Gender disparities in old-age economic security in Ghana and South Africa

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Abstract

The current policy discussion in many countries refers to a pressing issue–economic security in old age. This paper provides an empirical estimation of gender disparities in the economic well-being of current generations upon reaching old age in Ghana and South Africa. We construct model-based measures of lifetime earnings for both countries, using panel data sets for each country and the generalized method of moments, both for the self-employed and for wage earners. The former predominate in Ghana while the latter comprise the bulk of the labor force in South Africa, making for a salient comparison. We project old-age income for retirees using the current eligibility rules and benefit formulas in each country. We then assess the adequacy of the existing conditions of employment and old-age benefits system (including occupational pensions) to provide an adequate living standard for the elderly, with a focus on gender differences and their sources. We conclude by suggesting policy measures to address both overall inadequacies of policies meant to ensure old-age economic security, as well as the gender differences we find.

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1 Introduction

We are investigating gender gaps in retirement income security. These can be linked to gender gaps in income across the lifetime. There are three main causes of gender gaps in lifetime earnings. First, gender differentials in lifecycle labor force engagement typically mean that women are engaged in paid work for less of their adult lifetime than men. Second, gender gaps in employment with retirement benefits mean that even when employed for pay, women are less likely to be in positions with retirement benefits (whether private or public). Finally, widely documented gender wage gaps among the employed mean that retirement benefits will likely be lower for women, to the extent that benefits are tied to earnings.

These dynamics, especially the first two, are not unrelated. Employers discriminate against women because of assumptions about women's role in child-raising. THis can mean lower likelihood of being hired, and of being trained or promoted once hired. The lack of employment security will decrease the likelihood of mothers to work for wages. This is due to the relative lack of employment opportunities and to the lack of decent work for women relative to men. This implies that there will be significant gender gaps in retirement income.

2 Literature Review

2.1 Lifetime Earnings

The most straightforward way to analyze lifetime earnings is to use panel data. The best-case scenario is to use linked administrative data (panel surveys, tax returns, etc.). The ASTRID data set used in Sweden as well as data sets used by the US Federal Reserve are important examples. Unfortunately these are not generally available to mere mortals. A second best option is to use panel surveys that collect earnings data. For example, the Panel Survey of Income Dynamics (PSID) is an important data set for studies of lifetime earnings in the US.

In the extant literature, these types of data sets are used to analyze and describe patterns in lifetime earnings. This is frequently useful in making comparisons between subgroups differentiated by gender [Rose and Hartmann, 2018], by race [Glover et al., 2023, Congdon et al., 2024], or by education [Tamborini et al., 2015].

These data sets can also be used to simulate alternative lifetime earnings scenarios (as in Gustafsson and Holmberg [2023]), or to assess income inequality on a lifetime scale rather than a cross-sectional scale (as in Creedy [1991]).

When linked administrative or panel data are unavailable, as is frequently the case, cross-sectional data sets from labor force or household surveys are frequently employed. These studies typically leverage cross-sectional age composition to simulate lifetime trajectories. This requires slightly more heroic assumptions about future trends. There are relatively few examples of this approach, though some have attempted to investigate the impact of having children on women's lifetime earnings [Chapman et al., 2001]).

2.2 Pensions in Ghana and South Africa

2.2.1 Ghana

Based on best 3 years of annual salary in formal employment. Benefits are based at 35% but can increase to 60% in 1.2% increments for each year worked after age 55.

2.2.2 South Africa

Retirement benefits in South Africa are means-tested, with a maximum benefit of 2,310 Rand per month.

3 Data and Method

3.1 Data

For the study of retirement security in Ghana, we employ the Ghana Living Standards Survey (GLSS) to produce estimates of lifetime earnings. There are seven waves of survey data available at writing.[1] There is a relatively uniform set of variables of interest for the study across the waves. The data is cross-sectional without any panel characteristics. For the final year of the study, we will also use the Annual Household Income and Expenditure Survey from 2022 (AHIES 2022, Ghana Statistical Service (GSS) [2023]). We also use the Ghana Urban Household Panel Survey (GHUPS) to generate a model of employment transitions.

For South Africa, we use the Post-Apartheid Labour Market Series (PALMS)/Labour Market Dynamics (LMD) survey. This survey has fifteen years of data, enumerated quarterly. For the most part, the survey is cross-sectional. However, it does feature a semi-panel structure, with a subset of each cohort surveyed a second time after a year.

3.2 Empirical Methods

3.2.1 Matching

One approach to the missing data problem that estimating lifetime earnings poses is statistical matching. We can match individuals in each wave of a cross-sectional survey to each other based on individual characteristics controlling for matches by birth year cohorts. We could generate some variability in the outcomes by performing a multiple statistical matching method, in which we could draw from the distribution of the coefficients in the propensity score estimates to create multiple implicates of the matching score used in the matching procedure. If we created five sets of propensities for each record, we could then statistically match each implicate to produce five sets of lifetime earning profiles. We could then estimate lifetime earnings profiles with cross-sectional

[1] An eighth wave is in the field as of the time of writing. We use wave 3 [Ghana Statistical Service (GSS), 1991], 4 [Ghana Statistical Service (GSS), 1998], 5 [Ghana Statistical Service (GSS), 2006], 6 [Ghana Statistical Service (GSS), 2012], and 7 [Ghana Statistical Service (GSS), 2017].

surveys by either using the cross-sections as the basis for average lifetime earnings [2] or interpolating earnings for the intervening years. In the latter case, we would use the generalized method of moments model to estimate family formation dynamics and employment and earnings profiles. The advantage to this approach is that it gives us individual-level lifetime earning profiles, with options for incorporating uncertainty about assumptions

3.2.2 Pseudo-panels

Pseudo panels are essentially analysis by cohorts over cross-sectional data. Instead of using individuals in panel survey data, we can use intra-cohort mean vaues for variables of interest to run a model for earnings. For Ghana, where we have gaps between waves of our survey data, and for South Africa, where we have just fifteen years of cross-sectional data we can interpolate values for estimated coefficients for intervening years or extrapolate them for years outside the range of our data. The result is consistent subgroup averages for lifetime earnings. One advantage of this approach is the relative ease of producing estimates compared to matching methods.

3.2.3 Employment transitions

The question of how to model transitions into and out of the paid workforce is crucial for modeling lifetime earnings trajectories. Gender differences in lifetime earnings will hinge in great part on differences in the dynamics of employment between men and women over the lifetime. If we had quality panel data available for both countries this would not be an issue, of course. But the nature of the data available for each country compels us to model the behavior of individuals in the labor market. Because the PALMS/LMD data for South Africa has a panel component, we can use observations of individual transitions into and out of paid work. The same cannot be said for Ghana, however, so we will need a different approach. The method for each country is discussed next.

To model employment transitions for Ghana, we have at least three potential options. We can employ a pseudo-panel approach by estimating the impact of sub-group average characteristics on the shares of the adult population that are paid workers, self-employed or unpaid family workers and use the result to predict transitions for individuals. We can use statistically matched data to provide the transitions (because the records that are matched in later years also have employment status attached to them). We could also use an alternative data source, the Ghana Urban Household Panel Survey (GHUPS), to model employment transitions and use the results to predict transitions in the GLSS Data.

In the PALMS data, we have households sampled for four consecutive quarters. We use the changes in employment status for individuals in sampled households between the first and last quarter surveyed to generate a model of employment transition.

[2] While Brady et al. (2018) demonstrate that averaging five random years of household income produces a good proxy for permanent household income, this exercise has not been attempted for individual earnings.

4 Results

At this stage, our results are preliminary and descriptive. We begin by assessing the gender dynamics in employment positions in Ghana and South Africa between 2006 and 2022, the years for which we have cross-sectional data available for both countries.

4.1 Employment positions

Turning first to the examination of gender differences in employment positions in Ghana, Table 1 shows the rate of engagement in wage employment by adult men and women in five-year birth cohorts beginning in 1928 for the five waves of the GLSS between 1992 and 2017 and the AHIES 2022. Gender gaps are large in each cohort and each year, with the exception of the youngest cohort in each year. The very youngest workers are the least likely to be engaged in wage work, at least among males, but the gender gap is low. For example, among those born between 1998 and 2002, the male rate of wage work in 2017 is 8.8 percent compared to the female rate of 6.1 percent. Within later survey years, the cohort with the highest rate of wage work is the same for male and female workers. There appears to be some shift towards younger wage workers over time. In 1992, the cohort with the highest share of wage workers among men was the 1948-1952 birth cohort (40 to 44 year olds), while among women, it was the 1958-1962 birth cohort (30 to 34 year olds). In later survey years, the peak male wage work share shifts to younger workers and the age difference for peak wage difference between men and women disappears, so that in 2022 the highest share is among the 1988-1992 birth cohort (30 to 34 year olds) of both men and women.

The share of wage workers that have access to benefits through their jobs is broken down by sex and cohort in Table 2. Gender gaps in benefit eligibility do exist, but not always in one direction. Males generally have a higher level of recipiency in the middle-aged cohorts, born between 1959 and 1978, but the next older cohort has little difference. Younger cohorts, on the other hand, show a higher rate of benefit recipiency among female wage workers. This implies a shift in the gender balance of formal employment over time. One potential explanation for such a shift is a change in the relative education of men and women over time.

To examine that possibility, we show the average years of education for the same cohorts in Table 3, below. Note that the years of education are calculated for each year based on questions in the GLSS and AHIES regarding levels of education completed. These questions are not consistent across the surveys and so some year-to-year variability in years is apparent. Within cohorts, for example we would not expect a decline in average years of education between two survey years, though we do see examples of this in the table. There does seem to be a discernable narrowing of the gender gap for the younger cohorts, though not an inversion. Changes in education patterns cannot by themselves explain the shift in shares of women in formal employment.

Turning to mean monthly earnings of male and female wage workers, broken down by cohorts in Table 4, we see that for the most part, the expected pattern of significant gender gaps in earnings prevails. Indeed, it seems that gender wage gap is getting larger,

at least in absolute terms, at least up until 2022. If we calculate lifetime earnings as average earnings by cohort using just those that appear in at least four years of the survey, however, we find near parity in lifetime earnings between male and female wage workers among the older cohorts (born between 1953 and 1962), while the gender gap among the younger cohorts is 20 to 35 percent. This may be evidence for equalizing of earnings between men and women across the lifetime, but it may also be due to which women are likelier to be working for pay in their later years.

Table 1: Share of men and women 18-64 in wage work - Ghana

Birth	1992		1999		2006		2012		2017		2022	
Cohort	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1928-1932	16.9	4.2										
1933-1937	25.5	4.7	11.7	3.7								
1938-1942	32.0	6.5	20.3	7.7	9.6	2.6						
1943-1947	34.9	7.7	27.1	5.9	12.7	1.0						
1948-1952	38.4	9.9	35.1	11.8	30.5	7.5	13.8	5.4				
1953-1957	32.9	12.1	31.8	7.5	30.9	7.0	22.3	8.8	17.4	4.3		
1958-1962	33.2	12.2	31.3	10.5	28.0	8.8	30.8	9.1	29.9	9.2	15.0	4.8
1963-1967	27.2	10.1	28.3	6.2	28.8	7.0	31.8	12.0	31.4	10.0	24.9	8.9
1968-1972	13.1	7.0	23.8	7.1	27.7	6.1	31.7	9.4	34.6	9.7	28.9	6.7
1973-1977	4.2	2.3	16.0	8.0	30.0	10.4	37.2	10.6	36.0	11.4	35.9	12.6
1978-1982			4.9	3.4	27.5	8.3	41.2	11.6	41.4	15.1	33.1	11.7
1983-1987					10.6	6.2	44.9	16.6	47.2	18.0	39.5	17.4
1988-1992					3.5	2.3	27.6	15.4	40.1	19.9	39.7	18.9
1993-1997							6.8	5.4	22.1	15.1	28.6	17.2
1998-2002									8.8	6.1	15.9	12.1
2003-2007											6.1	5.4

Source: Authors' calculations using GLSS and AHIES.

Table 2: Share of male and female wage workers 18-64 with benefits - Ghana

Birth	1992		1999		2006		2012		2017		2022	
Cohort	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1928-1932	48.8	0.0										
1933-1937	80.0	20.0	36.3	30.5								
1938-1942	73.0	50.0	65.1	34.3	21.5	100.0						
1943-1947	80.9	75.0	67.0	42.2	50.1	26.7						
1948-1952	78.0	59.5	71.8	60.9	73.5	58.6	29.3	34.9				
1953-1957	66.2	62.5	61.1	61.1	72.8	59.1	61.9	55.4	35.9	17.6		
1958-1962	60.8	73.8	53.0	64.8	58.6	49.9	60.9	52.5	53.9	52.0	26.9	3.9
1963-1967	47.4	44.9	55.1	36.9	52.8	48.5	56.9	40.7	43.4	43.2	55.7	48.8
1968-1972	21.8	24.1	27.7	27.6	43.5	45.8	46.9	48.1	43.8	29.9	47.5	31.3
1973-1977	11.8	12.5	21.4	6.8	34.6	47.5	45.3	36.4	38.8	36.4	42.9	33.8
1978-1982			1.4	0.9	25.4	30.0	33.9	40.9	36.5	32.1	43.2	40.2
1983-1987					8.7	7.5	31.2	37.5	38.8	45.4	47.4	44.3
1988-1992					0.0	0.0	14.7	18.0	25.6	39.2	37.1	46.6
1993-1997							4.7	3.8	9.7	12.0	21.2	23.8
1998-2002									4.8	1.9	5.1	7.1
2003-2007											0.0	1.8

Source: Authors' calculations using GLSS and AHIES.

Table 3: Average years of education of men and women 18-64 - Ghana

Birth	1992		1999		2006		2012		2017		2022	
Cohort	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1928-1932	8.4	7.5										
1933-1937	8.4	6.2	9.6	7.9								
1938-1942	8.8	7.0	7.8	5.3	10.0	8.0						
1943-1947	8.7	7.1	8.5	7.3	10.0	8.5						
1948-1952	9.2	7.7	8.8	7.2	10.2	8.3	10.3	8.6				
1953-1957	8.8	8.3	8.6	6.7	10.0	8.1	9.7	8.5	9.9	8.5		
1958-1962	9.2	8.0	8.9	7.2	9.9	8.3	9.7	8.5	10.1	8.2	10.6	9.9
1963-1967	9.0	8.1	8.6	6.5	9.9	8.2	9.9	8.5	9.6	8.2	10.8	9.7
1968-1972	8.6	8.0	8.9	7.1	9.4	8.3	9.6	8.6	9.8	8.2	10.4	9.2
1973-1977	8.2	8.0	9.0	7.6	9.5	8.2	9.8	8.3	9.8	8.2	10.5	9.2
1978-1982			8.3	7.3	9.4	8.3	9.8	8.5	9.8	8.3	10.4	9.4
1983-1987					8.9	8.6	10.2	9.0	10.4	9.2	10.8	9.8
1988-1992					7.6	8.2	10.1	9.5	10.4	9.5	11.3	10.2
1993-1997							9.0	9.0	10.1	9.5	11.5	10.8
1998-2002									8.6	8.4	11.3	11.0
2003-2007											10.7	10.5

Source: Authors' calculations using GLSS and AHIES.

Table 4: Mean earnings of men and women in wage work (2022 Cedi) - Ghana

Birth	1992		1999		2006		2012		2017		2022	
Cohort	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1928-1932	190	212										
1933-1937	478	316	178	162								
1938-1942	219	1,346	1,197	137	539	903						
1943-1947	643	197	231	162	1,485	1,295						
1948-1952	275	208	550	165	1,828	781	1,433	1,561				
1953-1957	235	186	278	185	1,087	819	2,124	2,397	1,729	1,871		
1958-1962	228	389	440	192	1,029	524	1,875	3,996	2,519	1,646	1,222	474
1963-1967	185	283	267	139	1,224	641	2,511	1,270	2,217	2,085	3,228	2,449
1968-1972	139	173	343	243	851	720	2,558	1,844	2,040	1,173	2,132	1,845
1973-1977	112	386	192	109	766	918	2,011	1,688	2,269	1,488	2,101	1,410
1978-1982			170	154	627	431	2,022	1,236	2,194	1,261	1,938	1,357
1983-1987					314	245	1,780	1,154	2,062	1,398	1,830	1,439
1988-1992					197	160	1,480	906	1,477	1,119	1,538	1,158
1993-1997							592	355	1,194	565	1,215	1,012
1998-2002									762	433	876	493
2003-2007											708	341

Source: Authors' calculations using GLSS and AHIES.

In South Africa, wage work is much more prevalent than in Ghana, as can be seen in Table 5, but gender gaps are prevalent as well. While it is the case that gender gaps are shrinking across cohorts over time, this seems almost entirely explained by the *declining* prevalence of wage work among adult men. The share of men from the 1968-1972 birth cohort working for pay in 2008 was 65.1 percent, but by 2022, the share is just 48.4 percent. Only men in their forties have a share greater than half in 2022. At the same time, there is little difference in the share of women working for wages in any cohort (other than those aging in or out of the adult age range) between 2008 and 2022.

In Table 6, we show the share of paid employees eligible for benefits by gender and birth cohort. The share of workers with access to benefits rises with age, as younger workers tend to be in less formal permanent work. The overall pattern here is that older cohorts have a much larger gender gap than younger cohorts. Indeed, among those born in the 1980s and after there is little difference and even a larger share of women workers with access to benefits, echoing the results for Ghana discussed above. The inversion of the gender gap among younger workers may be the result of changes in gender differences in education of the adult population.

Table 7 attempts to address this question. We find little support here for an explanation. The years of education increase by the birth cohort, with younger adults having received more education on average than older adults. And, again, gender gaps disappear for the most part among the younger cohorts in terms of years of education. There is a distinct regularity, though, in that women increasingly have close to an additional half year of education on average than men do among those born after the 1970s. This could certainly explain some of the changes in the gender gap in the share of paid workers with benefits discussed above.

We can see mean earnings among paid workers by sex and cohort in Table 8, below. Here again, we see shifts in gender gaps across cohorts towards greater equity in outcomes. In both absolute and relative terms gender earnings gaps appear to be shrinking or reversing among younger workers. The largest gaps are in the earlier years and in the older cohorts. For example, in the 1958-1962 cohort in 2013, the mean gender earnings gap is 50 percent. Nine years later the gap among the similarly aged cohort (1968-1972) is 75 percent. Meanwhile the gap among those born between 1988 and 1992 is 96 percent. This leaves open the question of whether the shift in the gender earnings gap reflects a broader movement towards equity, or an artifact of increasing gender gaps over time, as seems at least as likely.

Table 5: Share of men and women 18-64 in wage work - South Africa

Birth	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cohort	2008		2009		2010		2011		2012	
1943-1947	28.3	12.3	23.7	8.8	19.7	10.0	20.1	9.7	14.8	8.7
1948-1952	43.3	28.8	40.6	25.1	33.3	20.0	27.1	18.2	21.8	14.7
1953-1957	54.4	40.9	50.6	38.4	48.5	34.9	48.2	34.5	44.9	33.6
1958-1962	60.7	45.6	58.8	45.2	56.1	41.6	53.4	42.2	53.2	40.0
1963-1967	63.2	48.3	62.4	48.5	58.8	46.7	56.7	47.2	57.5	46.6
1968-1972	65.1	47.4	60.9	49.6	60.2	48.4	59.6	47.2	58.9	47.5
1973-1977	62.5	45.1	60.0	46.3	59.1	42.8	60.4	44.8	59.8	48.3
1978-1982	59.2	39.7	56.2	39.5	55.2	38.9	55.6	40.0	56.5	42.2
1983-1987	39.9	27.5	41.1	28.2	42.6	29.8	45.2	32.6	48.0	35.8
1988-1992	12.0	8.2	12.7	9.0	14.2	9.7	19.8	13.2	24.6	17.3
1993-1997							3.5	2.0	5.3	2.9
	2013		2014		2015		2016		2017	
1948-1952	19.3	13.4	22.4	13.0	18.7	12.4	17.4	10.9	27.6	19.6
1953-1957	41.7	31.0	42.2	27.9	33.0	24.8	27.5	19.7	23.6	17.0
1958-1962	51.7	40.9	49.6	41.9	50.5	40.0	47.9	37.5	48.4	34.9
1963-1967	56.1	46.4	57.0	47.3	55.3	45.5	53.3	46.1	53.3	45.1
1968-1972	59.9	48.7	61.3	48.6	59.4	48.9	57.7	48.1	58.8	47.6
1973-1977	60.4	48.5	59.1	48.6	60.3	49.4	57.5	48.8	58.1	50.1
1978-1982	58.5	44.3	57.2	44.8	57.6	47.3	58.4	47.4	58.1	48.4
1983-1987	50.8	39.0	53.1	40.4	54.9	43.0	54.3	42.6	54.5	44.3
1988-1992	31.1	23.0	37.0	26.7	42.7	30.2	45.4	31.4	45.8	34.0
1993-1997	7.3	4.9	10.4	7.5	15.1	9.9	18.8	12.4	24.0	17.0
1998-2002							3.6	2.0	5.9	3.5
	2018		2019		2020		2021		2022	
1948-1952	24.5	16.5	21.1	15.1	16.4	13.1	14.4	9.7	13.3	8.1
1953-1957	21.6	15.4	19.4	14.6	14.3	13.7	11.3	8.5	34.3	26.9
1958-1962	42.6	31.9	37.7	28.9	29.1	23.2	22.2	18.6	18.7	13.1
1963-1967	52.5	43.1	50.7	40.0	45.3	36.5	44.6	34.9	40.0	33.2
1968-1972	57.1	48.7	54.9	47.6	52.8	42.9	48.9	42.1	48.4	43.1
1973-1977	57.3	50.7	56.9	49.1	52.2	46.1	50.7	44.3	50.3	46.1
1978-1982	58.1	48.6	56.5	47.4	51.7	43.6	51.0	42.8	51.1	44.7
1983-1987	55.0	44.3	52.9	45.5	49.5	41.4	48.3	39.8	48.0	40.6
1988-1992	47.5	36.6	46.3	36.1	41.8	34.8	42.0	33.2	43.1	36.2
1993-1997	28.9	20.4	31.9	22.9	29.9	23.1	31.6	23.0	37.7	29.2
1998-2002	6.8	4.7	9.8	5.8	8.7	5.2	10.4	7.5	19.1	13.3
2003-2007							2.0	0.7	3.5	2.6

Source: Authors' calculations using PALMS/LMD.

Table 6: Share of male and female wage workers 18-64 with benefits - South Africa

Birth	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cohort	2008		2009		2010		2011		2012	
1943-1947	58.2	54.3	62.3	44.6	51.8	53.2	71.8	54.3	62.8	51.0
1948-1952	60.6	45.2	59.6	48.0	59.8	50.0	61.3	48.3	68.5	49.3
1953-1957	60.9	44.2	64.8	47.7	60.2	46.2	64.8	47.1	67.4	52.5
1958-1962	62.3	47.3	63.6	48.8	63.4	46.9	65.7	49.6	66.0	47.4
1963-1967	60.1	44.8	60.2	44.2	61.4	48.4	62.7	47.3	64.7	47.7
1968-1972	53.3	45.3	55.9	45.6	57.0	47.4	58.1	51.1	61.1	50.0
1973-1977	46.7	44.4	49.0	42.3	49.0	43.5	52.5	47.2	54.8	47.9
1978-1982	40.0	40.5	41.3	42.5	42.6	42.4	47.4	42.5	48.8	45.5
1983-1987	27.8	31.2	31.4	34.4	30.4	34.5	35.2	37.5	39.3	40.9
1988-1992	15.7	16.1	17.2	20.7	18.6	21.4	22.2	26.7	28.3	29.1
1993-1997							10.6	6.6	12.6	19.9
	2013		2014		2015		2016		2017	
1948-1952	67.1	45.9	63.9	42.9	59.9	42.1	59.1	44.8	63.2	51.0
1953-1957	66.8	52.3	64.7	48.6	62.4	46.9	66.2	51.6	63.8	50.7
1958-1962	63.5	47.6	68.4	49.7	62.2	50.3	65.6	50.4	64.9	50.8
1963-1967	62.5	45.0	66.3	46.2	61.7	46.0	63.4	46.2	65.2	47.3
1968-1972	62.6	49.6	62.9	51.1	59.9	44.8	59.3	47.5	60.5	47.0
1973-1977	56.0	47.9	59.9	49.4	54.6	48.2	57.3	50.6	58.4	49.3
1978-1982	49.9	47.9	50.5	48.6	51.0	46.5	52.7	47.0	55.0	47.4
1983-1987	39.8	41.1	41.8	42.7	42.1	42.9	43.6	44.5	47.4	45.8
1988-1992	29.3	27.9	31.4	32.8	31.9	33.8	33.6	35.2	38.8	39.5
1993-1997	13.5	13.1	16.4	18.8	17.3	20.5	21.7	22.0	24.4	27.1
1998-2002							4.9	14.8	18.7	12.9
	2018		2019		2020		2021		2022	
1948-1952	65.2	46.5	66.1	47.7	64.9	55.9	63.8	55.9	49.9	52.2
1953-1957	66.0	46.1	68.0	44.3	63.9	57.2	76.4	60.4	65.1	51.4
1958-1962	62.2	50.7	63.2	54.7	70.0	57.4	63.6	55.2	62.1	52.7
1963-1967	65.0	49.0	64.5	46.0	67.0	50.5	64.3	48.7	65.4	51.4
1968-1972	63.2	44.8	64.7	48.6	68.2	51.0	63.6	47.7	62.8	48.6
1973-1977	61.2	45.8	59.4	47.9	57.7	51.4	58.4	49.1	56.6	50.4
1978-1982	52.3	49.2	54.7	49.8	56.5	48.7	55.1	46.0	53.7	49.4
1983-1987	47.4	47.1	47.8	47.7	52.5	50.9	51.3	49.3	48.1	47.4
1988-1992	40.1	41.9	41.4	43.0	45.1	46.9	42.1	41.8	40.4	42.1
1993-1997	25.5	28.1	29.6	33.4	35.5	36.4	34.0	36.2	33.0	36.0
1998-2002	12.7	15.0	15.9	19.0	23.1	22.4	19.3	19.1	20.0	26.7
2003-2007									4.6	9.8

Source: Authors' calculations using PALMS/LMD.

Table 7: Average years of education of men and women 18-64 - South Africa

Birth	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cohort	2008		2009		2010		2011		2012	
1943-1947	7.1	6.1	7.3	6.0	7.3	6.1	7.5	6.4	7.7	6.3
1948-1952	7.3	6.3	7.2	6.5	7.4	6.4	7.3	6.5	7.4	6.7
1953-1957	7.5	7.0	8.0	7.0	7.8	6.9	8.1	7.1	8.1	7.3
1958-1962	8.4	7.9	8.5	7.9	8.6	7.9	8.8	8.0	8.7	8.0
1963-1967	9.0	8.6	9.1	8.6	9.3	8.7	9.4	8.8	9.5	8.8
1968-1972	9.7	9.6	9.8	9.6	10.1	9.8	10.0	9.8	10.0	9.8
1973-1977	10.0	10.2	10.2	10.4	10.3	10.4	10.4	10.4	10.5	10.5
1978-1982	10.3	10.5	10.3	10.6	10.4	10.6	10.5	10.7	10.5	10.8
1983-1987	10.2	10.6	10.4	10.7	10.4	10.7	10.5	10.8	10.7	11.0
1988-1992	9.8	10.2	9.9	10.4	10.1	10.5	10.3	10.7	10.5	10.8
1993-1997							9.6	10.1	9.8	10.2
	2013		2014		2015		2016		2017	
1948-1952	7.5	6.7	7.6	6.5	7.8	6.8	7.8	7.0	8.3	7.3
1953-1957	8.1	7.3	8.1	7.3	8.1	7.2	8.2	7.3	8.1	7.2
1958-1962	8.9	8.2	8.8	8.2	8.8	8.1	8.7	8.2	8.7	8.1
1963-1967	9.4	8.9	9.5	9.0	9.3	8.9	9.3	8.9	9.6	8.9
1968-1972	10.2	9.8	10.2	9.8	10.0	9.8	10.0	9.8	10.1	9.9
1973-1977	10.6	10.6	10.6	10.6	10.5	10.6	10.5	10.6	10.6	10.7
1978-1982	10.6	10.9	10.7	10.9	10.6	10.9	10.7	11.0	10.8	11.1
1983-1987	10.7	11.0	10.8	11.1	10.6	11.0	10.7	11.1	10.7	11.1
1988-1992	10.6	11.0	10.7	11.1	10.7	11.1	10.7	11.1	10.8	11.2
1993-1997	9.9	10.3	10.1	10.5	10.2	10.6	10.4	10.8	10.6	11.0
1998-2002							9.7	10.2	10.0	10.5
	2018		2019		2020		2021		2022	
1948-1952	8.5	7.6	8.1	7.7	7.8	7.9	7.9	8.2	8.1	7.6
1953-1957	8.5	7.6	8.3	7.7	7.9	8.0	8.2	8.5	8.6	8.5
1958-1962	8.7	8.1	8.4	8.1	8.2	8.0	8.1	8.0	8.2	8.1
1963-1967	9.4	8.8	9.2	8.7	8.9	8.5	8.7	8.4	8.7	8.6
1968-1972	10.3	9.8	9.9	9.6	9.5	9.3	9.3	9.3	9.3	9.3
1973-1977	10.7	10.6	10.3	10.2	9.9	9.9	10.0	9.9	9.7	9.9
1978-1982	10.7	11.1	10.4	10.6	9.9	10.3	9.9	10.3	10.0	10.2
1983-1987	10.8	11.1	10.4	10.8	10.0	10.5	10.0	10.5	10.0	10.4
1988-1992	10.8	11.2	10.4	10.8	10.1	10.6	10.1	10.5	10.1	10.5
1993-1997	10.8	11.2	10.4	10.9	10.2	10.6	10.3	10.6	10.2	10.6
1998-2002	10.1	10.6	9.9	10.3	9.7	10.2	10.0	10.4	10.1	10.5
2003-2007							9.1	9.7	9.4	10.0

Source: Authors' calculations using PALMS/LMD.

Table 8: Mean earnings of men and women in wage work (2024 Rand) - South Africa

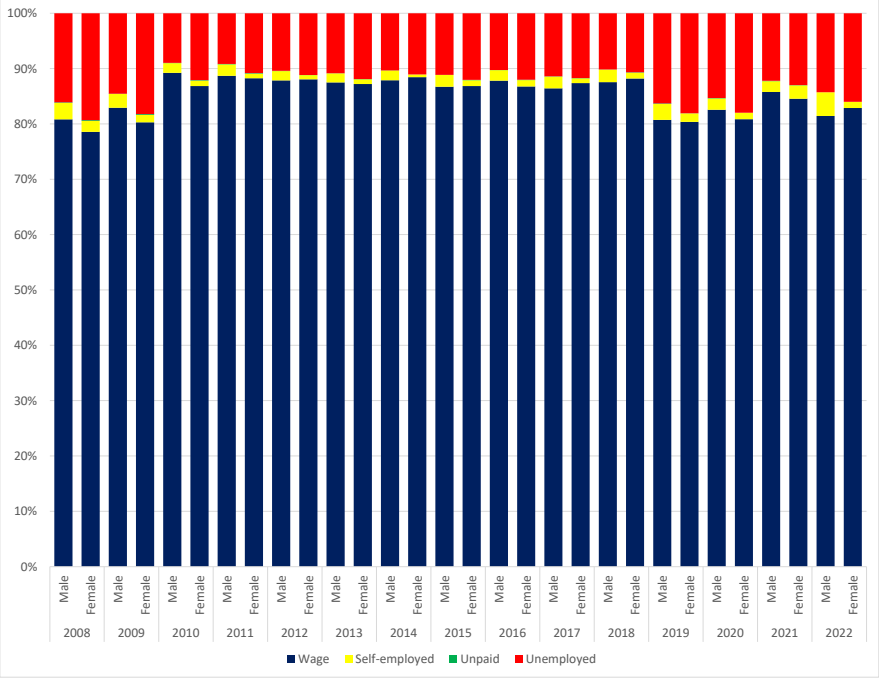
Birth	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cohort	2010		2011		2012		2013		2014		2015		2016	
1943-1947	18,018	12,206	22,112	18,102	24,571	13,902								
1948-1952	15,246	9,812	16,441	12,374	20,769	12,471	18,710	14,862	23,473	13,941	21,495	20,339	22,496	15,408
1953-1957	15,300	11,060	16,893	9,871	15,440	13,347	20,681	16,437	16,242	13,038	22,654	13,979	22,740	12,888
1958-1962	15,338	9,620	17,286	10,214	15,798	10,655	23,819	11,798	17,574	11,939	20,813	12,042	17,257	13,198
1963-1967	15,602	10,620	14,357	9,945	15,448	10,024	18,765	12,005	15,980	11,058	20,951	13,189	17,769	11,385
1968-1972	15,234	10,403	14,271	10,805	15,840	11,942	18,872	12,900	16,079	11,527	18,463	12,922	15,744	11,495
1973-1977	12,748	10,490	12,863	10,685	13,428	12,854	15,773	12,030	17,847	11,438	17,922	11,480	14,770	11,951
1978-1982	11,460	9,771	11,959	10,696	12,518	10,479	14,678	13,301	14,526	12,173	16,792	14,260	14,499	11,108
1983-1987	9,209	8,711	10,299	9,231	12,692	10,509	14,357	14,109	11,662	10,924	13,471	13,487	12,542	11,849
1988-1992	7,388	6,704	7,694	7,114	8,634	8,450	12,442	11,152	10,547	9,177	11,188	9,255	10,692	10,256
1993-1997			7,489	7,026	7,011	8,640	8,643	6,912	7,727	8,219	7,602	7,211	8,104	7,794
1998-2002													7,342	4,004
	2017		2018		2019		2020		2021		2022			
1948-1952	16,830	10,474												
1953-1957	17,980	11,462	15,452	11,324	21,088	17,082	10,958	12,573	18,242	9,678				
1958-1962	16,091	12,103	13,417	14,399	16,964	13,399	15,402	13,572	16,868	14,491	20,804	13,060		
1963-1967	16,786	11,114	16,380	12,671	16,946	10,928	14,809	11,396	19,372	13,128	18,046	13,552		
1968-1972	16,415	11,098	15,551	10,545	17,042	12,268	15,689	12,892	18,339	13,909	17,173	12,668		
1973-1977	14,845	11,419	14,929	9,768	14,430	10,381	14,922	12,003	16,307	12,608	14,970	11,169		
1978-1982	13,858	10,888	13,485	10,844	13,947	11,049	11,996	11,705	13,702	11,622	13,927	11,181		
1983-1987	13,080	10,346	11,436	9,818	11,367	11,758	11,585	14,281	13,530	12,385	13,316	11,551		
1988-1992	10,423	9,963	10,079	10,213	12,368	10,336	10,432	10,061	11,860	10,275	11,574	10,680		
1993-1997	8,867	8,829	8,063	8,732	10,977	9,121	9,373	8,788	11,265	9,490	10,143	9,716		
1998-2002	5,329	6,048	6,591	7,244	7,644	6,471	6,880	6,848	8,876	7,873	8,380	7,907		
2003-2007									3,592	2,507	5,882	3,992		

Source: Authors' calculations using PALMS/LMD.

4.2 Employment transitions

We will need to analyze and predict changes in employment status over time for men and women in both Ghana and South Africa in order to plausibly estimate lifetime earnings. We begin by examining the transitions we can observe directly. Figure 1 gives the distribution of individuals in paid employed after one year in South Africa by sex. As we can see, most men and women remain in paid employment. The rate of paid employment after one year is between 80 and 90 percent. The years between 2010 and 2018 were better for retention of paid work that the period before or after. There was little difference in the retention rate between men and women, with the exception of the earlier years. Between 2008 and 2010, men were about 2.5 percentage points more likely to retain paid employment. In some year, women were as much as 1.5 percentage points more likely to retain paid employment. On the other side of the coin, women were more likely to become unemployed than men in every year in the series. This was again especially true in the first three years, when they were about 3.5 percentage points more likely to be unemployed after a year. Men, on the other hand, were always more likely than women to become self-employed if they moved out of paid employment, by roughly one percentage point. The exception is 2022, in which year men were over 3 percentage points more likely to become self-employed.

Figure 1: Transitions from paid employment after one year, South Africa

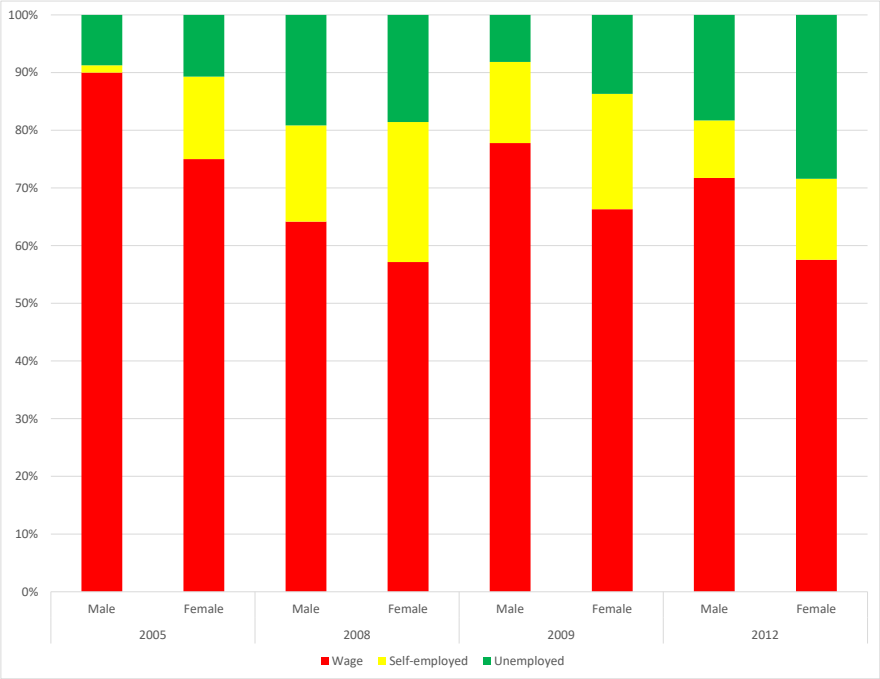


Source: Authors' calculations using PALMS/LMD.

While there are no surveys such as the quarterly labor force survey available for Ghana, we can use the GHUPS to give us some insight into the labor market dynamics in Ghana,

at least in urban settings. We provide the transistions from paid employment of male and female wage workers in Ghana in Figure 2, below. According to this data, men are clearly more likely to remain in paid employment after one year than women. With the exception of 2005, the retention rate for Ghanaian men does not approach that of their South African counterparts. This is not surprising, given the lower overall rate of paid employment in Ghana compared to South Africa. In each year, women are significantly less likely to retain paid employment than men, from a difference of 15 percentage points in 2005 to 7 percentage points in 2008. In 2005, the share of men that left paid work becoming unemployed was much lower than the share of women, but in later years the shares were more similar, despite the higher rates of paid employment loss for both men and women.

Figure 2: Transitions from paid employment after one year, Ghana



Source: Authors' calculations using GHUPS.

Explaining these transitions in both countries is the next task.

5 Conclusions

Employment positions In Ghana, there are large gender gaps in wage work. Among wage workers, there are smaller gaps in benefit coverage, which flip among younger cohorts. There are, however, large gaps in earnings.

In South Africa, there are also significant gender gaps in wage work, though the rates of engagement are much higher for both men and women than in Ghana. Among wage

workers, there are similar gaps in coverage, which disappear among the younger cohorts. There are decreasing gaps in earnings over the lifespan.

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