

## **Gender, education, and the labour market in Kinshasa\***

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### **Abstract**

*This paper uses data from a 2004 survey to study the labour market in Kinshasa, capital of the Democratic Republic of the Congo. In a context characterized by protracted poor economic performance going back to the mid-1970s and especially severe economic problems in the 1990s, women have become increasingly involved in the labour market and educational attainment of both men and women has increased. The paper examines labour market outcomes, with emphasis on differences by gender and education. Using descriptive and multivariate analyses, we examine labour force participation and labour force status (employed, modern sector; employed, informal sector; unemployed; out of the labour force), first by age and gender and then by education and gender. Our results highlight the difficulties well-educated men and women confront in finding employment in the modern sector, as well as gender differences in favour of males in access to employment in the modern sector.*

**Keywords:** Labour market, gender, education, modern sector, informal sector, employment, unemployment

*Cet article se base sur les données d'une enquête effectuée en 2004, portant sur le marché du travail dans la ville de Kinshasa, capitale de la République Démocratique du Congo. Dans un contexte caractérisé par une longue période de récession remontant au milieu des années 1970 et de graves problèmes économiques depuis les années 1990, les femmes occupent une part de plus en plus importante sur le marché du travail, tandis que le niveau global d'instruction des hommes et des femmes ne cesse de s'améliorer. Cet article met en lumière les caractéristiques du marché du travail dans la ville de Kinshasa, en mettant un accent particulier sur les différences selon le sexe et le niveau d'instruction. A l'aide d'analyses descriptives et multivariées, nous examinons l'activité économique et le statut sur le marché du travail (employé dans le secteur formel, employé dans le secteur informel, chômeur, inactif), d'abord selon l'âge et le sexe et ensuite selon le niveau d'instruction et le sexe. Nos résultats mettent en évidence les difficultés auxquelles sont confrontés les hommes et les femmes les plus instruits à la recherche d'un emploi dans le secteur formel, aussi bien que l'avantage qu'ont les hommes sur les femmes d'accéder à un emploi dans le secteur formel.*

## Introduction

During the past 35 years or so the Democratic Republic of the Congo (DRC) has experienced a protracted period of poor economic performance, with shorter periods of acute economic crisis. The modern or formal sector of the economy during this period has been largely stagnant or in decline; the informal sector has grown quite substantially. Over this period, women have been increasingly involved in labour force activity, and gender differences in labour force participation have declined.<sup>1</sup> This parallels changes that have taken place elsewhere in the developing world (Tzannatos, 1999).

While the long-term trend has been one characterized by a deteriorating economy, the population, especially in urban areas, has pursued increasing levels of education. This increased educa-

tional attainment of the population has been characterized by a narrowing of the gender gap in education. Families in the DRC see education of their children as a means of escaping or avoiding dire economic circumstances, and they make significant investments in children's education. But the transition from school to work, and most notably work in the modern sector of the economy, is especially difficult in this environment. In particular, lengthy periods of job search and heavy reliance on personal contacts for assistance in finding a job characterize the experience of young jobseekers with comparatively high levels of education (completed secondary and university education).

This paper provides an overview of the labour market in Kinshasa, capital of the Democratic Republic of the Congo and the second-largest city in sub-Saha-

1. Statements here and below pertaining to changes over time in Kinshasa are based on data presented in Shapiro and Tambashe (2003).

ran Africa, with an estimated population as of 2010 of nearly 9 million (United Nations, 2010). We use data from a 2004 survey carried out by the Institut National de la Statistique in Kinshasa to examine gender differences in labour market activity, first by age, so as to assess these differences over the life cycle, and then by educational attainment. The survey covered in excess of 2,000 households, encompassing more than 12,700 individuals (Institut National de la Statistique, 2005).

While gender gaps in labour force activity and in education have declined over time, it is still the case that men are more likely to be employed (and employed in the formal sector of the economy) and to have higher levels of education than women. Following our descriptive analyses of the Kinshasa labor market, we carry out multivariate analyses of labour force status (employed, unemployed, and out of the labour force) in which we distinguish employment in the modern sector from employment in the informal sector. These analyses allow us to assess whether women with similar education to that of men have the same access to jobs in the modern sector of the economy.

The paper is structured as follows. The next section provides a literature review that includes a discussion of the setting. Our discussion emphasizes changes over time in the composition of employment in the Kinshasa labor market and in the educational attainment of the population, and we also review literature on gender and education in developing country labour markets more broadly. We then describe data and methods before proceeding to the

data analysis, which begins with an overview of labour force participation and labour force status, with emphasis on differences by age and by gender. Following this overview, we examine differences in labour force participation and labour force status by educational attainment, again highlighting gender differences. Subsequently, we report and discuss results of multivariate analyses of employment status, with emphasis on schooling, age, gender, and migration status. Our discussion summarizes our findings regarding gender, education, and the labour market in Kinshasa, and the concluding section of the paper addresses some policy implications of our findings.

## **Literature review**

We begin this section with a discussion of employment and education in Kinshasa, and then for comparative purposes we review some relevant literature on gender and education in labour markets in developing countries. Much of the discussion in this first part of the section is drawn from Shapiro and Tambashe (2003), and in particular Chapters 1 (“From Leopoldville to Kinshasa”) and 2 (“Education and Employment”).

Prior to independence in 1960, the labour market in Kinshasa (then known as Leopoldville) was fairly tightly controlled by the Belgian colonial authorities. Consequently, there was only a small informal sector, unemployment was quite low, and employment of women was rare. Following considerable political turmoil in the early 1960s, there was a comparatively brief period of economic expansion in the late 1960s and early 1970s. However, by

the mid-1970s ill-conceived economic policies and a decline in the price of copper (the major source of export earnings and government revenues at the time) began what turned out to be a long-term economic slide, which was exacerbated by high levels of corruption during the lengthy Mobutu regime (1965-1997).

From the mid-1970s to 1990 the economy experienced what may be characterized as chronic crisis, with ongoing high inflation and poor economic performance, and distinctly more rapid growth in the informal sector of employment than in the modern sector. Labour force participation of women, primarily in the informal sector, grew especially rapidly. But beginning in 1990 inflation accelerated considerably, and civil disorder in 1991 and again in 1993 along with continued high inflation resulted in contraction of the modern sector of employment and more rapid expansion of the informal sector. Following a brief civil war (with numerous outside participants as well) the Mobutu regime was overthrown in 1997 and Laurent Kabila came to power. However, by August of 1998 there was a new outbreak of fighting, which continued until 2003.

The long downward slide of the Congolese economy is evident from data from the Penn World Tables (Heston *et al.*, 2006), with estimated real GDP per capita in 2004 being only slightly above one quarter of its value in 1973. Calculation of the year-to-year fluctuations in real GDP per capita makes it clear that while the period from the mid-1970s to 1990 was bad, in that for about three-quarters of the years GDP per capita declined while it

increased in only about a quarter of the years, the period from 1991-2002 was distinctly worse, with an unbroken 12-year stretch of falling GDP per capita, and with especially sharp declines in the early 1990s.

Over time, the informal sector of the economy expanded sharply, as did women's labour force participation, which was primarily in the informal sector. These changes were accompanied by corresponding changes in the industrial structure of employment. For example, in 1955 manufacturing and construction accounted for just over half of total employment in Kinshasa, whereas the share of commerce was less than 15 per cent; by 1984, employment in manufacturing and construction had fallen to under 17 per cent of total employment, while employment in commerce had increased to more than 37 per cent of all employment (Shapiro and Tambashe, 2003, Table 2.3, p. 40). By 2004 the continuation of these trends had resulted in a substantial majority of total employment being in commerce, an industry where 95 per cent of those employed were in the informal sector (Institut National de la Statistique, 2005, Table 2, p. 29).

Despite the economic problems, educational attainment of the population grew rapidly, and gender differences in schooling diminished somewhat. In 1955, more than 85 per cent of women aged 20 and over in Kinshasa had never been to school, with almost all of the remainder having attended only primary school. Among their male counterparts, just over 45 per cent had had no schooling, another 45 per cent had been to primary school, and 9 per cent had gone beyond

primary school. By 1984, more than 45 per cent of women aged 20 and over had been to at least secondary school, another 30 per cent had attended primary school, and just over a quarter had never attended school. Among males, two-thirds of those aged 20 and over in 1984 had been to secondary school or university, close to a quarter had only a primary education, and fewer than 10 per cent had never been to school (Shapiro and Tambashe, 2003, Table 2.1, p. 34).

During the 1990s economic circumstances were especially adverse, yet the educational attainment of the adult population continued to increase. The survey data analysed in this paper show that by 2004 the percentage of women over age 20 with at least some secondary schooling had jumped to 65 per cent (and 34 per cent of women aged 20 and above had reached at least upper-level secondary school), while only 8 per cent had no schooling. Likewise, in 2004 the percentage of men with at least secondary schooling had increased to 83 per cent (and fully 57 per cent had either upper-level secondary or university education), and only 3 per cent of adult men had no schooling.

In sum, then, during the past 35 years the economy of the DRC has experienced an extended period of decline, accompanied by substantial growth in the informal sector and a modern sector that was largely stagnant initially and then declining after 1990. At the same time, educational attainment of the population has increased over this period, with rising numbers of secondary-school graduates and individuals with university education.

As noted above, this increased edu-

cational attainment of the population has been characterized by a narrowing of the gender gap in education. These phenomena of increasing education and a decreasing gender gap in education have been documented more broadly for developing countries by Schultz (1993) for the period from 1950 to 1985. However, the narrowing of gender differences is not always the case. For example, Schultz (2004) reports that the gender gap in education expanded in the last two decades in four of six developing nations he investigated while it contracted in only one of the six countries, Kenya. Further, Calves and Schoumaker (2004) find that while youth from urban Burkina Faso are more likely to be students than youth two decades ago, the gender disparity has expanded over this time period. Specifically, for youth aged 15-24 in 1980 there was a 3.5 percentage point difference between enrolment of males (18.6 percent) and females (15.1 percent), but among those aged 15-24 in 2000 there was a 15.8 percentage point difference between enrolment of males (40.3 percent) and females (24.5 percent).

While gender gaps in labour force activity and in education have generally declined over time, it is still the case that men are more likely to be employed (and employed in the formal sector of the economy) and to have higher levels of education than women. Calves and Schoumaker (2004) present similar findings in their analysis of the youth labour market in urban Burkina Faso, noting that women aged 15-24 are more likely than men to be employed in the informal sector of the economy and less likely than men to be

in school. Likewise, Assam (2009) reports that 62 percent of the female labour force in Pakistan are self-employed (in the informal sector) as compared to 48 percent of the male labour force. More generally, Elson (2007, p. 76) concludes that “women are relatively more concentrated than men in informal employment that lacks the characteristics of ‘decent work.’” With respect to gender differences in unemployment, Elson (2007) uses ILO data for 1993 and 2003 to show that globally women are slightly more likely than men to be unemployed (by 0.3 percentage points). However, she also notes that when looking at broad regions, sub-Saharan Africa (as well as East Asia) is characterized by higher male than female unemployment.

Relative to educational attainment, Schultz (1993) documents the greater education levels of men in developing countries. Cameron *et al.* (2001) note that women in five Southeast Asian countries are less likely than their male counterparts to have an intermediate, secondary, post-secondary, or tertiary education. At the same time, higher women’s educational attainment is associated with greater labour force participation in the developing world (Tzannatos, 1999; Cameron *et al.*, 2001). Specifically, in investigating the effects of education on women’s labour force participation rates, Cameron *et al.* (2001) report that secondary education has a positive but muted effect on women’s labour force participation rates in Thailand and Indonesia. How-

ever, Cameron *et al.* (2001, p. 468) describe a striking relationship between tertiary education and labour force participation, stating “In every country, women’s tertiary education is positively related to the probability of working, and in all countries other than Korea, the magnitudes of the effects are large.”

With respect to gender differences in economic activity, Elson (2007) reports global labour force participation rates of 79 percent for men and 54 percent for women; the corresponding rates in sub-Saharan Africa are 85 percent and 63 percent, respectively. Such gender differences are reported elsewhere for individual countries by, for example, Assam (2009) for Pakistan, and Hinks (2002) for South Africa and Swaziland.

Growth in the informal sector and increasing educational attainment are by no means unique to Kinshasa within the developing world in general and sub-Saharan Africa in particular. It is of interest to provide some comparative data, and for this purpose we consider Glick and Sahn’s (1997) study of the labour market in Conakry, the capital of Guinea in West Africa. They report that just over half of all employment consists of self-employed individuals, while those working for wages are equally divided between the private and public sectors.<sup>2</sup> Differentiating by gender, almost 80 per cent of employed women in Conakry are self-employed, compared to only 35 per cent of men. Educational attainment varies systemat-

2. Glick and Sahn (1997) do not distinguish between the formal and informal sectors. Presumably, the vast majority of self-employed individuals will be in the informal sector, public wage workers will be in the formal sector, while private wage workers may be in either sector.

ically by type of employment in Conakry: public sector employees have an average of almost 11 years of schooling completed, private wage employees average 5.5 years of formal education, and self-employed individuals average just over two years of schooling.

Comparison of these data with those from Kinshasa as of 2004 reveals both similarities and differences. Self-employed individuals in Kinshasa represent 60 per cent of total employment, suggesting a somewhat larger informal sector relative to total employment in Kinshasa. Private and public wage workers constitute 23 and 17 per cent of all employed individuals, respectively. As in Conakry, employed women are distinctly more likely than men to be self-employed: 81 per cent versus 43 per cent. With respect to educational attainment, employees in the public sector have an average of almost 13 years of schooling, compared to 10 years for private wage employees and 8 years for self-employed workers. Clearly, educational attainment in Kinshasa is substantially higher than in Conakry, and differences in educational attainment by type of employment are considerably narrower in Kinshasa. In addition, there is evidence in the literature that, given equal education levels, women do not have the same access to jobs in the modern sector as men in sub-Saharan Africa (Calves and Schoumaker, 2004; Glick and Sahn, 1997).

## **Data and methods**

The data used for this paper are from a survey carried out in Kinshasa in 2004 by the Institut National de la Statistique. The survey was entitled “Enquête 1-2-3 de Kinshasa sur l’emploi, le secteur informel et les conditions de vie des ménages de 2004” (“1-2-3 Kinshasa survey on employment, the informal sector and living conditions of households, 2004”). The survey covered more than 2,000 households and in excess of 12,700 individuals. We focus on data relating to labour force status and activity, and the survey data allow us to distinguish employment in the modern sector from employment in the informal sector.<sup>3</sup>

Our methodological approach begins with simple descriptive analyses of the data in the form of graphs, focused first on gender differences in economic activity by age. The graphs illuminate differences and similarities over the life cycle. We then examine differences by educational attainment. Following these descriptive analyses, we carry out multinomial logit analyses of labour force status, first for men and women together and then separately by sex. We calculate predicted values of modern sector employment from the multinomial logit analyses separately by sex in order to highlight the differences between men and women and between different educational groups in access to employment in the modern sector.

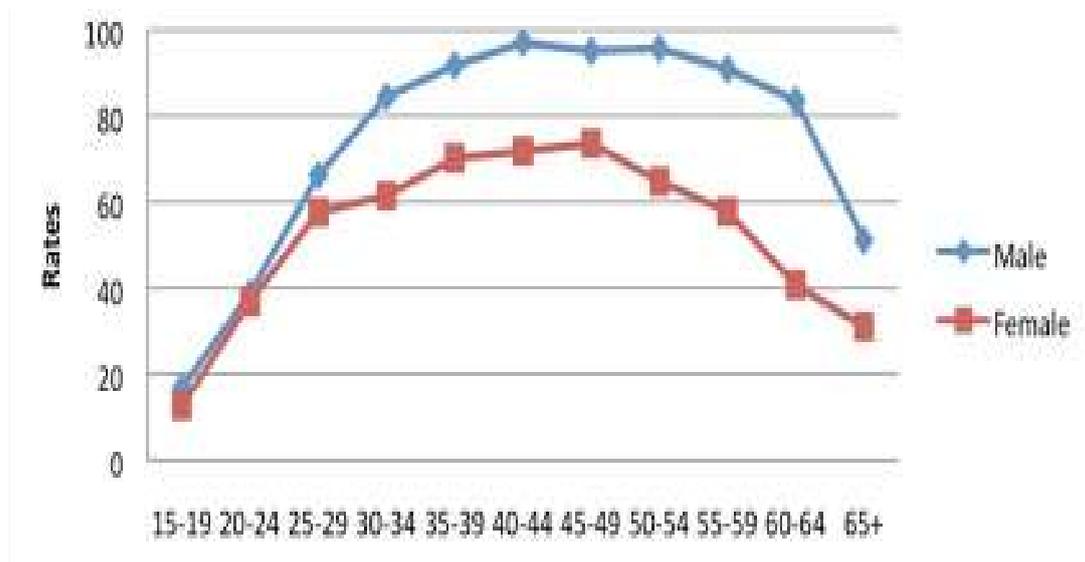
3. The survey data distinguished employment in the formal and informal sectors based on factors including whether the employer paid into social security or had a tax identification number.

## Results (1): labour force participation and labour force status, by age and gender

Among those aged 15 and over, 56 per cent are in the labour force.<sup>4</sup> The labour force participation rate of males 15 and over is 65 per cent, while the corresponding figure for females is 48 per cent. Both male and female labour force participation rates in Kinshasa are lower than the rates reported above by Elson (2007). We believe that these lower rates for Kinshasa reflect two factors: higher participation rates in rural areas (for the countries covered by Elson), and (as discussed below) high rates of school enrolment among those aged 15-19 and 20-24, the two largest age groups among those aged 15 and over. At the same time, the gender dis-

parities in labour force participation rates in Kinshasa are similar to the gender disparities found globally and in sub-Saharan Africa.

Labour force participation rates by age and gender are shown in Figure 1. Among males, the percentage of individuals who are in the labour force rises sharply across the first three age groups from 17 per cent for those aged 15-19 to 39 per cent for those aged 20-24 and 66 per cent for those aged 25-29. Labour force participation rates of males continue to increase up to ages 40-44, reaching 97 per cent, are essentially stable at that level for the next two age groups, and then fall to 91 per cent for those aged 55-59, nearly 84 per cent for those aged 60-64, and finally to a little over 50 per cent for those aged 65 and over.



**Figure 1** Labour force participation rates, by age group and gender

4. We report data with no upper age limit. Had we instead limited the age range to, say, 15-54 or 15-64, the results would have been very similar, both because of the comparatively small size of the population aged 55 and over and the relatively high rates of labour force participation of these individuals.

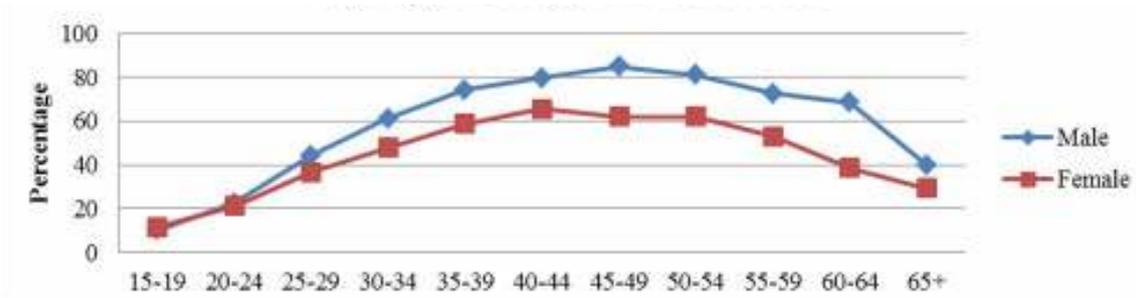
Among females, labour force participation rates are quite similar to those for males for the first two age groups, largely reflecting high rates of school enrolment, as we shall see shortly. Participation rates rise with age, but they do not get as high as those for men: the maximum participation rate of 74 per cent is reached for those aged 45-49, rates fall with age beginning with ages 50-54, first slowly and then more rapidly, and the rate among the oldest individuals (65 and above) is 31 per cent. This gender difference reflects the substantially greater propensity of women aged 30 and over to be out of the labour force (presumably as homemakers) as compared to their male counterparts.

The low but rising-with-age labour force participation rates of younger individuals reflect school enrolment and declining school enrolment with age. Just under 90 per cent of youth ages 10-14 are enrolled in school, with a negligible gender difference. Beginning with the age group 15-19, enrolment rates fall with age, slowly at first and then more rapidly. Among those aged 15-19, 77 percent of males and 72 percent of females are enrolled, while for those aged 20-24 the corresponding figures are 52 and 39 percent, respectively. Hence, the decline in enrolment rates with age is also accompanied by emergence of a gender difference in favour of males.

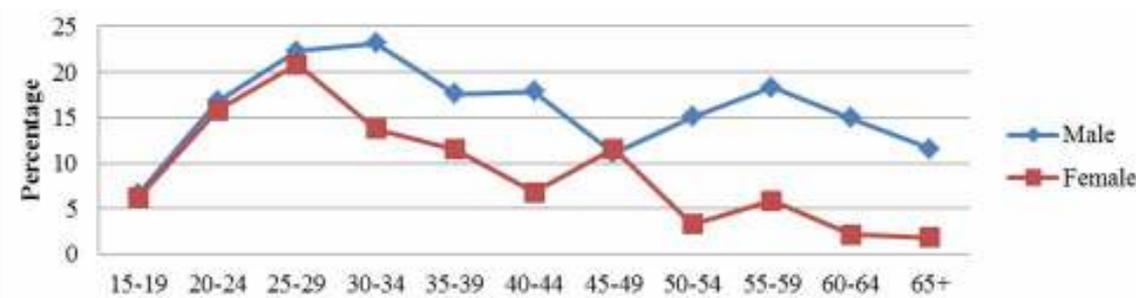
Nearly 43 per cent of the population aged 15 and over is employed, including individuals who are self-employed (primarily in the informal sector) as well as employees in either the modern or informal sectors. The bulk of employment is in the informal sector: 31 per cent of individuals over age 15 are employed there, compared to only 11 per cent who are employed in the formal sector (private or public).<sup>5</sup> Hence, the informal sector accounts for almost three-fourths of total employment. There is a distinct gender difference in the distribution of workers by sector of employment: among men, those employed in the formal sector represent 40 per cent of total employment, whereas among women those in the formal sector constitute about 10 per cent of total employment.

Another 13 per cent of those aged 15 and over are unemployed,<sup>6</sup> while the remaining 44 per cent are out of the labour force. Nearly half of males are employed, as compared to 37 per cent of females; unemployment characterizes close to 16 per cent of males and 11 per cent of females. Hence, while about 35 per cent of males are out of the labour force, nearly 52 per cent of females are not in the labour force. As noted earlier, these differences in labour force participation rates by gender are in accord with findings from throughout the developing world.

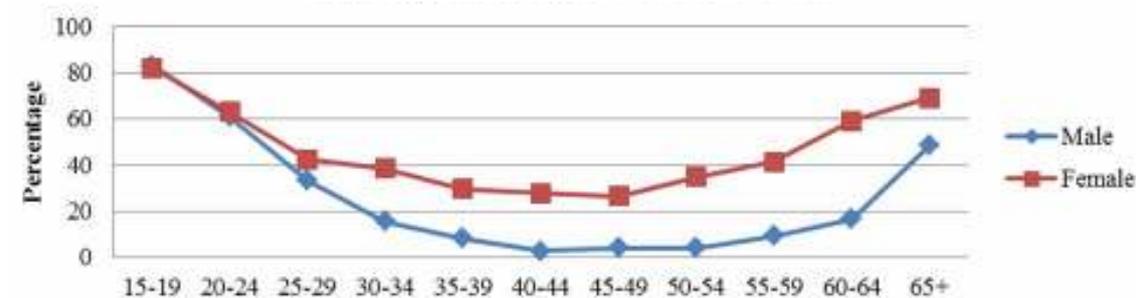
5. The numbers reported in the text are from an Appendix table showing labour force status by sex and age group. This table is available on request from the authors.
6. Employment status in the survey included separate categories for unemployed workers according to the International Labour Office definition (requiring availability for work and active search for employment) and for discouraged workers (typically without search activity). In view of the chronic weakness of the Kinshasa labour market, here we have counted both groups as unemployed.



**Figure 2a** Percentage employed, by age group and gender



**Figure 2b** Percentage unemployed, by age group and gender



**Figure 2c** Percentage out of the labour force, by age group and gender

Gender differences by age in labour force status are highlighted in Figure 2. Prior to age 25 gender differences are negligible, but they begin to emerge among those aged 25-29 and become pronounced afterwards. Men are more likely than women to be either

employed or unemployed, with, for the most part, particularly large gender differences in unemployment from age 30 on. Correspondingly, women are distinctly more likely than men to be out of the labour force from age 30 on.

The overall unemployment rate,

measured as the number of unemployed as a percentage of the labour force (counting as unemployed both individuals who meet the International Labour Office definition of unemployment, requiring some search effort, and also discouraged workers) is close to 24 per cent. There is virtually no gender difference in unemployment rates overall.

In considering unemployment rates by age and gender, we find these rates to be quite high early on, approaching 50 per cent for teenage girls and 40 per cent for teenage boys, who are typically youth with comparatively low levels of schooling. Unemployment rates exceed 40 per cent for young adults in their early 20s (due to grade repetitions, which are quite common in the school system, individuals in their early 20s in Kinshasa are often completing their secondary education, so unemployment in this age group includes recent secondary graduates or secondary school leavers). The unemployment rates decline slowly with age, with not much gender difference up to age 40 but afterward a tendency for the most part to be about 15-20 per cent among men and around 10 per cent among women.

## **Results (2): education, labour force participation, and labour force status**

In this section we provide a descriptive overview of labour force participation and labour force status and how they are related to educational attainment. Reflecting the strong emphasis in Kinshasa on academic credentials, we have

used highest diploma obtained as our measure of educational attainment. Survey respondents fall into six education categories: individuals with no diploma (including both those who never attended school and those who attended but did not complete primary school), those with a primary school certificate, individuals who completed the “cycle d’orientation” that constitutes the first two years of secondary school (referred to below as “junior high”), those who completed a short secondary cycle (typically an additional two years of vocational training, beyond junior high), those who completed the full six-year secondary cycle, and individuals with a university diploma (made up primarily of graduates of three-year post-secondary programs, referred to in the DRC as the “graduat” level, as well as those who complete an additional two or more years of specialization, or “licence”).

Among individuals who are not enrolled in school, there is a clear tendency for those with greater educational attainment to be more likely to be in the labour force, for both men and women.<sup>7</sup> About 70 per cent of men with no diploma are in the labour force, compared to roughly 85 per cent of those with a primary certificate or a secondary diploma but not more. Among men with a university diploma more than 90 per cent are in the labour force. The percentages in the labour force are consistently lower for women, but with the particularly low participation rates of those with no diploma or a primary certificate only

7. Our interest here is in ascertaining differences in labour force participation and status associated with differences in educational attainment for individuals who have completed their schooling. Hence, we restrict the universe to those out of school.

(both under 60 per cent) and the high rate for women with a university diploma (86 per cent), there is again a clear positive relationship between labour force participation and educational attainment. The distinctly higher participation of university-educated women is consistent with results from Cameron *et al.* (2001) reported above.

Figure 3 shows gender differences by education in the labour force status of individuals not in school. Males are more likely to be employed than females in all education groups, and while employment rises with education, the gender gap does not change much after rising in moving from those with no diploma to those with a primary certificate. The gap does diminish a bit in moving to those with a university diploma. Unemployment does not vary much by education among males below upper-level secondary, being around 20 per cent for each of the first four schooling groups. Unemployment then rises to nearly 25 per cent for men with a long-secondary diploma before falling to 15 per cent for those at the university level. Among women not in school, unemployment of those with less than a long-secondary diploma is about 10-15 per cent, compared to 20 per cent and more for those in the two highest education groups. And women are much more likely than men to be out of the labour force for all schooling groups except the university-educated – for that group, the levels are low and the gender gap is negligible.

We noted earlier that overall, about

one-fourth of employment is in the modern sector, with the bulk of employment being in the informal sector. This is especially the case among women: only 10 per cent of employed women have modern-sector jobs, compared to 40 per cent of employed men. For both men and women the likelihood that an individual is employed in the formal sector of the economy increases with education for the most part, especially as one moves to the high-level secondary and then university groups. That is, while fewer than 20 per cent of employed men with no diploma are employed in the formal sector, the figure jumps to over 40 per cent for those with a secondary short-cycle diploma, to almost 50 per cent among those who successfully completed long-cycle secondary schooling, and to nearly 75 per cent for those with a university diploma. Among women the differences by educational attainment are even sharper: 5 per cent or less of the employed in the three lowest educational attainment groups work in the modern sector, compared to 26 per cent of those with completed secondary education and more than 60 per cent of employed women with a university diploma.

Unemployment rates by educational level and by age group are shown in Figure 4.<sup>8</sup> There is a clear general tendency for these rates to decline with age up to the 35-49 age group. For those aged 15-24, unemployment rates are highest for individuals with no diploma, a secondary long-cycle

8. Stratifying by five-year age group as well as education created large numbers of cells, some with relatively few observations (especially among younger and older individuals and those with no schooling). Hence, we aggregated age groups, and we did not further stratify by gender.

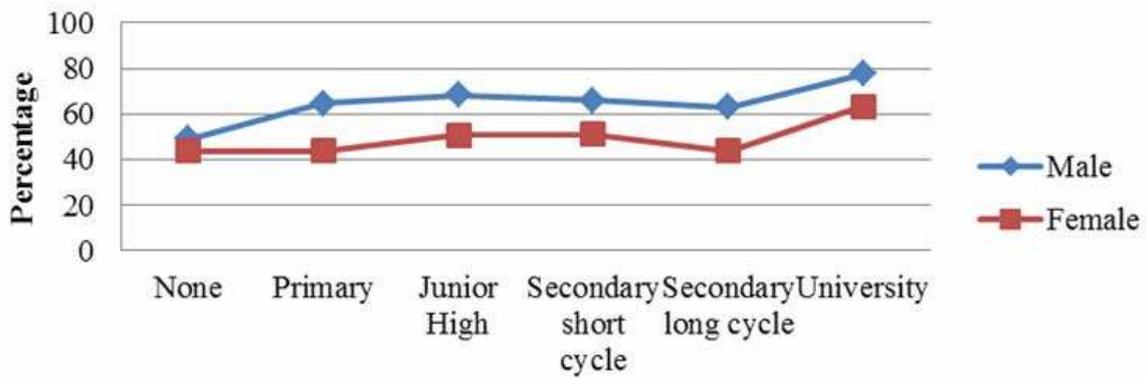


Figure 3a Employment by highest diploma

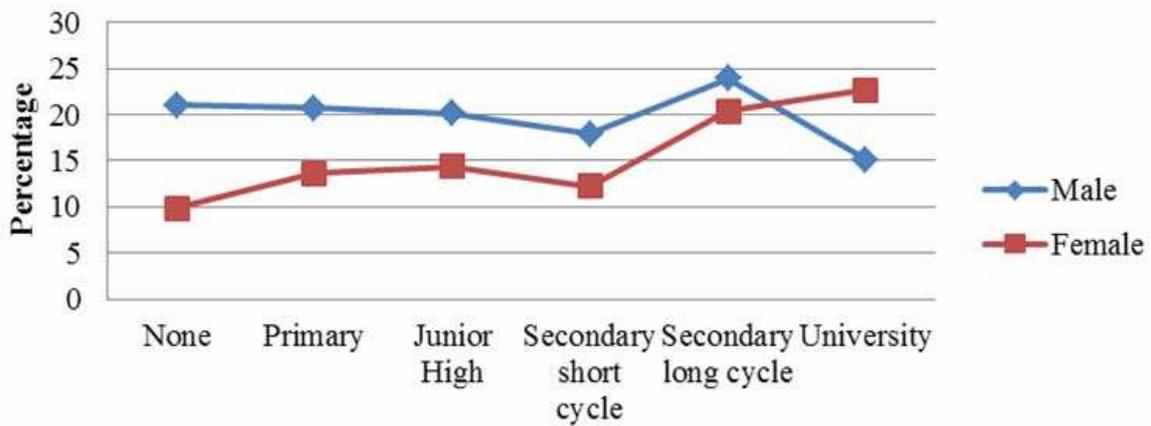


Figure 3b Unemployment by highest diploma

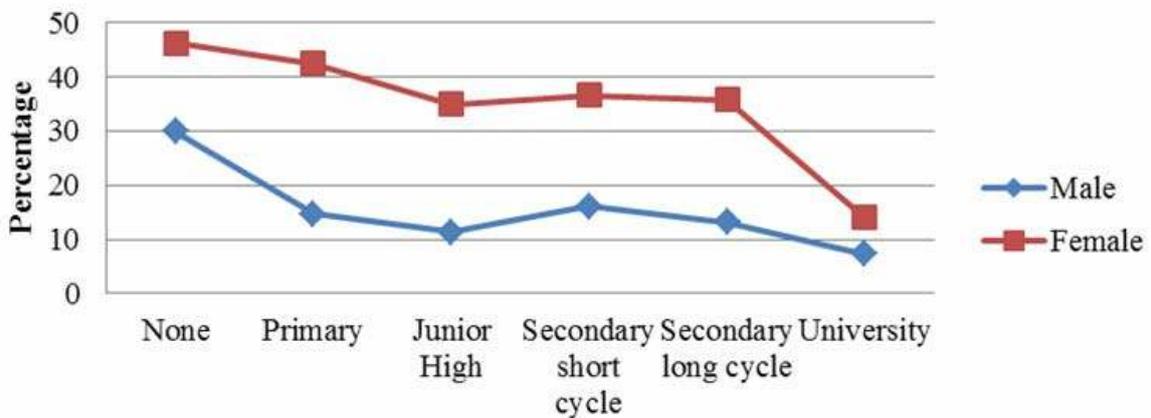
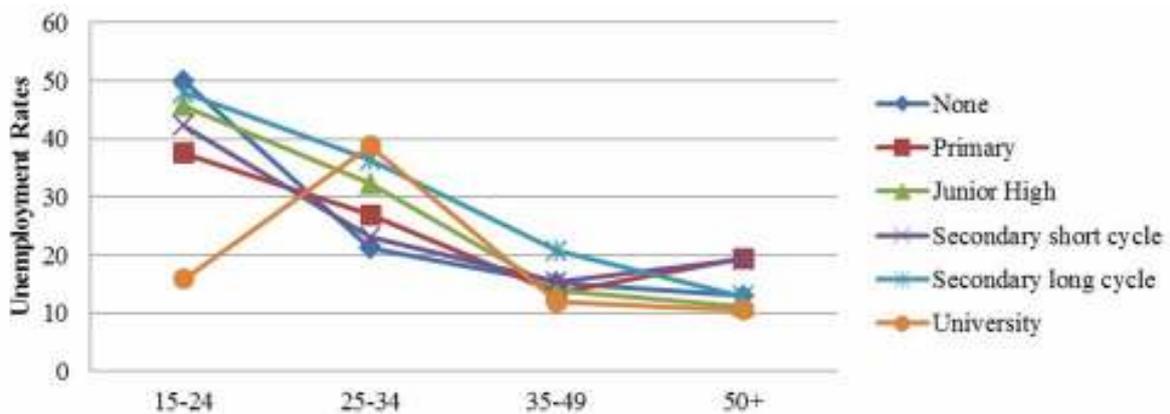


Figure 3c Out of labour force by highest diploma

diploma, and a junior high certificate. For the latter two groups in particular, this age range is when they are most likely to be making the transition from school to work. Among workers aged 25-34, unemployment rates are broadly inversely related to educational attainment, with the highest rates for those with university and completed secondary education and the lowest rate for those with no diploma. These differences presumably reflect much more difficult access to employment in the

formal sector (the destination of choice for better-educated individuals) than in the informal sector (for the most part, the only destination that is viable for those with little or no schooling). By age 35 and beyond, however, there is no longer an inverse relationship between unemployment rates and education: differences in unemployment rates among the different schooling groups are rather modest, and with no systematic pattern.



**Figure 4** Unemployment rates by highest diploma and age group

### Results (3): multivariate analyses of labour force status

As has just been shown, the employment status of individuals is clearly linked to their educational attainment. At the same time, we saw earlier that age and gender are also relevant to determination of labour force status. Given an individual's schooling, age serves as a broad indicator of exposure to the labour market. Better-educated workers who are relatively young and hence have only limited exposure to the labour market especially

high unemployment rates. These rates eventually diminish with age. And these differences are undoubtedly related to differences by education group in the likelihood of finding employment in the formal sector of the economy. Further, given the long-term increase in educational attainment that has taken place in Kinshasa, better-educated individuals tend, on average, to be younger than those with lower levels of schooling. To sort out the effects of age, gender, and education on labour force status, then, multivariate analysis is most appropriate.

Here, then, we report results of

multivariate analyses of labour force status. More specifically, we consider individuals who are not in school as being in one of the following labour force status groups: employed in the formal sector, employed in the informal sector, unemployed, and out of the labour force. We estimate multinomial logit equations in which age and educational attainment are the principal explanatory variables in determining the labour force status of individuals. Migrant status is also included in these equations. The equations are estimated for all individuals, with an additional variable included that identifies women, and they are also estimated separately for men and women.

Table 1, Part A reports the results of the multinomial logit estimates for the sample of all individuals aged 15 and above who were not in school. The coefficients in the first column of numbers in the table show the impact of age, educational attainment, migrant status, and gender on the likelihood of being employed in the modern sector as opposed to working in the informal sector. The second column of coefficients shows the effects of those variables on the likelihood of being unemployed relative to being employed in the informal sector, while the third column indicates the impact of the variables on the likelihood of being out of the labour force as opposed to working in the informal sector.

The importance of educational attainment as a means of gaining access to jobs in the modern sector is evident in the first column of coefficients. Among individuals with a short-cycle diploma, completed secondary schooling, or a university diploma, the likeli-

hood of employment in the modern sector as compared to work in the informal sector is significantly greater than that for individuals with only junior high schooling, and rises with educational attainment. Those with no diploma are significantly less likely to be in the modern sector, other things being equal.

The likelihood of employment in the modern sector relative to work in the informal sector rises with age, other things equal, but at a declining rate. The maximum is reached at about age 68. There is a small and statistically significant tendency for migrants to be more likely to be employed in the modern sector, and other things equal, women are significantly less likely than men to be employed in the modern sector rather than in the informal sector.

As may be seen in the second set of coefficients in Part A of the table, increasing educational attainment tends to make for a greater likelihood of being unemployed as compared to being employed in the informal sector. This is especially so for the long secondary and university groups. The coefficients on age and age squared imply a negative effect of age on the likelihood of being unemployed rather than working in the informal sector, with the effect diminishing in magnitude (becoming less negative) as age increases up to about 51, and then increasing afterwards. Migrants appear to be a bit less prone to be unemployed, but the difference is not statistically significant. And women are significantly less likely than men, other things equal, to be unemployed rather than working in the informal sector.

**Table I** Multivariate analyses of employment status, overall and by gender

<b>A Men and women</b>			
Variable	Modern sector vs. informal sector	Unemployed vs. informal sector	Out of labour force vs. informal sector
Age	0.103**	-0.149**	-0.267**
Age squared	-0.0008**	0.001**	0.003**
Schooling			
None	-0.818**	-0.248+	0.044
Primary	-0.008	-0.159	0.020
Junior high	--	--	--
Secondary short cycle	0.736**	0.216	0.264+
Secondary long cycle	1.269**	0.609**	0.346**
University	2.281**	0.913**	0.041
Migrant	0.257**	-0.114	-0.107
Female	-1.245**	-0.312**	1.071**
Parameters			
Intercept	-4.256**	2.413**	3.905**
Log Likelihood		-6210.2	
Model chi square		2257.9	
Pseudo R square		0.154	

Sample size =5632.

**B Men**

Variable	Modern sector vs. informal sector	Unemployed vs. informal sector	Out of labour force vs. informal sector
Age	0.129**	-0.135**	-0.410**
Age squared	-.0009**	.001**	.005**
Schooling			
None	-0.547*	-0.030	-0.081
Primary	0.176	-.177	-.198
Junior high	--	--	--
Secondary short cycle	0.784**	0.309	0.479+
Secondary long cycle	1.079**	0.558**	0.697**
University	1.978**	0.681**	0.779**
Migrant	0.260*	-0.108	-0.482**
Parameters			
Intercept	-4.917**	1.918**	6.417**
Log Likelihood		-2968.2	
Model chi square		975.8	
Pseudo R square		.141	

Sample size =2605.

**C Women**

Variable	Modern sector vs. informal sector	Unemployed vs. informal sector	Out of labour force vs. informal sector
Age	0.011	-0.131**	-0.206**
Age squared	0.0002	0.0009*	0.002**
Schooling			
None	-1.145*	-0.256	0.017
Primary	-0.803+	-0.153	0.071
Junior high	--	--	--
Secondary short cycle	0.641	0.037	0.150
Secondary long cycle	1.955**	0.671**	0.302+
University	3.447**	1.277**	-0.104
Migrant	0.093	-0.179	-0.021
Parameters			
Intercept	-3.689**	2.118**	3.891**
Log Likelihood		-3147.9	
Model chi square		654.6	
Pseudo R square		.094	

Sample size = 3027.

Universe: Individuals not in school and aged 15 and over.

\*\* Significant at the .01 level.

\* Significant at the .05 level.

+ Significant at the .10 level.

The third set of coefficients in part A pertains to the likelihood of being out of the labour force as opposed to working in the informal sector. With the exception of those with long-cycle and short-cycle secondary education, who have a significantly greater likelihood of being out of the labour force as compared to those with junior high schooling, there are no significant differences by education group. As in the previous case age has a negative but diminishing effect up to a point, here, age 43, and then a positive effect. Especially highly significant is the gender difference: other things equal, women are substantially more likely than men to be out of the labour

force as compared to working in the informal sector.

Overall, the equations yield a highly significant set of results. At the same time the pseudo  $R^2$  is only .15. Clearly, other factors that we have not taken into consideration are pertinent as well to determination of labour force status. An obvious such factor in this context is the nature of the network of friends and relatives who might be able to provide access to a particular job candidate for a position in the modern sector. That is, in a setting where such jobs are scarce relative to the pool of academically qualified jobseekers, “who you know” becomes as important if not

more important than “what you know.” Even for employment in the informal sector, an individual’s network of friends and family may influence prospects for access to capital to permit establishment of some new enterprise that provides the individual with employment. Since the survey data we analysed did not explore such networks, we were not able to take these considerations into account. This suggests that future data collection aimed at studying determination of sector of employment in developing countries would benefit from inquiring into the nature of the networks to which individuals have access that might facilitate securing or establishing employment. The results in part A of Table I are from a sample including males and females, with gender differences captured by a single dummy variable. Parts B and C of the table report estimates from separate equations by gender. This separation allows for gender-specific effects of each of the explanatory variables.

Consider the estimates by gender for the likelihood of being employed in the modern sector as compared to being employed in the informal sector. For both men and women the individuals in the two highest schooling groups are significantly more likely than others to be employed in the modern sector (this is true as well for men with short secondary diplomas). However, the magnitude of the differences is distinctly greater for women than for men. Age effects are evident among men, with the likelihood of being in the modern sector relative to the informal sector rising with age but at a decreasing rate. The quadratic specification of age

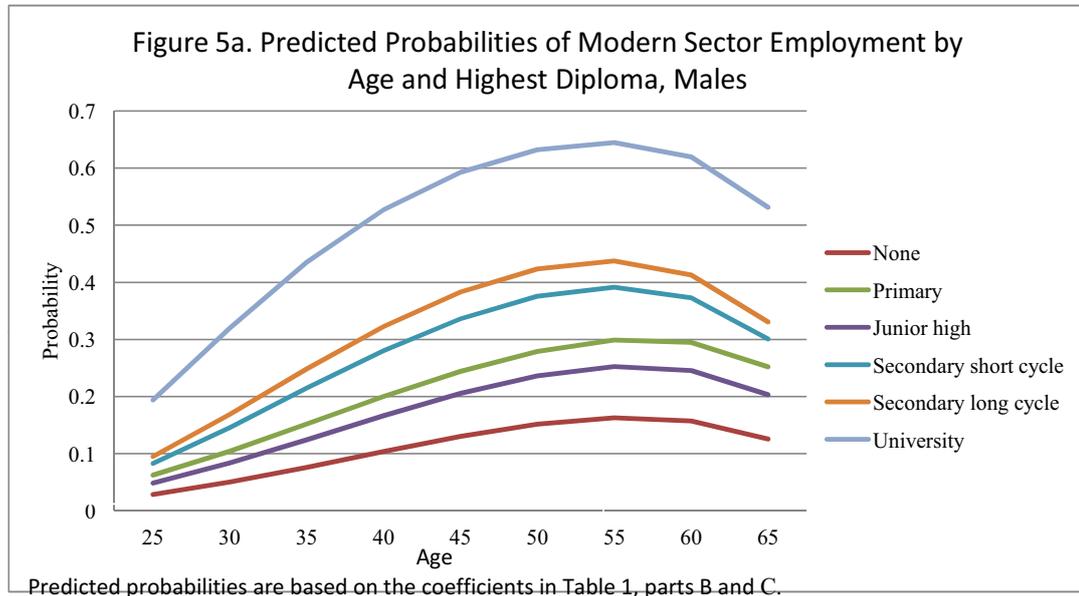
was insignificant among women. However, in a linear specification of the model (not reported here) the coefficient of age for women is positive and significant, but smaller than the corresponding coefficient among men.

With respect to the likelihood of being unemployed as compared to being employed in the informal sector, both men and women in the two highest schooling groups are significantly more likely than their lesser-educated counterparts to be unemployed. Again, however, the magnitudes of the differences are considerably greater among women than among men. The linear age coefficients are similar, but for men there is a larger squared term, indicating that the likelihood of being unemployed diminishes with age more rapidly among men and actually increases over age 47, whereas among women that likelihood decreases up to age 70.

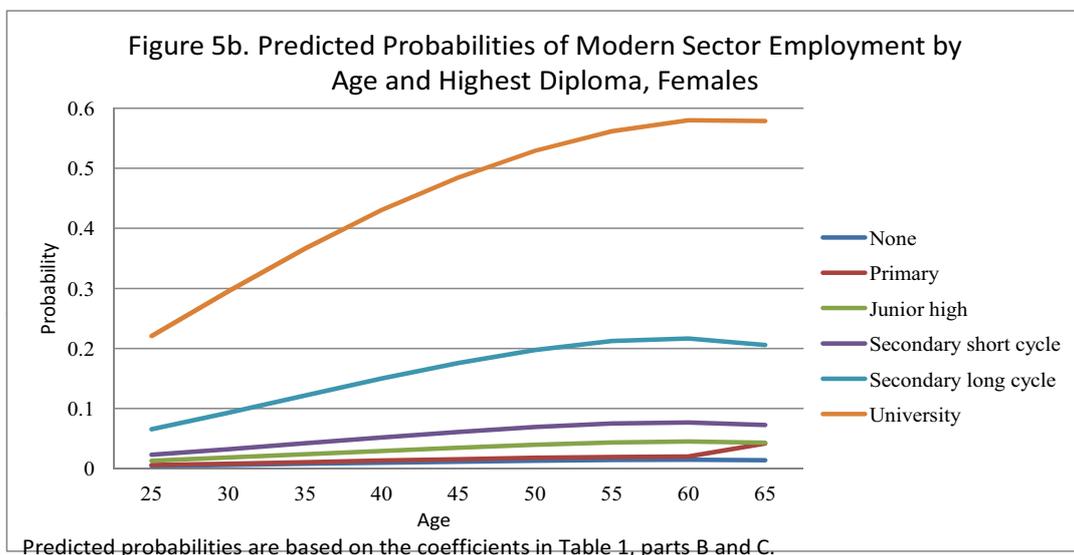
The status of being out of the labour force is the one with the most substantial gender differences. Among men, beginning with those with short secondary diplomas, there are increasing and positive coefficients as education rises, indicating a positive relationship between schooling and the likelihood of being out of the labour force. Among women, however, there is only one weakly significant coefficient, indicating that women with a long secondary diploma are more likely to be out of the labour force than other women. The age and age squared coefficients are also quite different by gender. In both cases the coefficients imply a negative effect of age on the likelihood of being out of the labour force that becomes positive around age 43 or

44, but for men the initial negative effect is considerably greater than for women. Thus, aging up to the mid-40s is associated with a reduced likelihood

of being out of the labour force, but with greater impact for men than for women.



**Figure 5a** Predicted probabilities of modern sector employment by age and highest



**Figure 5b** Predicted probabilities of modern sector employment by age and highest diploma, Females

Migrant men are significantly less likely than Kinshasa natives to be out of the labour force, other things equal; there

are no significant migrant-nonmigrant differences among women. And as in the pooled equation, the overall explan-

atory power of the separate equations by gender is comparatively low (pseudo  $R^2$  of .14 for men and .09 for women), despite the significant age coefficients and a number of significant education coefficients.

To better grasp the implications of these estimates, it is useful to consider predicted probabilities of being in various labour force status categories by gender, educational attainment, and age. In particular, here we consider the predicted probabilities of being employed in the modern sector, based on the gender-specific estimates in Table I, and shown in Figure 5.

Among both men and women, these probabilities rise with increasing education and, up to a point, with increasing age. However, the gender differences are notable. For any given educational group, the probabilities are lower for women than for men, particularly so for all those with less than a university education.

In essence, then, while it is true that more schooling enhances the prospects of both men and women for securing modern sector employment, there are much stronger effects of increased education among men, up through secondary long-cycle education. Among women, the only strong effect is apparent in going from secondary long cycle to university diploma: peak predicted employment in the modern sector among women in the long-secondary group is only just over 20 per cent (compared to more than 40 per cent for men), while among university-educated women peak predicted modern-sector employment is almost 60 per cent (compared to almost 65 per cent for men).

## Discussion

This paper has provided an extensive overview of the labour market in Kinshasa. We have documented differences in labour market outcomes by age, gender, and educational attainment. For both males and females, labour force participation is low prior to age 25, reflecting school enrolment. Participation then rises to reach peak levels (above 95 percent for men and close to 75 percent for women) when individuals are approximately 40-49 years old. Half of men and 30 percent of women aged 65 and over are in the labour force. And unemployment, while high overall, is especially high among young individuals.

Despite the persistence of a labour market with limited opportunities for modern sector employment and a rapidly-growing informal sector, educational attainment of the adult population has risen sharply over time. Increased educational attainment is associated with greater labour force participation and tends to improve access to the highly-coveted jobs in the modern sector. However, there is a gender dimension to the link between schooling and the prospects of landing a modern-sector job: below university-level education, men are substantially more likely than women with similar education to have modern sector employment. The vast majority of employed women with less than a university education are working in the informal sector of the economy. Only among the best-educated individuals is the gender gap small. Hence, for Kinshasa our finding of a disadvantage for women regarding access to modern sector employment parallels findings

noted above for urban Burkina Faso (Calves and Schoumaker, 2004) and for Conakry, Guinea (Glick and Sahn, 1997).

## Conclusion

Like many other struggling economies in the developing world and especially in sub-Saharan Africa, the Congo is characterized by a population with rising education and aspirations, but severely limited employment opportunities. The fact that women have more difficult access to modern sector jobs than men with similar educational attainment, especially below the university level, is suggestive of labour market discrimination against women. This, in turn, implies that public policy should strive to prevent such discrimination.

The high levels of unemployment, especially among younger workers with comparatively high levels of education, can only be mitigated if policies are put in place that facilitate growth of employment – i.e., that stimulate increased demand for labour. Such policies would seek to promote establishment and growth of private sector enterprises, and would include efforts to alleviate bureaucratic and corruption-related constraints to doing business in the Congo. The ongoing increases in the educational attainment of the population despite a considerably adverse economic environment make it clear that there is a supply side to the labour market that is ready and waiting; what is needed to improve the labour market situation and better accommodate the growing numbers of individuals with increased levels of education is a strong stimulus to the demand side of the market.

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