% for being employed for less than 4 waves, 95% for being informally employed (for all four waves), 220% for being formally employed (for all four waves) and 170% for being employed for all four waves across both sectors (when compared to those who have no employment). Finally, the presence of more children in a household significantly decreases the probability of falling under groups 3, 4 and 5.

4.4 Conclusion

One has seen that less than quarter of the sample were employed for all four waves. Of those who were employed for all four waves slightly less than a half moved between the informal and formal sector. Amongst the RF, RI and E4M groups, the RI group has the highest proportion of Africans, the E4M group the highest proportion of coloureds and the RF group the highest proportion of whites and Indians. Both the RF and E4M groups were male dominated (over 50% male proportion) while the RI group was female dominated. In terms of education the RF group is the most educated and comprises of the highest proportion of those with degrees and diplomas, this is followed by E4M group and lastly by the RI group. These educational differences are reflected in the RF group having the highest average earnings amongst the three groups with the largest absolute gains in earnings and education between waves 1 and wave 4.

The probit regressions further back the descriptive observations, it reveals being a male significantly increases the likelihood of finding and maintaining work. Being a male also significantly increases the probability of finding formal employment. The results were similar for education (except for the non-linearity of the relationship), increases to years of education significantly increased the likelihood of finding and maintaining employment and progressing to formal employment.

The multinomial logit regressions also further back the descriptive statistics, one finds that being a male significantly increases the probability of working in the formal sector for all waves or moving between the informal and formal sector for all waves (the probability being highest for the former group). The regression also reveals Africans to be significantly more likely employed in the informal sector for all waves. Again, education plays a positive role in ensuring employment for all waves, but only in the case of being formally employed for all waves does the change in education significantly increase the likelihood of being formally employed for all four waves.

CHAPTER FIVE: CONCLUSION

5.1 Introduction

This chapter is an overview of the entire study. It highlights key researched components and findings in this study (based on chapters 2-4). It compares the study's findings to the premises introduced in chapter 1, highlights limitations of the study, recommendations based on the study and any policy implications based on the study.

5.2 Review of findings

The study started with reviewing the conceptual definitions in chapter 2. It started by reviewing the development of the concept in 1970's to its formal definition in the 1990s and 2000s by the ILO. Chapter 2 then discusses the types of linkages (e.g. forward and backward linkages) and labour market segmentation before reviewing the theoretical framework. The key theories reviewed are types of unemployment that exist in a competitive labour market, the impact of the union on the informal and formal sector, insider-outsider model and lastly the informal/formal sector models (e.g. Dualistic Labour model). The last part of Chapter 2 reviews past empirical studies. It starts by defining and comparing other methodologies of

defining the informal sector (e.g. Heintz & Posel method) to the Stats SA methods. This is followed by examining studies on the informal-formal linkages by reviewing studies that are relevant to the empirical analysis of this study. The last part of the empirical analysis reviews some of the barriers to entry to the informal and formal sector and the government policy and programs that are in place to aid the informal and formal sector.

Chapter 3 sets up the econometric analysis in chapter 4 as it introduces the methodology, data and limitations of the study. The methodology specifically introduces how informal and formal are defined for this study, proportional labour market matrix transitions, descriptive analysis based on defined final labour market statuses, probit regressions on transitions in and out of employment and formal employment and lastly a multinomial logistic regression on group labour market categories.

Reviewing the econometric analysis one finds labour churning was quite high; the proportional transitional matrices showed the formal labour market status to be the most stable state with a high probability of remaining employed (even formally employed). This supports the idea being formal is the more preferred labour market status (except maybe in some developing countries like Brazil and Mexico where wage compensation to the informal self-employed can exceed their formal counterparts). Not surprising the inactive labour market state was the most undesired labour market state as the likelihood of employment was the least amongst all labour market statuses considered. Being unemployed related to a 50% chance of finding employment while being informal related to a 50% chance or remaining employed

The initial descriptive statistics seemed to indicate the sample become more educated with employment figures increasing as unemployment decreased However, the probit regressions revealed education to have a convex relationship in increasing the likelihood of being employed, remaining employed and transitioning to formal employment. It is only the change in education relative to each individual which increased the probability of finding formal employment under both lenient and strict approach. This could suggest that reservation wages are high for those who are inactive and unemployed as individuals prefer to wait for opportunities in the formal sector. Two other covariates which positively increased the probability of employment and remaining employed were the male and head of household dummy variables. In fact, being male positively increased the probability of transitioning to the formal sector suggesting gender discrimination might exist. Other factors which favoured a transition to the formal sector were living on farm land and having children under the lenient approach and being the head of a household and living with a wife/husband/partner under the strict approach. Both the labour churning and probit analysis satisfy the primary objective of this study

As a means to satisfy the secondary objective of this study, final labour market statuses were created with emphasis around individuals who were employed for all four waves either informally (RI), formally (RF) or both (E4M). The descriptive statistics revealed the RF group to be richer, more educated, urban and male dominated while the RI group was female dominated and the least educated amongst all final labour statuses ((if one excludes those who remained inactive for all four waves). The analysis was extended by grouping final labour market statuses into five groups: those who were never employed, those never employed for more than three waves, those informally employed for four waves, those formally employed for four waves and those employed between both the informal and formal sector for four waves. Using the same covariates utilised in the probit analysis, a multinomial logistic regression was conducted. One found the probability of males and coloureds to be in all employment categories to be larger than that of females and Africans (except in the case of

those employed informally for all waves where being African had a higher probability). In fact, whites and Indians too are least likely to be informally employed for all four waves when compare to Africans. Again, this supports the notion the informal sector consists mostly of African females. The household variables revealed that being a head of the household will increase the probability of being in an employment category but having children will decrease the probability of being employed in all four waves.

5.3   Conclusion

This study has attempted to provide a better understanding on the differences and links between the informal and formal sector in terms of theory, descriptive and analytical statistics. The limitations discussed in chapter 3 could be addressed by NIDS including new questions in future surveys examining the non-labour, forward and backward linkages between the informal and formal sectors. In order to more accurately identify the formal and informal sectors, NIDS could also adopt an official methodology similar to Stats SA on the QLFS data. This will allow for a more accurate empirical analysis.

One has observed almost half of the sample to have interacted with the informal sector and only a small percentage have remained informally throughout the investigation. One has also observed that African females to be more likely part of the informal sector. The empirical findings seem to suggest the informal sector plays decent role to the South African economy with bias towards males and certain population groups present in the formal sector. In order to address these issues, it would be important for government to hastily assist in the removal of barriers of entry to the informal sector or to promote informal business development by either assisting in its formal transformation or long-term sustainability.

REFERENCES

Alderslade, J., Talmage, J., & Freeman, Y. 2006. *Measuring the Informal Economy: One Neighborhood at a Time*. Washington DC: Brooking Institution, Metropolitan Policy Program.

Altman, M. 2008. *Formal-Informal economy linkage*s. Pretoria: Human Sciences Research Council (HSRC).

Anand, R., Siddharth, K., Kumar, N. 2015. *South Africa: Labor Market Dynamics and Inequality*. Paper presented at the Economic Society of South Africa (ESSA) Conference, Cape Town, 2-4 September.

Arimah, B.C. 2001. Nature and determinant of the linkages between informal and formal sector enterprises in Nigeria. *African Development Review. 13(1)*: 114-144.

Arvin-rad, H., Basu, A.K. & Willumsen, M. 2010. *Economic Reform: Informal-Formal Sector Linkages and Intervention in the Informal Sector in Developing Countries*: A *Paradox*. IZA Discussion Paper No. 5229. Bonn: Institute for the Study of Labor (IZA).

Banerjee, A., Galiani, S., Levinsohn, J. & Woolard, I. 2006. *Why has unemployment risen in the new South Africa?* Working Paper 134. Harvard: Centre for International Development (CID), Harvard University.

Bangasser, P.E. 2000. *The ILO and the informal sector : an institutional history*. Employment Paper 2000/9. Geneva: International Labour Office (ILO).

Bargain, O. & Kwenda, P. 2010. *Is Informality Bad? Evidence from Brazil, Mexico and South Africa*. IZA Discussion Paper No. 4711. Bonn: Institute for the Study of Labor (IZA).

Barker, F. 2007. *The South African Labour Market Theory and Practice*. 5th edition. Pretoria: Van Schaik Publishers

Becker, K. F. 2004. *The Informal Economy.* Stockholm: Swedish International Development Cooperation Agency (Sida), Department for Infrastructure and Economic Co-operation.

Borjas, G. 2008. Chapter 9: Labor Mobility. In Borjas, G., *Labor Economics*. 4th edition. New York: McGraw-Hill Irwin: 321-364.

Budlender, D., Buwembo, P., Chobokoane, N. & Shabalala, N. 2001. *The informal economy: statistical data and research findings; country case study: South Africa*. Manchester: Women in Informal Employment Globalising and Organising (WIEGO).

Chandra, V., Nganou, J., & Noel, C. 2002. *Constraints to Growth in Johannesburg Black Informal Sector: Evidence from the 1999 Informal Sector Survey*. World Bank Report No. 24449-ZA, Washington, DC: The World Bank

Chen, M.A. 2007. *Rethinking the Informal Economy : Linkages with the Formal Economy and the Formal Regulatory Environment*. World Institute for Development Economic Research Paper 2005/10. Helsinki: World Institute for Development Economic Research.

Chen, M.A. 2012. *The Informal Economy: Definitions, Theories and Policies.* WIEGO Working Paper No.1. Cambridge: Women in Informal Employment Globalising and Organising (WIEGO).

Cichello, P., Leibbrandt, M. & Woolard, I. 2014. Winners and losers: South African labour-market dynamics between 2008 and 2010. *Development Southern Africa*. 31(1): 65-84.

Devey, R., Skinner C. & Valodia, I. 2005. *Second Best? Trends and Linkages in the Informal Economy in South Africa*. School of Development Studies Working Paper No. 06/102. Durban: University of Kwa-Zulu-Natal.

Devey, R, Skinner, C & Valodia, I. 2006. Definitions, Data and the Informal Economy in South Africa: A Critical Analysis. In Padayachee, V. (ed.): *The development decade? Economic and social change in South Africa, 1994-2004*. Cape Town: Human Sciences Research Council Press: 302-323.

Devey, R. Skinner, C and Valodia, I. 2003. *Human Resource Development in the Informal Economy*. Cape Town: Human Sciences Research Council (HSRC).

Essers, D. 2014. *South Africa labour market transitions during the global financial and economic crisis: Micro-level evidence*. Working Paper 2014/115. Helsinki: World Institute for Development Economic Research.

Essop, H. & Yu, D. 2008. *Alternative definitions of informal sector employment in South Africa*, Stellenbosch Economic Working Papers 21/8 Stellenbosch: Stellenbosch University.

Fields, G.S. 1975. Rural-Urban Migration, Urban Unemployment and Underemployment, and Job Search Activity in LDC's. *Journal of Development Economics.* 2(2): 165–188.

Fourie, F. 2012. *The South African Unemployment Debate: Three Worlds, Three Discources?* SALDRU Working Paper 63. Cape Town: Southern African Labour and Development Research Unit (SALDRU), University of Cape Town.

Fryer, D. 2013. *Informality in the South African labour market in context: indicators of the limits to evidence-based research?* Institute of Social and Economic Research Working Paper Series No. 7. Grahamstown: Institute of Social Economic Research.

Harris, J. & Todaro, M. 1970. Migration, Unemployment and Development: A Two-Sector Analysis. *The American Economic Review*. 60(1): 126-142.

Hart, K. 1973. Informal income opportunities and urban employment in Ghana. *Journal of Modern African Studies*. 11(1): 61-89.

Heintz, J. & Posel, D. 2008. Revisiting informal employment and segmentation in the South African labour market. *South African Journal of Economics.* 76(1): 26-44.

International Labour Organisation (ILO). 2002. *Decent Work and the Informal Economy*. Geneva: International Labour Organization.

Kay, D.D. 2011. *The relationship between formal and informal employment in South Africa.* Unpublished Master's thesis. Champaign-Urbana: University of Illinois.

Kanbur, R. 2011. Avoiding informality traps. In Ghani, E. (ed.), *Reshaping Tomorrow: Is South Asia Ready for the Big Leap.* Oxford: Oxford University Press: 260-278.

Kingdon, G. & Knight, J. 2001. *Why high open unemployment and small informal sector in South Africa*. Oxford: Centre for the Study of African Economies (CSAE).

Kingdon, G. & Knight J. 2004. Unemployment in South Africa: The Nature of the Beast. *World Development*. 32(3): 391-408.

Kingdon, G. & Knight, J. 2007. *Unemployment in South Africa, 1995-2003: Causes, Problems and Policies*. Working Paper 10/5. Bonn: Institute for the Study of Labor (IZA).

Horn, Z.E. 2009. *No Cushion to Fall Back On: The Global Economic Crisis and Informal Workers.* Cambridge, MA: Inclusive Cities Study.

Laing, D. 2011. *Labour Economics: Introduction to Classic and the New Labour Economics.* 1st edition. New York: W.W. Norton & Company Incorporated.

Moser, C. 1978. Informal sector or petty commodity production: dualism or dependence in urban development. *World Development*. 6(9-10): 1041-1064.

Magruder, J.R. 2012. High unemployment yet few small firms: The role of centralized bargaining in South Africa. *American Economic Journal: Applied Economics*. 4(3): 138-166.

Meagher, K., 2013, *Unlocking the Informal Economy: A Literature Review on Linkages between Formal and Informal Economies in Developing Countries*. WIEGO working paper no. 27. Cambridge: Women in Informal Employment Globalising and Organising (WIEGO).

Naidoo, D., Van Aardt, C.J. & Ligthel, M. 2004. *A Linkages between the formal and informal sectors in South Africa: An input-output table approach.* Pretoria: Bureau for Market Research, University of South Africa.

Nattrass N. 2000. Inequality, Unemployment and Wage-setting Institution in South Africa. *Studies in Economics and Econometrics*. 24(3): 129-142.

Pagura, M. & Kirsten, M. 2006. Formal-Informal Financial Linkages: Lessons from Developing Countries. *Small Enterprise Development*. 17(1): 16-29.

Portes, A. & Schauffler, R. 1993. Competing Perspectives on the Latin American Informal Sector. *Population and Development Review*. 19(1): 33–60.

Rodrik, D. 1998. *Has Globalization Gone Too Far?* Washington, DC: Institute for International Economics.

Singer, H.W. 1970. Dualism Revisited: A New Approach to the Problems of Dual Society in Developing Countries. *Journal of Development Studies*. 7(1): 60-75.

Skinner, C. 2005. *Constraints to growth and employment in Durban: evidence from the informal economy*. Research Report Number 65. Durban: School of Development Studies.

Skinner, C. 2006. *Micro-Economic Development Strategy (MEDS) Round 3: Informal Economy Study*. Cape Town: Department of Economic Development and Tourism

Tattara, G., Valentini M. 2004. *Labour churning and employment to employment flows: Long term dynamics in Veneto.* Nota di lavoro n.8. Venezi: del Dipartimento di Scienze Economiche, dell Università Cà Foscari di Venezi.

Thomas, J. 2001. What is the Informal Economy Anyway? *School of Advanced International Studies Review*. 21(1): 1-11.

Valodia, I. and Devey, R. 2011. Formal, informal economy linkages: Implications for poverty in South Africa. *Law, Development and Democracy*. 14(1): 133-158.

Weeks, J. 1975. Policies for expanding employment in the informal urban sector of developing countries. *International Labour Review*. 111(1): 1-13

Xaba, J., Horn, P., & Motala, S. 2002. *The Informal Sector in Sub-Saharan Africa*. ILO Working Paper on the Informal Economy, Employment Sector. Geneva: International Labour Organization (ILO).

Verick, S. 2010. *Unravelling the impact of the global financial crisis on the South African labour market*. Employment Working Paper No. 48. Geneva: International Labour Organization (ILO).

World Bank Group. 2016. *Doing Business: Economic Profile 2016 South Africa,* Washington DC: The World Bank.

Yu, D. 2010. *Defining and measuring informal employment in South Africa : A review of recent approaches*. Stellenbosch Economic Working Papers 09/10 Stellenbosch: Stellenbosch University.