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The Informal Sector and Formal Competitiveness in Senegal

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Abstract

The purpose of this paper is to investigate the informal sector of the Senegalese economy with focus on the relationship with formal sector competitiveness. The paper is based on three research questions.

1. What are the characteristics of the informal sector in Senegal?
2. What are the linkages, similarities and differences between the formal and informal sector?
3. How can formal sector competitiveness be improved by actions in the informal sector?

The answer to the first question makes it clear that informal sector businesses are small in size, number of employees, financial capital and thus output. It is also clear that the informal sector is rather heterogeneous. This knowledge enables the investigation of the second research question. These answers are related to the different components used when assessing competitiveness in an economy: (i) governmental performance and institutional quality, (ii) GDP and trade performance, (iii) the exchange rate, (iv) the labour force and production costs and (v) infrastructure. Finally, the third research question is addressed. There appear to be both synergetic and counteracting effects between the two sectors with respect to overall economic competitiveness. However, the counteracting effects seem to be dominating and, in the end, the informal sector needs to be diminished in order for formal sector competitiveness to be improved. Furthermore, the results obtained throughout the paper give clear indications why the informal sector is of such magnitude. It also becomes clear in what areas the main problems are to be found. Thus, the policy actions suggested in order for the informal sector to be diminished and formal competitiveness to be improved are (i) eased entry to the formal sector by re- and deregulations, (ii) a more encouraging taxation system in order to improve the quality and quantity of public goods, (iii) easier access to financial capital among small-scale producers, (iv) a labour market that makes education profitable and (v) proper wages rates.

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Abbreviations

ADF	Augmented Dickey-Fuller
ANSD	Agence Nationale de la Statistique et de la Démographie
BRS	Banque Régionale de Solidarité
DPEE	Direction de la Prévision et des Etudes Economiques
DIAL	Développement Institutions & Analyses de Long Terme
ECOWAS	Economic Community of West African States
EREER	Equilibrium Real Effective Exchange Rate
FCFA	Franc Communauté Financière Africaine (655 FCFA=1 EURO)
FDI	Foreign Direct Investment
HIPC	Highly Indebted Poor Country
ICS	Investment Climate Survey
ILO	International Labour Organization
IMF	International Monetary Fund
OAU	Organization of the African Unity
OHADA	Organization for the Harmonization of Business Law in Africa (Organisation pour l'Harmonisation en Afrique du Droit des Affaires)
PRSP	Poverty Reduction Strategy Paper
REER	Real Effective Exchange Rate
SDR	Special Drawing Rights
SSA	Sub-Saharan Africa
UEMAO	Union Economique et Monétaire de l'Afrique de l'Ouest
WAEMU	West African Economic and Monetary Union (aka UEMAO)
WB	World Bank
WDI	World Development Indicators
WEO	World Economic Outlook

1. Introduction

This paper addresses the issue of informality and the extensive presence of an informal sector in Senegal. The paper also concerns the competitiveness of an economy and how this is related to the presence of an informal sector. The concept of *informality* was introduced for the first time by the International Labour Organization (ILO) in 1972. The definition used at that time was a “way of doing things characterized by (a) ease of entry; (b) reliance on indigenous resources; (c) family ownership; (d) small scale operations; (e) labour intensive and adaptive technology; (e) skills acquired outside of the formal sector; (g) unregulated and competitive markets”. As will be shown in this paper, this definition still holds.

Competitiveness can be defined as “the ability of a country to operate efficiently and productively in relation to other countries while keeping living standards for its citizens high” (OECD). In other words, for a country to be competitive on the international market it must produce goods and services with quality and costs that meet the demand of an international market. This enables long run real GDP growth of the economy, technological advancements, continuous real income increase for its citizens and thereby a continuously strong competitive position. Unfortunately, the concept of informality and the concept of competitiveness appear to have few synonyms. In a vast majority of the developing countries, the informal sector is of significant size, thereby reducing the country’s economic competitiveness.

Assessing competitiveness of the formal sector in a developing economy cannot be done without understanding the reason for the extensive presence of the informal sector. “One must know the enemy in order to defeat him”. The purpose of this paper is to get a deeper understanding of the components and functions of the informal sector in order to understand what must be done to reduce its magnitude when aiming to improve the competitiveness of formal sector activity.

The study is focused on the specific case of Senegal. The country has shown a positive democratic development ever since independence in 1960. Also economically, Senegal has progressed well in relation to its neighbouring countries even though it is still far from satisfying. The informal economic activities in Senegal are still increasing at a growth rate larger than that of the formal sector. This phenomenon seems most interesting and raises the question why entrepreneurs end up in the informal sector to a larger extent than in the formal

one. Consequently, my intention in this paper is to look into the dynamics of the informal versus formal sectors. Only when this is well understood, can competitiveness of the formal sector be assessed and policy actions designed. Once there, the formal sector can be competitive in relation to the informal sector and of course to the rest of the world.

Thus, the research questions can be summarized in the following three points:

1. What are the characteristics of the informal sector in Senegal?
2. What are the linkages, similarities and differences between the formal and informal sector. Do they have an inbuilt competitiveness, do they cooperate or are they autonomous?
3. How can formal sector competitiveness be improved by actions in the informal sector?

The paper is outlined as follows. Section 2 is devoted to the theoretical background. First, a discussion of the informal sector covers three theoretical perspectives. This is followed by a discussion on other aspects of informality. Section 3 starts with an introduction of the informal sector of the Senegalese economy. Thereafter, research question number 1 is discussed as the characteristics of the informal sector are investigated. Section 4 covers research question number 2 by comparing the formal and informal sector. In section 4.2, this is done econometrically by looking at formal and informal returns to scale. Section 5 briefly discusses the components used when assessing competitiveness in an economy. Section 6 is devoted to an analysis of research question number 3. Section 7 presents reflections on the findings and concludes the work.

2. The Informal Sector - Theoretical background

The informal sector is defined as all production units; industry, retail and services, that are not registered at the Chamber of Commerce and do not apply labour laws (Guha-Khasnobis et. al 2007:47). The following section is devoted to a theoretical overview of several different perspectives of the informal sector characteristics.

2.1 The Informal Sector

2.1.1 The Informal Sector from Three Perspectives

According to ILO estimates, the informal sector in some undeveloped regions absorbs as much as 60% of the urban labour force. In a study by La Portia & Schleifer, 2008, they show that the informal sector in an undeveloped economy averages about 30% of total output. Other studies have estimates up to 50%. The authors define the basic characteristics of the informal sector as usually low productivity due to low levels of skills, irregular earnings and lack of access to financial assets, information, markets and technology.

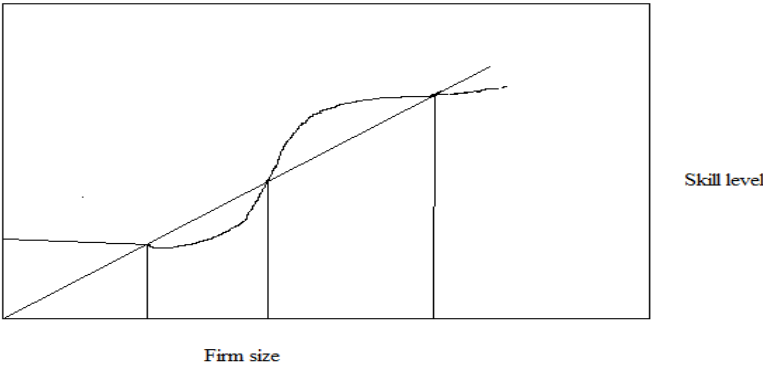
In their recent paper, La Portia & Schleifer present three alternative views of the developmental role of informal firms in an economy. *The Romantic view* argues that informal firms do have potential of being really productive; they are tied to involuntary informality due to lack of finance, bureaucratic paper walls, governmental regulations, high taxations, etc. The romantic view proposes that a majority of informal firms are essentially of the same set up as formal firms, they just had the bad luck of being born on the side where the grass was not as green as on the other. If correctly helped by governmental policies and regulations, these firms would have more or less the same characteristics as entrepreneurs already in the formal sector in terms of returns to human capital, labour conditions and so on. The suggested transitional help could for example be in the form of micro credits, governmental subsidies and/or eased tax burden.

In complete contrast to the romantic view, supporters of *the Parasite view* see the reason for informality as mainly based on illegality. The informal firms need to stay small in order to avoid detection and may thus not be able to benefit from scale advantages. However, the “substantial cost advantage that informal companies gain by avoiding taxes and regulations more than offsets their low productivity and small scale” (Farrell, 2004 in La Portia &

Schleifer, 2008). The informal firms are parasitic in the sense that they hurt growth both by being less productive, by stealing market shares from formal firms and escaping from taxation and regulations. Thereby, informal firms charge lower prices for more or less identical products to formal firms, hence further distorting a creative competitiveness process.

The Dual view bases its assumptions on the Big Push-theory and the importance of an institutionally initiated transition from informal to formal sector-based production (Ray, 1998:116). According to the Dual view, informality counts for non-productivity, but unlike the Parasite view, the Dualists do not see any competition between formal and informal firms. Productive entrepreneurs are assumed to manage formal firms at the higher level of the multiple equilibria presented in figure 1. As formal firms tend to be larger and more productive than informal firms, they generate greater volumes of sales. They are thereby less affected by fixed regulatory costs or taxation.

Figure 1. Multiple Equilibria



Source: Ray, 1998:116.

Unlike the Romantic view, hoping informal firms will turn formal, the Dualists are of the belief that the only way to change the informal-formal sector composition is to initiate an economic development process such that the informal firms automatically die and new firms are born in the formal sector. The thoughts of the Dualistic viewers are linked to Schumpeter’s idea of entrepreneurship as an important contributor to economic growth.

Entrepreneurs drive both the formal and the informal economy. The creative entrepreneurial spirit almost seems to be higher in the informal than in the formal sector. In the formal sector, only political and economic connections sometimes appear to be sufficient in order to open up

a firm. Schumpeter stated that the entrepreneurial spirit has an important role in economic development through its role in the process of *creative destruction*. This concept implies that non-profitable and inefficient producers are sorted out, leaving room for more creative and efficient production (Ray, 1998). Thus, in an economy where regulations create a barrier to entrance into the formal sector, the dynamism of this process is limited. Likewise, the process meets hindrance if formal sector firms are helped out by subsidies. Conclusively, the economy faces a major obstacle in striving towards economic development.

2.1.2 Operating in the Hidden

As already noted, the informal sector consists of firms operating in the hidden. That is, firms are informal in the sense that they are not registered, they do not employ workers by legal contractual forms giving them the right to social security benefits, etc. Nevertheless, these *hidden firms* can operate as official firms regarding production and merchandizing. One could also look at the informal sector as a phenomenon of *hidden output*, which is omitted from registration and thereby left out of output based taxation. This hidden output could of course originate from informally as well as formally operating businesses (La Porta & Schleifer, 2008). It is unlikely that all hidden firms would turn visible over a night. Rather, it is desirable that as the economy develops, the transitional process of decreasing the informal sector while strengthening the formal one goes from hidden firms to officially operating businesses through a period where the *output* is hidden rather than the *firms*. In that way, the tax based production is sequentially increased, social welfare can be improved and economic growth is likely to increase.

2.1.3 The Cost of Being Formal and the Cost of Not Being Formal

In order for an informal sector to at all exist, there need to be benefits greater than disadvantages when operating informally rather than conduct a proper official registration. In countries where formal firms are of minor importance to the economy, the cost of becoming formal is obviously too high. Registration processes and the like are too complicated and, on many occasions, the demanded amount of financial capital is unreasonably large for a small-scale entrepreneur. The seminal study by De Soto, where he investigated the time- and money-consuming process of starting up a business in Peru, clearly shows the complexity of becoming formal. This has also been shown by Djankov in his research resulting in *the Doing Business Report*, a project launched by the World Bank. This project presents a large amount

of measurements on business regulations in 181 countries (Djankov 2008). Particular data on Senegal will be presented further in the text.

Once the process of *becoming* a formal firm is passed, it must be profitable to *stay* so. Taxation on production, payroll tax, social insurances etc. must be set on a reasonable level. Further, it must not be too complicated to follow laws and regulations. Also infrastructure must be at a satisfactory level or production and transportation costs will probably be unreasonably high. Even though there might be a great effort to start up and run an official firm, there are of course great benefits as well. Formal firms have easy access to financial markets with a possibility to get credits when wishing to increase investments. Being formal also includes better access to public goods as well as publicity. An example brought up by La Porta & Schleifer (2008) is that formal firms have the ability to use the legal system in a way informal firms may not. The ability to benefit from property right legislation and other related issues is a clear advantage to formal firms.

2.1.4 Magnitude is Important

The size of the informal sector is assumed to be negatively correlated to per capita income. This is explained by the basic fact that the existence of an informal sector is linked to the degree of economic development of the country. The informal sector tends to be relatively labour intensive compared to the formal sector, which usually has a higher capital-to-labour-ratio. Because of this, poorer countries with a generally low capital-to-labour ratio find it more profitable to avoid labour laws, consequently operating informally.

The size of informal firms and their low productivity could be endogenously explained as studies show that high quality managers, who are better educated firm owners, are more willing to go through the governmental registration procedure and to pay tax. This, because they find a cost benefit in being able to advertise in public, to enjoy access to financial markets, etc. Low quality managers, on the other hand, lack the ability to efficiently draw benefits from being formal (La Porta & Schleifer, 2008). Being informal, the lower level of productivity limits the potential size of the firm. This brings the thoughts back to the Dual view and the multiple equilibria of section 2.1.1. The reasoning leaves us with at least a hint of understanding why formal firms tend to be bigger and more productive than informal firms.

2.1.5 Human Capital

Human capital is a crucial feature in overall productivity and can thus indubitably be considered a central attribute to the process of economic development. As productivity is proved to be much higher in the formal sector, its domination of the national economy is crucial to obtain sustained growth. As concluded above, higher productivity is related to higher skilled managers, but this also applies to workers. Improving the level of human capital is endogenously linked to the competitiveness of the formal sector and thereby economic development.

Informal workers in urban areas with low levels of human capital cannot benefit from the potentially higher level of available technology. Thus, as the informal sector is as big as it is, this reduces the speed at which the economy narrows the technological frontier. In other words, the growth rate of the economy towards its potential steady state is partly dependent on the quality of human capital and its distribution between formal and informal activities, as pointed out by, among others, Acemoglu and Zilibotti (2001).

2.1.6 Informality – not all evil

Nonetheless, it is important to consider the fact that the existence of the informal sector is not necessarily of complete malevolence. Despite being an impediment to growth, the informal sector is the second best option. It is a provider of work and to billions of people it is the only available source of income as the economy provides no other alternative to an acceptable life. Regardless of the fact that these firms are unofficial and thus in a sense illegal, they do, at least to some extent, add to national GDP. Being somewhat of a “hot topic”, microfinance and credit availability to small-scale entrepreneurs can be considered a desirable strategy of keeping these informal firms afloat and providing them with means in order to improve productivity. Whether its existence is desirable or not, in a broad perspective the informal sector does to some degree function as protection from the absolute lowest level of poverty.

One could also argue that the informal sector also works as an opportunity for women to get a paid job. The informal sector is actually the main provider of urban employment in most developing countries. Extensive research in the field of development economics shows that an improved position of women with increased bargaining power and opportunities is highly

correlated to increased economic performance (see e.g. Todaro & Smith, 2006). Unless one is a believer of the Parasite view discussed above, the informal sector activity does not impose a great threat to the formal sector. It should thereby be harmless to support the firms currently operating in the informal sector, especially if you share beliefs with the Romantics who suggest that these firms actually could turn formal.

Another argument suitable to invoke under this heading concerns the ability of the informal sector to be a buffer in times of economic instability. Let us use the current financial crises as an example. As the informal sector lacks access to the financial market, it is considerably less affected by the instability and reduced profitability of financial assets. While the formal sector is struggling with financial loss, repayment issues, increasing production costs and increasing stock of supplies due to reduced demand, the informal sector continues its business comparatively unaffected by the exogenous shock. The buffer effect of informality is evident. It is still debated whether the informal sector could be referred to as an economic lever or if that would be to stretch it too far. The relative strength of the informal sector is increased over periods characterized by negative exogenous shocks. It is not verified if the overall growth of the informal sector is procyclical or countercyclical (Échevin & Murin 2008). It must however be pointed out that the informal sector in some cases is a provider of intermediary goods to the formal sector. When this is the case, also the informal sector will inevitably be hurt when the formal economy experiences a slowdown (Marjit, 2003).

2.1.7 Summary

This section has discussed some key features of the informal sector. Three different views on the informal sector have been considered (*the Romantic*, *the Parasite* and *the Dual* view). According to the first two of these views, there actually exists an outspoken competitiveness between the formal and informal sector. Further, productivity seems to be linked to firm size, access to financial capital and level of human capital. These are all higher in the formal sector. It seems thus evident that, in order for an economy to perform sustainable growth, the formal sector must dominate. Nevertheless, one should not disregard the fact that the informal sector actually is a large provider of work to women and a buffer in times of economic instability.

3. The Informal Sector in Senegal

At a first glance at the development of average work productivity in Senegal over the years, one could mistakenly believe that the economy is on the right track towards a higher level of development. Economically, the country has reached further than the average West African region, but a closer look at the economic components makes this bright picture a bit cloudier. There is a tremendous difference between the formal and informal sector in Senegal, not only size-wise but also regarding type of business, wages and working conditions, gender composition, etc. These characteristics will be addressed further in this section. First, a temporal overview of the economic situation and the informal sector development in Senegal are presented.

3.1 Development of the Informal Sector Over Time

The growth of the Senegalese informal sector, leading to the current situation, emerged in the 1970s when reduced agricultural returns resulted in lower profitability and fewer investments in the sector. This economic backlash combined with a rapidly rising inflation caused economic recession. The oil shock of 1974 added to the series of external shocks hitting the economy. Increased official unemployment more or less forced people into unofficial businesses, escaping taxation and regulatory delays. The government turned a blind eye to them. With the results in hand, it is easy to be wise afterwards. If macroeconomic policy had been different at the time, the sudden growth of the informal sector could have been restricted. This downturn period, up until the mid 80s, is logically denoted by Azam et al (2007) as “*the instability phase*”.

The situation worsened during the 80s due to among other things severe drought contributing to further deterioration of economic conditions. A previously rather hopeful economic development with increasing trade resulting in an inflow of foreign capital was now overshadowed by a steadily increasing informal sector conquering the trade sector. This resulted in a structural adjustment program initiated by the World Bank and the IMF in striving to take the official economy onto the right track again. Trade was liberalized and privatization became more accepted. The most recent reform is a decentralization of the financial system. By the time these reforms came into force, the situation had already caused

a large distortion of the market. Especially the trade sector had been severely hit, resulting in deprived international competitiveness. Meanwhile, the informal sector kept growing. In 2000 it counted for as much as 43% of GDP (Brautigam et al. 2008). Despite impressive governmental willingness to reform, authorities failed in cutting public sector wage bills. Not only did the overpayment of governmental officials consume an unhealthily large part of the fiscal budget, it also functioned as a driving force towards higher wages in the overall formal sector. This period of time, characterized by governmental efforts to stabilize the real side of the economy is called “*the real-side structural adjustment phase*” by Azam et al. (2007).

“*The post-devaluation phase*”, the third phase of the recent economic history of Senegal, followed after January 13, 1994 when the CFA franc was devalued by 50%. The CFA franc was at that time pegged to the French franc. Due to an appreciation of the French franc vis-a-vis the dollar, countries using the CFA franc experienced an overvaluation of their currency. Since 1999, the CFA franc has been pegged to the Euro.

The devaluation caused an immediate boost of public investments. The official real wages fell, as nominal wages were kept unchanged. This freed public resources used to finance an increased number of public investments. This public investment boom created an increased interest in investing in the private sector. However, the private investment boom lagged a couple of years. This can to some extent be explained by the fact that private investors in general are more risk averse and hence wanted to see how the public sector would react to the devaluation and what macroeconomic policies would be conducted by the government. This lag actually appeared to be rather favourable as it prolonged the immediate booming effect after the devaluation. It helped the Senegalese economy to survive through the recession of the 1980s relatively unaffected compared to the other countries of the Economic Community of West African States (ECOWAS). All in all, the joint effects of the increased public and private investments were higher growth, improved terms of trade and reduced poverty. National figures show that after the devaluation, the share of people living in poverty declined to some 57% from some 68%, which was the pre-1994 figure (Azam et al. 2007). It is however of great importance to point out that the reduced poverty was not at all equally distributed across the country. The Sahel-region suffered from severe drought over several years, resulting in declining output and revenues. Hence, as the devaluation caused an initial drop in real prices, it resulted in an actual negative effect on the rural regions. Nevertheless, it had a boosting effect on the overall economy. The industrial, the manufacturing and the service sectors (that is the urban region) enjoyed the greatest benefit. This accounts for

especially private investments, which were mainly focused on the urban trading sector. As a result, urbanisation increased rapidly, adding to the already growing informal sector.

3.2 Characteristics of the Informal Sector of Dakar

Being informal, this sector is hard to study as no regular official data is available. There is however at least one study that digs rather deep into this issue. DIAL (Développement Institutions & Analyses de Long Terme) has conducted a three-phase study (1-2-3) where phase 2 focuses on the informal sector in the capital cities of the seven member states of the West African Economic and Monetary Union (WAEMU). This extensive work was done over the years 2001 to 2003. The definition used for the informal sector is; all units of production that are not administratively registered and/or do not have written accountancy. As this paper concerns Senegal and Dakar in particular, this is the data that will be mainly considered.

3.2.1 Characteristics of Production Units

In order to get as clear a picture as possible, the overall informal sector is structured into three branches: Industry, commerce and services. The largest part is constituted by commerce (also including services), which covers 68.9% of the informal sector, while the industry consists of 31.1%. These figures are by no means particular for Dakar. The other six cities included in the 1-2-3-study show the same pattern.

The average middle age of an informal business in Dakar is nine years, which is actually two years higher than the overall survey average but still far from compatible with e.g. a European firm. Looking at the age spread of the production units, 25% were created after 1999 while only 5% derive from 1980. An interesting feature, when considering the three branches separately, is that firms in the industrial subsector are the most numerous among the older businesses in the overall selection. Considering age and capital intensity, it is not surprising that older firms are the most capital intensive. As industry tends to be a capital intensive business, these results go hand in hand. One could also conclude that longer survival results from a more efficient use of capital. Commerce, on the other hand, outnumbers both industry and services by double when considering the younger production units. This could visualize the observed belief that the informal commercial sector is a preferable way of earning a living, a belief common among the young and uneducated work force. This will be further discussed in the following paragraph.

Only around half of all the informal production units have access to electricity, water and/or fixed location. Based on the above reasoning, it is assumable that the industrial subsector dominates the part that benefits from these resources. Regarding the commercial part of the informal sector, a vast majority (75%) of the businesses do not have a fixed location. Retailers might choose to refrain from the expense of a fixed location, aware of the short life of their businesses. Or the other way around; due to lack of a fixed location, the businesses are unable to survive. A third option is that the commercial businesses are conducted at markets, in the streets or from a trolley, because this is simply the most profitable way and thus a fixed location is not needed.

3.2.2 Characteristics of the Work Force

The average production unit in the informal sector of Dakar employs no more than 1.5 persons. Dividing the sector into the three branches; industry, commerce and services, occupy 2.0, 1.2 and 1.6 persons, respectively. Presented another way, 74% of all production units are self-employed while only 7% employ more than three people. As already mentioned, the number of units is huge. Thus, despite the low number of employees per unit, the informal sector is still the main provider of work opportunities in Dakar.

It is clear that one of the reasons for being informal is to escape bureaucratic procedures, taxes and labour law. In statistics, this is visualized by the fact that only 2.4% of the informal sector employees (self-employed not included) in Dakar have a written contract. None are covered by social security benefits, insurances and labour laws.

Although being a work provider, the informal sector is not necessarily a monetary salary provider. Table 1 shows the different types and distributions of remuneration. Not surprisingly, the greatest part is made up of self-employees. This group consists of independent production units, not affected by labour laws and employment contracts. This is simply the easiest way to run an informal business. The second largest type of remuneration is no monetary salary at all (14%). Work is instead compensated by e.g. food and room. This category is more of a life-supporting business rather than production with an aim to grow and generate future dividends. Finally, table 1 shows that not even 1% of all employees in the informal sector can enjoy the insurance of a fixed salary.

Table 1. Payments in Informal Sector

Type of remuneration	% of informal work force
Unpaid	14.0
Self-employed	77.1
Paid	8.9
...of which only partly paid*	2.5
...of which fixed salary	13.9

*=mix of paid and unpaid or self-employed.

Source: Enquête 1-2-3.

The average working time in Dakar reaches 54 hours per week. There is however a noticeable heterogeneity in the number of hours worked between the different branches and sub-branches. 15.4% of the informal workforce works less than 24 hours a week. 10.6% works 40-48 hours a week while 32.1% works more than 60 hours a week.

The differences in the number of hours worked can be interpreted in two ways. It can be viewed as a positive characteristic since all kinds of demand can be satisfied. A diversified work supply matches all different kinds of labour demand. If leisure is valued high, it is possible to work less and the other way around. Likewise, if less working hours is preferred in order to substitute working time for e.g. studies, this can be done. As women generally are assumed to take care of the household, this heterogeneity of work supply provides an opportunity for women to work at least a few hours a week. Furthermore, the number of partially engaged informal workers might to some extent be formal workers who wish to further increase their income by informally working extra. An example could be a formal firm owner who also produces hidden output (see section 2.1.2).

The second interpretation of these figures is based on the fact that more than 32% of the informal labour force work more than 60 hours a week. This means that one of three hands works more than accepted according to the labour market legislation of Senegal. As formal regulations are not applied in the informal sector, nothing can stop the employer from demanding long working days. Further, having a job is highly valued and when the alternative to hard work is not being employed at all, the employee faces no other option than to work long days.

Due to the different ways of remuneration in the informal sector, it is difficult to obtain information on actual wage rates. However, according to the 1-2-3-survey the average monthly salary is 63 100 FCFA (about 1100 SEK) in Dakar. An interesting fact is that the *average* monthly salary in the informal sector is *higher* than the minimum wage, which today is 39 000 FCFA (around 650 SEK). However, the *median* salary shows the disparity of the wage rate within the informal sector, being 23 000 FCFA (a little less than 400 SEK). Thus with a median wage below the minimum wage, 50% of the informal sector work force is paid less than if being formally employed. This fact further adds to the question of why the informal sector keeps growing.

3.2.3 Capital and Investments

No matter how large the labour force is, there can clearly be no production without financial capital. In total, the informal sector of Dakar has a capital base of 37.8 billion FCFA. On average, the commercial branch uses only 62 000 FCFA while industry uses almost three times as much (163 000 FCFA). The service branch is the most capital intensive (average 260 000 FCFA). The industrial subsector has rather large fixed costs, while the service sector meets mainly variable costs. This is due to the fact that the service sector to a large extent is composed of transportation. Not only does this create a need for vehicles, gasoline, repairs, etc. Also, much travel and goods transportation goes through Gambia to reach the southern parts of the country. Permits and border controls along the way tend to be rather costly.

Financing new capital and investments in the informal sector is probably easier said than done. Getting credits from a bank is out of the question. Also micro-credits appear to be absent within the informal sector economy. Left are family and other personal connections. According to the 1-2-3-survey, 79% of all financing comes from family in forms of either heritage or loans. The rest is almost exclusively expensive loans granted by moneylenders. In conclusion, investments in the informal sector are to a large extent financed by personal savings. As these in general are small, so is the degree of new investments.

3.2.4 Summary

The informal sector is composed of relatively small, short-lived production units with rather low levels of human, physical and financial capital. Contracts are unsatisfactory and wages are inefficiently low. Still, the number of people employed is large and increasing, indicating that the informal sector economy is a basic component of the Senegalese economy.

4. Linkages between the Formal and Informal Sector

In order to get a clear picture of the Senegalese dual economy, it is useful to do an outlined comparison of the main features of the formal and informal sector. The essential characteristics of the informal sector, largely based on the 1-2-3-survey, are presented above. This section will also use the World Bank Investment Climate Survey (ICS) in order to distinguish the resemblances and differences between the two sectors. This will be followed by an econometric investigation of the apparently different returns to scale of the formal and informal sector. The section is closed by a reflection on the linkages between the two sectors.

4.1 Comparing Informal with Formal Sector

It is reasonable to assume that productivity is higher in the formal than the informal sector. Economic theory then suggests that also wages should be higher in the formal sector. There is no need to despair; statistics show that such is the case and thus theory holds. Table 2 shows wages in the formal and informal sector. Clearly, the average wage is significantly higher in the formal sector. Also, formal sector wages seem to be more homogenous than informal ones. Note for example that the difference between the 25th and the 75th percentile is much greater in the informal sector, something that give further strength to the reasoning regarding mean and median wage rate in the informal sector discussed under the previous heading. This has also to do with the many different types of remuneration presented in table 1.

Table 2. Wages in Formal and Informal Sector (average and percentiles)

Wage (thousands of FCFA)	Formal	Informal
Average	1962	937
P25	840	192
P50	1200	420
P75	2218	984

Number of observations: formal: 1488, informal: 1349
Source: Enquête 1-2-3 and ICS.

Considering the composition of the work force, the average age of employees in the two sectors does not differ significantly. However, people tend to enter the informal sector at a much younger age compared to the formal sector. Also, the gender composition differs significantly between formal and informal sector, with some 17% female workers in the formal sector compared to some 41% in the informal. Once again this points to the fact that the informal sector proposes a possibility for women to enter the labour market.

Educational level has already been shown to be relatively low in the informal sector. This has actually even been proposed to be a reason for entering this sector rather than the formal. Table 3 shows that the educational level really is much higher in the formal sector. Thus, also these figures seem to be in line with the reasoning saying that higher educational level results in higher productivity and along with that, higher wage-rates. When less time is spent on education, labour market entry is possible earlier in life. Hence, this explains why the age of new entrants are lower in the informal than the formal sector.

Table 3. Year of Schooling

Educational level	Informal	Formal
Average years	2,9	10,3
No schooling	52,9%	9,6%
Over 12 years	2,7%	40,2%

Source: Enquête 1-2-3 and ICS.

Turning to the size of the business, it was concluded above that the average number of employees (self-employed included) in the informal sector is 1.5 persons. The average for the formal sector is 122.4. Table 4 shows the features of the production units in the two sectors. Not surprisingly, the capital-per-worker ratio is 47 times higher in the formal sector. This, combined with much higher level of human capital, the labour productivity (measured by output per hour worked) is almost seven times higher in the formal sector. Further on, not only are the gaps between the sectors of considerable size, there is also a wide difference within each sector. It was observed above that the variance of the level of payment is much greater in the informal sector. Table 4 shows that this also applies to capital per worker and labour productivity. This proposes that the informal sector seems to be much more heterogeneous compared to the formal sector.

Table 4. Characteristics of Production Units (average and percentiles)

Characteristics	Rate	Formal	Informal
Firm size	Average	122.4	1.5
Capital per worker (thousands FCFA)	Average	70900	1497
	P25	3008	53
	P50	9310	156
	P75	23800	828
Output per worker (thousands FCFA)	Average	10500	1723
	P25	2100	488
	P50	4835	884
	P75	9293	1968
Year of schooling	Average	10.3	2.9
Labour productivity (thousands FCFA)	Average	6.1	0.9
	P25	1.4	0.2
	P50	2.9	0.5
	P75	5.5	1.0

Source: Échevin & Murtin, 2008.

Also the way of deciding price levels differs between the formal and informal sector, as well as within each sector. Price setting in the industrial informal subsector is mainly reflected by the current competitive situation on the market. However, the dominating way of setting prices in the informal sector results from merchandizing and negotiation on each vending occasion. This method is mainly used in retail, commerce and to a large extent among services. Only a few prices are set with regard to marginal revenues and marginal costs (Enquête 1-2-3). In the formal sector, on the other hand, this last pricing method is the most common. Nevertheless, the government subsidises many industries and companies. Unfortunately it is often larger ones that are the beneficiaries when it is rather smaller firms that need the help in order to survive on the formal market. This results in prices that are not always at a standard where marginal revenues meet marginal costs. The use of subsidies also undermines the natural selection of competitive firms on the market and Schumpeter's creative destruction process is unable to function efficiently.

Regarding competitiveness between the two sectors, the 1-2-3-survey concludes that 85% of the informal production units experience that competition comes from within the own sector. Less than 9% of the survey participants consider the formal sector as the main competitor. This, followed by the way of setting prices, suggests that the informal sector operates rather autonomously. The formal sector, on the other hand, is to a large extent dependent on the

informal sector production in its need for intermediate goods as these are less expensive and easier to access than imported inputs. The conclusion based on these findings is that the informal sector actually has a somewhat superior competitive position compared to the formal sector.

The difference in qualifications between formal and informal sector is clearly visible in all areas. The *capital intensity* gap and the *wage* gap between the two sectors are huge, so is the difference in *educational level of the workforce*. Linked to the latter is the much younger age of informal sector *entrants* compared to the formal sector. The *size of the firm* is on average more than 80 times bigger in the formal sector. It is thus not surprising that also labour *productivity* differs a lot. An interesting observation is that the informal sector appears to be the main provider of work for *women*. Also, *internal gaps* are much wider in the informal sector, making this sector more heterogeneous than the formal. The two sectors do not seem to experience a strong direct *competitiveness*. They meet different production possibilities which results in differentiated supply of goods and services. Consequently, they appeal to different kinds of customers. Nevertheless, the formal and informal sectors apparently do integrate with one another in some areas. Referring to the second question posed in the introduction; whether the two sectors act as interfering, cooperative or autonomous, the conclusion to be drawn out of the above reasoning is that the formal and informal sectors, despite their differences, seem to substitute and complement each other rather than act autonomously.

4.2 An Econometric Comparison

In order to further investigate the impact of labour and capital in the two sectors, the method of Échevin & Murin (2008) is followed in order to calculate the elasticities of these two inputs. This is done by regressing the logarithm of value added on the logarithms of capital and numbers of workers. Further, the authors suggest controlling for average age, share of female workers and average schooling. This is done as it turns out there is a positive correlation between capital and schooling as well as between the number of workers and the percentage of female workers. This is a necessary precaution in order for the coefficients not to be over- or underestimated.

Table 5. Determinants of Value Added in the Formal and Informal Sectors (dependent variable $\ln(\text{value added})$).

	Formal sector		Informal sector	
	(I)	(II)	(I)	(II)
Ln(K)	0.32**	0.18**	0.17**	0.14**
Ln(N)	1.00**	1.16**	0.65**	0.71**
% of Females		-1.35**		-0.22**
Age		0.44**		0.06**
Age ²		-0.005**		-0.001**
Schooling		0.07**		0.01
Adjusted R ²	0.67	0.68	0.25	0.27

**= significance at 5% -level.

Source: 1-2-3, ICS and Échevin & Murtin (2008).

Table 5 shows the regression results. The joint coefficients of $\ln(K)$ and $\ln(N)$ represent the returns to scale. In the formal sector this is increasing as the value is greater than one (1.32). Controlling for females, age and schooling does not significantly affect this value. Nevertheless, it turns out that return to capital would be overvalued unless controlling is done. This might be explained by the fact that high capital intensity and thus access to advanced technology only can be efficiently used if the human capital is at a certain educational level. In the informal sector on the other hand, regression (I) indicates decreasing returns to scale, with a joint coefficient value less than one (0.82). Controlling for females, age and schooling, the results do not change tremendously. Interesting however is that schooling does not seem to be significant in determining the value added in the informal sector, a result that is in line with previous reasoning regarding educational level in the two sectors. Finally, it is of interest to observe that the negative coefficient of the percentage of female workers has less impact on the informal sector than on the formal. Also this result is in line with previous reasoning on the informal sector as the main provider of work to the female part of the labour force.

To sum up, one could say that the firms in the formal sector in general are too small. Increased input of capital and labour could make firms more productive. In the informal sector on the other hand, the case seems to be the opposite. Small firms in the informal sector appear to be too large. Clearly, both sectors should benefit from better integration and exchange of human and physical capital (Échevin & Murtin 2008).

4.3 Concluding Remarks on the Links between the Two Sectors

Research question number 2, *regarding the economic similarities and difference between the formal and informal sector*, appears to have several answers. Section 4.1 stated that the overall competitiveness between the two sectors is not too distinctive. Nevertheless, it is reasonable to believe that the two sectors do compete regarding market shares in some sub-categories and thus in that sense are inferior. The existence of hidden firms and hidden output, discussed in section 2.1.2, further add to this reasoning. This also contributes to erode the border between formal and informal sector by creating a grey zone between the two. Regarding the financial capital, the two sectors must compete for these resources as the supply is limited. Yet, it is an uneven rivalry in which the formal sector has an outstanding position. Turning to the links on the labour market, the two sectors could be said to complement each other as the specific demands for labour skills differ between the two sectors. It could also be argued that the formal sector attracts higher skilled workers, leaving the less educated work force to the informal sector as it is unable to compete with formal sector remuneration. Further, one must not neglect the part of the labour force that is active in both sectors, thereby creating interference between the two sectors.

In a sense, the informal sector can be said to be rather autonomous. To a large extent, it engages labour that is not applicable to the formal sector. Neither does the informal sector as a whole regard the formal sector as a competitor. It is uncertain whether revenues earned in the informal sector are spent exclusively in the informal sector or also on the formal market. Some conclude (e.g. Schneider in his study of 1998) that more than half of the earnings in the informal sector is immediately spent in the formal sector thereby indirectly contributing to economic growth and indirect tax revenues.

As previously discussed, the industrial sub-sector of the informal economy is a provider of intermediate goods to the formal sector production, contributing to a cooperative relationship. Further, the informal sector engages female workers to a much larger extent than the formal. An immediate elimination of the informal sector would thus hit the economy from more than one angle.

5 Assessing Competitiveness of the Formal Sector

So far, we have covered the main characteristics of the informal sector of Dakar followed by a comparison with the formal sector. It has been shown that the formal sector firms have higher production potential than informal ones. Yet, formal firms tend to be too small in terms of capital and labour with respect to their potential return to scale. Also, neither formal sector pricing nor wage setting is set by market forces alone. How can the formal sector of Senegal compete on the international market when it hardly can compete with the much bigger and faster growing informal sector within the country? In order to answer that, we must first assess competitiveness of the formal sector in order to see the relation to trading partners and also how competitiveness has developed over time. This is done by applying the methods and theory used by among others Bakhache et al. (2006) and Vaez-Zadeh et. al. (2007). The essential components are here discussed in brief.

5.1 Governmental Performance and Institutional Quality in Senegal

There have been several attempts in the country to ease the governmental restrictiveness, hardcore bureaucracy and tendencies to corruption. However, some critics call these attempts nothing but a play to the gallery. Also IMF, WB and such organisations have expressed their disappointment in the actual performance of the government.

Table 6 below presents a statistical overview of the present governance of Senegal. According to the Heritage Foundation, “Senegal scores well in government size, monetary freedom and rights...Business freedom, fiscal freedom, labour freedom and freedom from corruption are weak. Starting a business takes more time than the world average, and the regulatory environment makes commercial operations difficult. Tax rates are high...The labour market is highly inelastic...The judicial system does not have enough qualified magistrates or independence from the executive branch.” The three bottom indexes, which are more economically/financially related, present small improvement for Senegal. World Bank Governance Indicators show that Senegal is below average in all categories. Compared to previous years, the country has actually worsened its position. Transparency International ranks the country higher than previous years, but the level of corruption is still clearly a problem. The need for bribery in order to pass through the registration processes and bureaucratic mazes naturally calls for another solution. Going underground and operating as informal becomes a satisfying substitute.

Table 6. Governance Indicators for Senegal

Index	Rank
World Bank Gov. Indicator 2007, Regulatory Quality	40.3 percentile
World Bank Gov. Indicator 2007, Political Stability	37.5 percentile
World Bank Gov. Indicator 2007, Corruption Control	37.7 percentile
World Bank Gov. Indicator 2007, Rule of Law	45.2 percentile
Economic Freedom of the World Index 2006	119/141
Transparency International Corruption Perception Index 2008	85/180
Bertelsmann Transformation Index 2008	55/119
Heritage Foundation Economic Freedom Index 2009	110/179
Milkens Institute Capital Access Index 2008	101/122

Sources: WB, Fraser Institute, Transparency International, Bertelsmann Stiftung, Heritage Foundation and Milkens Institute.

In order to improve the business environment and trade possibilities, the sub-Saharan region implemented the Organization for the Harmonization of Business Law in Africa, OHADA, in 1993. Today 16 states have signed the treaty. The aim of this treaty is to combat corruption, strengthen the rule of law and harmonize business laws among the member states in order to increase trade, improve competitiveness and create efficient markets. Great efforts have also been done in attracting foreign direct investments.

5.2 GDP and Trade Performance

GDP growth in Senegal has fluctuated sharply over the years, creating an unstable investment climate. In recent years, the country has experienced a significant decline in trade revenues and economic performance. (See Appendix II for figures on GDP and trade performance). GDP improvements presuppose profitable trading and this in turn is conditioned by good production possibilities. Table 7 summarizes the business climate in Senegal. The World Bank's "Doing Business Report" annually ranks countries according to their ability to do business in several sub-categories. Out of 181 countries in the ranking system, Senegal ends up not far from the bottom.

Table 7. Doing Business 2008

Aspects of business	Rank (out of 181 economies)
Doing business (overall ranking)	149
Starting a Business	95
Dealing with construction permits	118
Employing worker	165
Registering property	161
Getting credit	145
Protecting investors	164
Paying taxes	170
Trading across borders	60
Enforcing Contracts	146
Closing a business	77

Source: World Bank

Ousmane Sane, economist at the USAID, explained an experiment made by the organisation on difficulties and costs when starting a formal business in Dakar. He let a person begin with an initial capital of 1 million FCFA and a good idea. For each bureaucratic step the entrepreneur goes through, his capital decreases not only due to official costs such as travel, printing costs, stamps etc. It is also the case that a potential new business owner must start paying tax, social security and the like already during the application process. This is certainly prevents potential entrepreneurs from seeking formality. At least as costly are the unofficial payments made to public officials in order to get the application moving through the system. The last type of costs facing the entrepreneur is the opportunity cost of applying rather than working. All in all, when he has gone through the process and finally is ready to begin with his business, his capital has shrunk to 300 000 FCFA. This was a onetime experiment and can of course not be generalized to all starting-a-business-procedures. It nevertheless gives a hint of the problems.

5.3 The Exchange rate

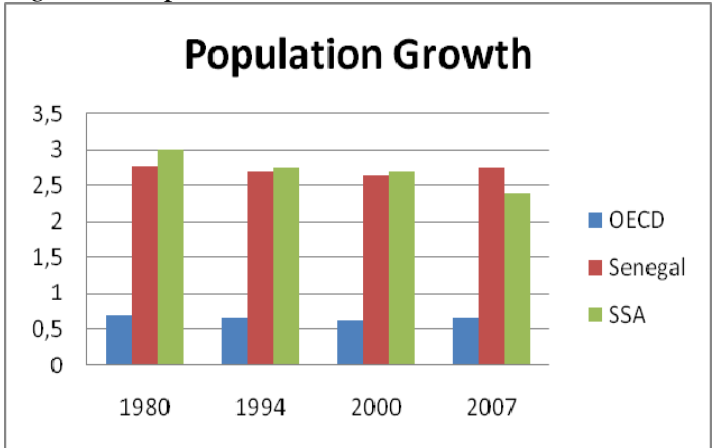
Competitiveness is closely linked to the export market. The attractiveness of exports is related to the exchange rate and the devaluation of 1994 did boost Senegalese trade exports after a declining period. However, growth of exports has since then been performing much worse than overall GDP growth, suggesting that exports have had little impact on the economic performance. The deterioration of the terms of trade can be partly due to misalignment of the exchange rate, and the real effective exchange rate (REER) shows tendencies of

overvaluation. An overvalued exchange rate, as was the case just before the devaluation, is certainly depriving the country of economic competitiveness.

5.4 Labour Force and Production Costs

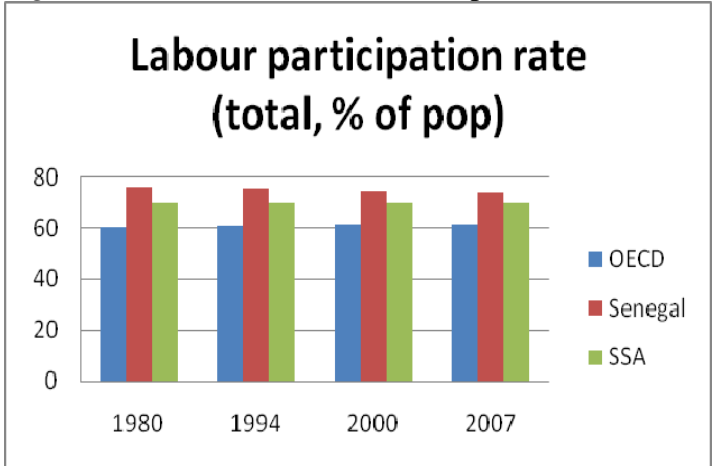
One way to look at production costs in developing countries, where data on e.g. unit labour cost are unsatisfactory, is to focus on labour supply in relation to the size of the entire population. Figure 4 shows that the population growth in Senegal has been high in recent years also compared to the sub-Saharan average. But turning to figure 5, the total labour participation rate, Senegal has performed rather well, both compared to the sub-Saharan region and to the OECD. Senegal also scores high in female labour participation with a percentage over 60, while the OECD just recently passed 50%, as seen in figure 6.

Figure 2. Population Growth



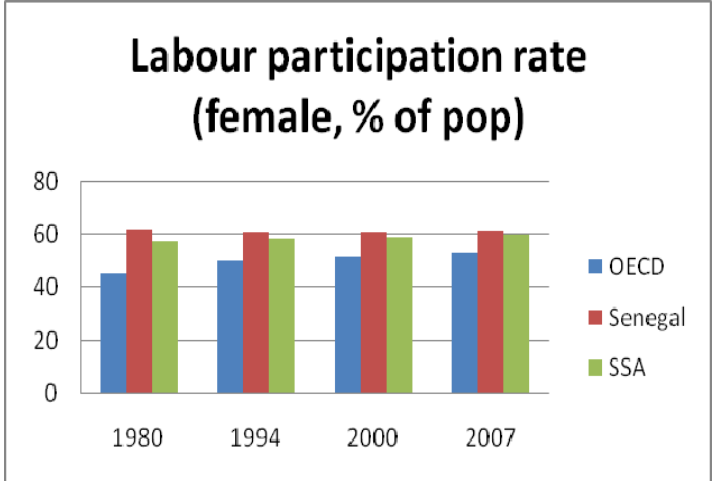
Source: WDI

Figure 3. Total Labour Force Participation in Percent of Total Population



Source: WDI

Figure 4. Female Labour Force Participation in Percent of Total Population



Source: WDI.

The rates of high labour participation are promising counterweights to the high population growth rate. Nevertheless, the demographic situation in Senegal predicts some potential Malthusian problems, suggesting that the rapidly increasing population disadvantages the economy. High population growth results in a young population. Today, almost half of the Senegalese population is under 20 years old, meaning that more than 100 000 young people enter the labour force every year (Échevin & Murtin, 2008). The problem can be assumed to be more serious in cities, especially in Dakar, due to the migration and urbanisation. A declining public sector can be assumed to further boost the informal sector.

5.5 Infrastructure

Senegal has a great advantage in being a coastal country, with Dakar as the main port. Shipped goods are transported all over the country as well as to many neighbouring countries (Mali, the Gambia, etc.). However, the road infrastructures are poorly developed. Bad road conditions along with numerous checkpoints at the Gambian borders make transportations unnecessarily costly and time-consuming.

Also the electric supply in the country is of inferior standard. The governmentally owned electricity company, SENELEC, is the largest public enterprise. Power failures occur frequently, especially in the less wealthy areas and during summer season. This alone causes a 5% loss of total sales (WDI). Although the company has made improvements, it still is not perfectly managed. The company alone annually accounts for of 0.1% of GDP (IMF).

More positive is the development of the mobile phone net. Today, the French company Orange is one of the two dominating operators. Its presence in the country has improved and extended the coverage area significantly. Even in the most remote areas in the middle of nowhere, you can always be reached on your phone (DPEE).

6 Mobilizing the Informal Sector

This section is devoted to a discussion of research question number three, *how formal sector competitiveness can be improved by actions on the informal sector arena*. Section 4 clearly shows that the informal and formal sectors are linked to one another, in some ways synergetic, in some ways counteracting. Thus, in order to improve formal sector competitiveness, one must also address the issue of informality.

6.1 Regulations as Hindrance and as Support

As mentioned already in section 2, the government has an essential role to play when an entrepreneur makes the decision of acting formally or informally. The current regulatory burden on entering the formal sector is a main reason for the continuous growth of the informal. It has been shown that corruption and rent-seeking behaviour on a political level is a common problem in Senegal. This self-destructive behaviour of political institutions must be eliminated or public sector trustworthiness will be completely eroded. Many informal actors do most certainly wish to act formally but the close-fisted ambiance between public and informal sector give them no opportunity. Regulatory policy actions addressed to the informal sector ought to focus on both quality and quantity. Instead of a fierce attitude towards informality, trying to suppress, prohibit and eliminate all informal activities, policies and regulations should aim to improve the overall business climate.

Section 3 concluded that commerce and retail constitute the largest part of informal sector business, at least in terms of production units. These units are often without fixed location and with only a minimum number of workers. In addition, these production units are short-lived and with low capital intensity. Thus, this subsection is rather hard to reach. Governmental actions aiming to either ban or charge these units are probably more costly than the expected gains. Further, this subsection of informality is a deep-rooted activity with a tradition stretching far back in time. It simply will not disappear.

More suggestible then is to address the industrial subsector. As providers of intermediate goods to the formal sector production, these production units are certainly operating in the grey-zone between formal and informal, either as hidden firms or as hidden output. The industrial production units are shown to be more capital intensive and long-lived than other

informal sector activities. It is not at all unlikely that encouraging policies, re-regulations and deregulations will help potential firms into formality.

6.2 Taxes; Encouraging and Discouraging

Nonetheless, not all regulations are evil. Loayza et. al. (2007) have investigated the relationships between regulations, economic growth and informality. Their study concludes that while increasing labour and product market regulations have an expansionary effect on the informal sector and thereby a negative effect on economic growth, fiscal regulations actually have the opposite effect. The argument for the latter claims that increased fiscal regulations decrease attempts to evade tax. Increased tax revenues generate more public goods and services, something that in itself motivates tax compliance (Guha-Khasnobis et. al. 2007:122-143). For this reasoning to hold, the taxation must be adequate and correctly targeted. The current situation in Senegal does not seem to follow this suggested pattern. The growing informal sector has been hard to combine with well-performing public finance. A diminishing tax base has made the public sector unable to either maintain or improve the quality and quantity of public goods and services. In such a scenario, taxes are likely to be raised, despite a deterioration of administration, infrastructure, etc. What are then the incentives for a taxpayer to pay more for less? In a situation like this, the road to informality must seem more and more tempting. A lower level of taxation is preferable, but with a wider tax base. Only then can the economy exhibit the synergetic effect between fiscal regulation, economic growth and decreasing informal sector as found by Loayza et. al.

Yet, the argument could be turned around. Instead of considering tax revenue as a necessity for satisfactory provision of public goods, easy access and reasonable quality of the same could be an encouragement to pay tax. An example is infrastructure that has been discussed as one component when assessing competitiveness. Inefficient infrastructure, for example unreliable power supply, has proved to be a strong limitation to productivity. Further, only a minority of informal sector production units benefit from electricity and/or water supply. If electric supply and water pipes were improved and extended, they could increase productivity and output. This is a source of growth that in turn could enhance the incentives to stop avoiding tax payments. For this last reasoning to hold, the public finance must be in such a good shape that it is possible to run a short term deficit when extending the public goods

provision and before increased tax revenues are generated. As shown previously in the text, this is not the current situation in Senegal.

6.3 Financial Capital: A Gatekeeper to the Formal Sector

As mentioned above, solving the problem with an extensive informal sector should not be done by using the stick and banning the activities. The solution should rather consist of carrots encouraging informal sector businesses to improve, extend and find profitability in formality. It has been shown that financial opportunities are strictly limited to informal sector production. Evidently, this sector manages to survive also without access to bank credits. Thus, this strategy of financial exclusion is clearly not working. How about a strategy that focuses on inclusion instead? That is what Banque Régionale de Solidarité (BRS) is proclaiming. This bank targets the regional informal markets of the UEMOA countries and the aim is to fight poverty by offering financial help to people that are in a situation where the classical banking system is out of reach. They work by a similar principle to the micro-credit institutions but operate like any universal bank. The idea is to lend money to entrepreneurs in the informal arena. Mr. Abou Moussa Ndong, economist at the Dakar office, explains the idea through an example from reality. An informally self-employed hairdresser runs her business in her small apartment. Along with a friend, she applies for a loan as they wish to carry out their business out of home. They are promised a credit, but not until they find a location for their business. When this is done, a loan contract is set up. This contains several clauses regarding obligations for the borrower, making it more demanding than a classical loan contract. First of all, the business must of course be registered officially. The BRS has made an agreement with the authorities which reduces the number of registration procedures and costs. Further, revenues made by the two hairdressers must not be extracted from the business as a wage or personal revenue. All income above working expenses and interest payments on the loan must be invested in the business. This could be done by hiring another person, investing in better equipment or education such as taking a crash-course in advanced braiding. The BRS bank is doing very well and is constantly expanding, which should be a source of many success stories among the initiated projects. It is well known that many drops make a river: Any production, no matter how small, is a contribution to national GDP. And any improvement of GDP figures is an improvement of the competitiveness.

6.4 Educational level –a Parameter Decisive in Where to Work

Yet, there are more issues that need to be taken into account when addressing the informal sector. The level of human capital and different educational demands in the informal and formal sectors do also play an important role. It has been shown that the educational level differs dramatically between the two sectors. The low-productive informal sector does not pose as high a demand on educational skills as the relatively high-productive formal sector. Senegal is experiencing high population growth and rapid urbanisation, as discussed in section 5.1.4. This excess supply of labour inevitably creates a rapidly increasing demand for jobs. Education becomes less attractive when the easy entry to informality ensures a minimum income.

It is unfortunate that education is valued relatively low in the large informal sector, not only on an individual basis. Senegal is a relatively labour intensive economy. Thus, high skilled human capital is essential when improving overall productivity in order to approach the technological frontier. If returns to education and human capital were equal in the two sectors, people would then choose the sector in which they receive best returns in terms of their individual knowledge and skills. Thus, the difference in output would merely be a result of individual choice, and of course the capital intensity. For this to be true, the educational policy must be such that it offers the same educational option to everyone, with no or at least bearable costs. In the Senegalese case, discrimination, restrictions, fees, tradition, religion and poorly developed rural areas make this reasoning nothing but a dream.

6.5 The Importance of Proper Wage Rates

The dualism within the labour market consequently results in different returns to identical levels of education in the formal and informal sector. Adequate employment policies should address the informal sector by enabling a higher degree of employment security. Simultaneously, labour regulations should be eased in line with the above reasoning by Loayza et. al., something that would increase the flexibility of the formal sector. Reduced hiring cost, payroll tax and other charges could encourage formal sector companies to employ more people without necessarily change the wage rate. Or, the company could choose to use it to free resources to invest in new real capital and better technology. Likewise, decreased costs and eased procedures could stimulate informal employers to contract their workers in a formal

manner. Section 3 showed that the average wage in the informal sector is higher than the formal minimum wage. If hiring costs were reduced, employees could be better off with a legal contract ensuring them social security benefits without having to reduce their remuneration.

Section 3 also showed that half of the informal sector employees have a wage below the official minimum wage, but still they choose to stay informal. An explanation for this could be that even if the net wage were higher when working formally at the minimum wage rate, taxes could reduce the wage much more. Even though wage-earned income tax in Senegal is progressive, all other type of income such as property, rental income and capital gains are taxed at flat rates. A solution could be to adjust the taxation system to be somewhat more indulgent.

Wage rates in the formal sector have been criticized by economic analysts for being set too high. This refers especially to the public subsector wages, which create an upward pressure on wages in the overall formal sector. As the economy is not expanding at the desired pace with fluctuating GDP growth and deteriorating terms of trade (see Appendix I, figure 3 and 4), this is likely to result in a reduced demand for formal labour. The 1994 devaluation did help to bring down the real wages as nominal wages were kept constant, but the problem still remains. Another direct effect of the high wage, besides reduced labour demand, is increased inflation rate, something that adds to the already weak international competitiveness. The indirect effects are seen in the informal sector. As less people are engaged in the formal sector, more people find their way to informality. Further, the price increase also affects informal production, especially those operating on the brighter side of the grey zone, close to formal production. Consequently, a mismanaged monetary policy, which fails to control inflation, along with inefficient wage setting are contributors to deteriorating terms of trade. The side effect is a revival of informal sector activities. Could this linkage go the other way around? Could the price level in the informal sector be decisive when prices are set in the formal sector, determining inflation? If this were the case, it could then be assumed that a large informal sector production would reduce demand for formal sector produced goods which in turn would force formal producers to lower prices. However, this is unfortunately not the case. Firstly, the two sectors have rather diversified production and address somewhat different markets. The informal sector is mainly active on the non-tradable market while the formal covers both tradables and non-tradables. Economic theory states that prices and wages

in the non-tradable market are determined with respect to prices of tradable goods. Thus the generalized reasoning above does not completely hold. Secondly, the actual way of setting prices, as discussed in section 4, differs between the two sectors as well as within each sector. Informal businesses only to a minor extent regard marginal revenues and marginal costs when deciding prices. Instead, individual bargaining dominates. In the formal sector, governmental subsidies prevent the conventional pricing method from being efficient. Misdirected subsidies can be seen as a hindrance for Schumpeter's "creative destruction" in the process of naturally sorting out inefficient production units. Last but not least, the subsidies also enable reduced production costs without having to lower wages, something that further distorts the market forces. In conclusion, there seems to be no synergic effect between the two sectors within this area.

6.6 Exchange Rate and Terms of Trade

Closely linked to the above reasoning is the problem regarding the exchange rate. As concluded in section 5.3, the FCFA exchange rate seems to be overvalued. The result is more expensive imports and exports that are less attractive on the international market. The demand for domestic goods increases, making informal sector production more profitable. It can be shown that even in times when the economy is performing exceptionally bad, private consumption remains on a rather steady level (see Appendix I, figure 5). The informal sector is less affected by formal sector disturbances and so are consumption expenditures. Referring back to section 4.3, it was suggested that informal sector income to a large extent is spent on formally produced goods. This is in line with previous reasoning regarding the informal sector as a buffer in times of economic decline.

It is evident that a prosperous export sector and well performing terms of trade are necessities in order for the country to be competitive on a global arena. This can however only be done if formal production is domestically profitable. For this to happen institutions must be reformed and the bureaucracy must be more efficient and transparent. If so, FDI will likely increase and further stimulate the economy. As these problems occur in the formal sector, they must be solved in the formal sector. There seems to be a one-way connection between formal and informal sector regarding this problem. When the formal sector defaults it makes the informal sector bloom. Unfortunately, it will not stop blooming merely by using pesticides that try to

decrease the magnitude of economic informality. Only if the problem is solved at the roots, in the formal sector, will the blooming season end.

7. Summary and Conclusions

It has now been shown that the relationship between the formal and informal sector in Senegal is a complex matter. Depending on the characteristic chosen to focus on, the outcome of the analysis may differ. The linkages between the two sectors are simultaneously synergetic, counteracting and non-existing. This is to a large extent due to the heterogeneity of the informal sector; the industrial subsector is in many ways close to the formal sector firm setup, while the commercial and service based subsectors act more autonomously. Regardless of which, the existence of the informal sector does reduce the economic competitiveness of Senegal. It appears to be rather impossible to use the existing informal sector as a contributor to economic growth of the Senegalese economy, despite a few synergetic effects. Rather, the focus should be on gradually diminishing this sector in favour of the formal. It has been evident throughout the analysis that the main reason for the extensiveness of the informal sector lies in regulations, restrictions and the high cost of entering the formal sector. These problems can only be solved by governmental actions and reformed policies.

It seems useless to try to prohibit the informal sector activities. Many of these have long-lived traditions and have a cultural and symbolic value more than a mere economic purpose. Rather than the stick, authorities should use the carrot in their attempt to decrease the informal sector activities and thus support formal sector entry. As the industrial subsector appears to be rather close to the formal sector, it is suggestible to start by helping these production units into formality.

It is clear that profitable trade and a strong export industry are an essential component in improved competitiveness. When the informal sector is diminished, the formal sector ought to increase. If the industrial subsector of informality turned formal, it would automatically create an opportunity for a direct improvement of the trade sector. Moreover, if the case is such, the tax base would increase and further adjustments could be financed in order to ease formal sector entry for all subsectors.

These policy implications only address direct interventions. There are many more areas that must be covered for the transition from informal to formal. Education must be more easily accessed. It must be more attractive to get a higher education; it must be profitable to learn. Also infrastructure must be improved. It is not reasonable that low-quality public goods make

up an obstacle to trade and economic growth. These issues and their suggested solutions have some features similar to those of the hen and the egg. All is interlinked and thus it is hard to find where to start. Nevertheless, it all seems to be in the hand of the government.

Parasitic, Romantic or Dualistic; how can the Senegalese informal sector be related to the three views discussed in section 2? We have learnt that the informal sector production units in general are small, even inefficiently small. One reason for this is that being small enables avoidance of taxation, regulations and the like. The informal sector benefits from public goods without contributing to the public finance. Further on, the country is deprived of its quality of human capital as the informal sector offers jobs where high education is not needed. The informal sector also to some extent steals market shares from the formal sector. All these arguments lead nowhere but to the Parasite point of view. On the other hand, if the regulations and costs of being formal were adequate, these problems would not exist. The formal sector has by some means created its own enemy by obstructing formal sector entry. Both sectors would benefit from a more symbiotic relationship. This has been shown for example in section 4.3, where it was concluded that greater flexibility and interaction between the two sectors would benefit the economy. It has also been evident throughout the text that many informal businesses would benefit from being formal and really wish to be so. Here the Romantic view comes into play, suggesting that with correctly targeted support and efficient de- and re-regulations, informal firms would actually turn formal. Gradually the informal sector would diminish. The example from Banque Régionale de Solidarité (BRS) shows that this could actually be the case.

Nevertheless, also the third view is applicable in the particular cases of Senegal. Some subsectors of the formal and informal sector address completely different groups, conduct different kinds of merchandising and use different resources for production. Thereby, there is no direct competition between these subsectors. The existence of one sector does not affect the other, but their joint existence does affect the overall economy by disturbing the market forces, Adam Smith's invisible hand and Schumpeter's creative destruction and in the end also the potential possibilities for growth of the Senegalese economy.

References

- Abdih, Y., C. G. Tsangarides. 2006. FEER for the CFA Franc. *IMF Working Paper WP/06/236*
- Azam, J-P., M. Dia, C. Tsimpo, Q. Wodon. 2007. Has Growth in Senegal After the 1994 Devaluation Been Pro-Poor? *Munich Personal RePEc Archive Ch 3*
- Bakhache, S., K. Kalonji, M. Lewis, J.C. Nachega. 2006. Assessing Competitiveness after a Conflict: The Case of the Central African Republic. *IMF Working Paper 06/303*
- Brautigam D., O-H. Fjeldstad, M. Moore. 2008. *Taxation and State-Building in Developing Countries: Capacity and Consent*. Cambridge University Press
- De Soto, H. 1989. *The Other Path. The Invisible Revolution in the Third World*. New York, Harper and Row
- Djankov, S. 2008. The Regulation of Entry: A Survey. *Centre for Economic Policy Research Discussion Paper Series. No. 7080*
- Éschevin, D., F. Murtin. 2008. What Determines Productivity in Senegal? Sectoral Disparities and the Dual Labour Market. *Groupe de Recherche en Économie et Développement International. Cahier de recherche 07/15*
- eStandardsForum. 2008. Low Income Country Profile –Senegal. Financial Standard Foundation, New York
- Guha-Khasnobis, B., R. Kanbur, E. Ostrom. *Linking the Formal and Informal Economy*. 2007. Oxford University Press. Pondicherry, India
- Kaufmann, D., A. Kraay, P. Zoido-Lobaton. 1999. Aggregate Governance Indicators. *World Bank Policy Research Working Paper No. 2195*
- La Portia, R., A. Schleifer. 2008. The Official Economy and Economic Development. *NBER Working Paper Series. Working paper 14520*
- Leenhardt, B. 2005. Le poids de l'informel en UEMOA, premières leçons en termes de comptabilité nationale des enquêtes 1-2-3 de 2001-2003. *Agence Française de Développement, Direction de la Stratégie, Département de la Recherche*
- Pilbeam, K. 2006. *International Finance*. Palgrave MacMillan, China
- Ramirez, G., C. G. Tsangarides. 2007. Competitiveness in the CFA Franc Zone. *IMF Working Paper WP/07/212*
- Ray, D. 1998. *Development Economics*. Princeton University Press, New Jersey

Schneider, F., D. H. Ense. 2000. Shadow Economies: Size, Causes, and Consequences. *Journal of Economic Literature*. Vol. 38. No 1. American Economic Association

Todaro, M., S. Smith. 2006 *Economic Development*. 9th ed., Pearson

Tsangarides C., P van den Boogaerde. 2005. Ten Years After the CFA Franc Devaluation Towards Regional Integration in the WAMEU. *IMF Working Paper WP/05/145*

Vaez-Zadeh, R., T. Koranchelian, M. Saxegaard. 2007. *Senegal: Selected Issues*. IMF Country Report No. 07/336

ICS (Investment Climate Survey), World Bank

Internet sources

http://www.dial.prd.fr/dial_enquetes/dial_enquetes_enquete123.htm

www.transparencyinternational.org/policy_research/surveys_indices/cpi/2008

www.worldbank.org

www.freedomhouse.org

www.imf.org

www.ansd.sn

www.dpee.sn

<http://www.bertelsmann-transformation-index.de/82.0.html?L=0>

<http://www.heritage.org/index/ranking.aspx>

<http://www.milkeninstitute.org/publications/publications.taf?function=indexes>

<http://www.geographicguide.net/africa/images/senegal-map.jpg>

Interviews

Osmane Sane, Economist, USAID

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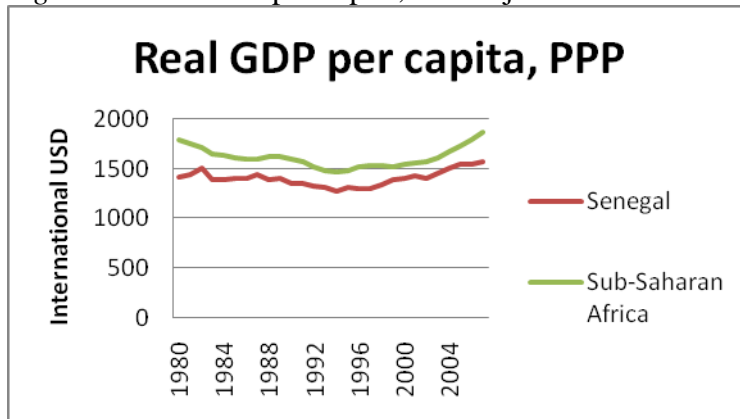
Division de la Comptabilité Nationale, des Synthèses et Etudes Analytiques (DCNSEA)

Babakar Fall, Directeur Général de l'ANSD

Anne-Sophie Robillard, DIAL

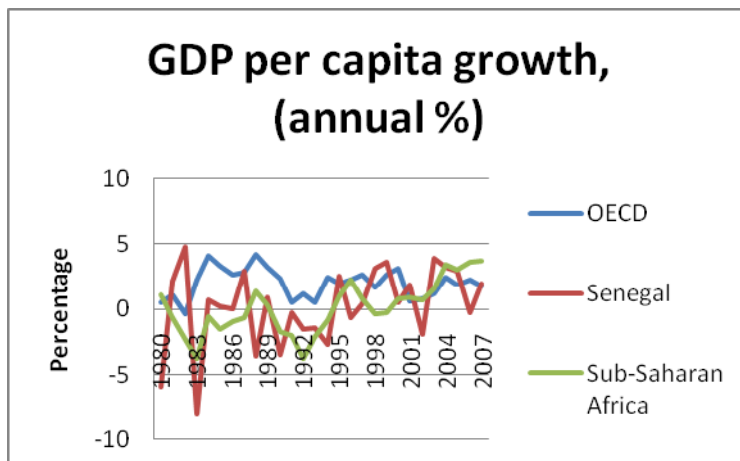
Appendix I

Figure 5. Real GDP per capita, PPP adjusted



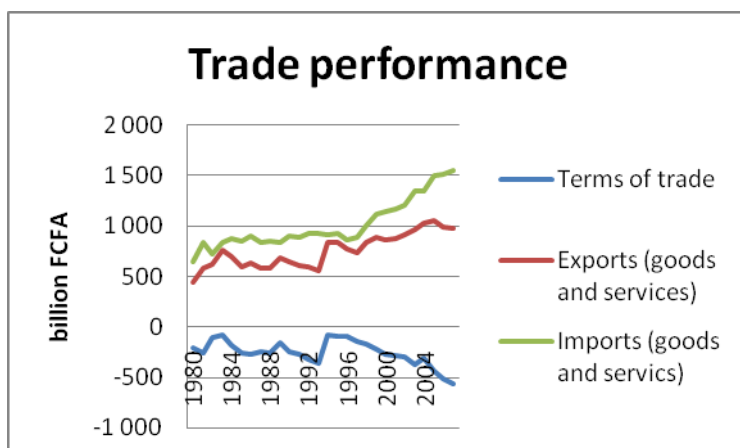
Source : WDI, WEO

Figure 6. GDP per capita growth



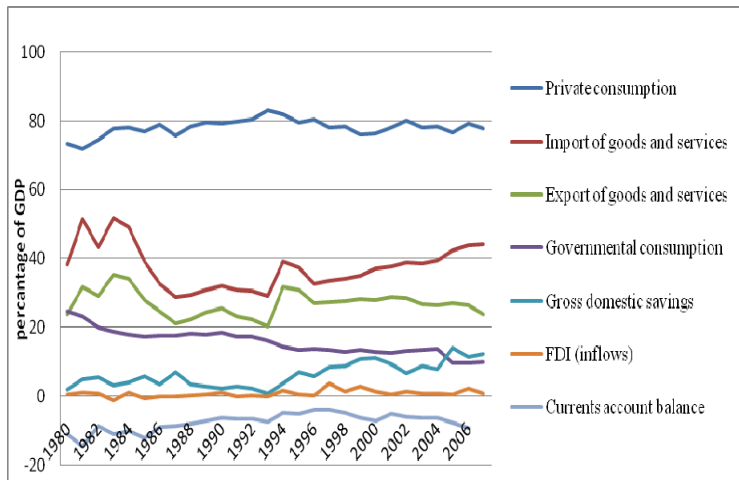
Source: WDI, WEO

Figure 7. Exports, Imports and Terms of trade



Constant FCFA. Source: ANSD and local authorities.

Figure 8. Economic components



Source: WDI

Figure 9. Map of Senegal



Source: <http://www.geographicguide.net/africa/images/senegal-map.jpg>