

Inclusiveness in Higher Education in Egypt

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ABSTRACT

In Egypt, before 1952, education, especially higher education, was the province of a privileged few. After the 1952 Revolution, in pursuit of social justice and economic development, Egypt's leaders eliminated fees, instituted a universal admission examination, promised government employment to all graduates of higher education, and expanded the number of places. Officials expected these policies to enhance inclusiveness as enrollments grew. We examine the period from 1988 through 2005, when egalitarian policies remained in place, and during which enrollments continued to expand rapidly. This period is marked by continuity and change. Young adults from the wealthiest families maintained a substantial advantage in likelihood of enrolling in higher education. At the same time, females, and notably females from poor families, came to make up a larger share of the higher education community.

Inclusiveness in Higher Education in Egypt

BACKGROUND

In 1952, higher education in Egypt comprised just three national universities¹ (Cairo, Alexandria, Ain Shams), with only about 50,000 students (SCU 2006; Richards 1992), who were generally the children of the Egyptian elite (Arabsheibani 1988). The new revolutionary regime committed itself to expanding educational opportunity in pursuit of social justice and economic development (Howard-Merriam 1979). These goals were codified in the 1971 constitution stating that education is a right that fulfills two basic principles of equity and equal opportunity (el-Baradei and el-Baradei 2004). Specific policies designed to achieve these educational goals and targeted on higher education included: 1) guaranteed admission to higher education for all qualified secondary school graduates; 2) an examination system to level admission criteria; 3) elimination of higher education fees; and 4) a guarantee that all graduates of higher education would be given positions in the civil service (Arabsheibani 1988; Shann 1992; Antoninis 2001).

The Egyptian higher education system is state controlled and organized. The Supreme Council of Universities determines the number of students to be admitted to each university faculty (SCU 2006), while the Ministry of Higher Education specifies targets for university and upper-intermediate admissions (Helal 2007). To accommodate the expected inflow of new students resulting from the egalitarian policies, it was necessary to expand the higher education system. Assiut University opened in 1957, and seven more universities were added between 1972 and 1976. In this same era, a system of two-year post-secondary technical training

¹ Excluding Al-Azhar University, which falls under a different legal and administrative structure, and the small, private American University in Cairo.

institutes (commonly referred to as “upper-intermediate”² education) was started in an effort to relieve pressure on university admissions. Since the mid-1970s a number of upper-intermediate institutions and several universities have been added to the higher education system. In 2000 there were 47 two-year upper-intermediate technical institutes, plus 4 four- or five-year higher technical institutes (World Bank 2002). And, as of 2006, there were 17 public universities in Egypt (SCU 2006). These new higher education institutions were opened in provincial cities throughout the country to provide a “more democratic” geographical distribution of education opportunities (Shann 1992).

The new policies and expanded facilities were accompanied by growing enrollments. University enrollment grew by nearly 1,400 percent over the period 1951-52 through 1978-79 (Metz 1990). By 1989-90 total university enrollment was about 700,000 students. Upper-intermediate institutions began with about 5,000 students in 1973, increasing 7-fold to about 35,000 students in 1989. Between the academic years 1989-90 and 2006-07, university enrollment more than doubled again to over 1,400,000 students (Helal 2007). Upper-intermediate enrollments, on the other hand, stagnated, remaining at around 35,000 students, at least, into the late 1990s.³ Policy makers assumed that the egalitarian reforms and the expansion of the number of higher education places would be sufficient to promote greater equality in higher education enrollment.

Scholars have noted, however, that educational reforms and expansion do not necessarily result in greater inclusiveness (Arum, Gamoran and Shavit 2007). For example, if before

² Other terms used to describe these higher technical training institutes include: middle technical institutes (MTIs), vocational / technical higher education, etc. We, however, will use upper-intermediate throughout this paper.

³ In recent years, upper-intermediate education has fallen into disfavor. The share of upper-intermediate institutes in the overall proportion of higher education students has been declining in the recent past. Though this pattern is expected to reverse slightly in the coming 15 years, universities will continue to dominate higher education (Helal 2007).

enrollments begin to grow, many students from well-to-do families are not participating in higher education, these students will be well placed to fill new seats as opportunities expand. In the Egyptian context, this means that these advantaged students are: 1) the most likely to have studied in the general secondary schools that best prepare students for university and all higher education, rather than being tracked into lower tier, technical secondary education, which for many students is a terminal degree (Arabsheibani 1988; Antoninis 2001); 2) the most capable of affording private secondary education or tutors to supplement poor-quality government education (Richards 1992; Assaad and Elbadawy n.d.); and 3) the most willing to pay the costs associated with higher education, while supporting the opportunity costs of remaining out of the labor force during continuing studies (Raftery and Hout 1993).

Researchers have examined the relationship between expansion and inclusiveness in other settings and have come to different conclusions. Early work by Shavit and Blossfeld (1993) argued that, in most countries, expansion did not reduce inequality. A recent paper on the French higher education system also finds that expansion failed to deliver greater inclusiveness (Deer 2005). On the other hand, a study in Ireland, found that substantial increases in higher education participation in recent years brought both continuity and change: though social inequalities persist, there has been some reduction in relative social disadvantage (O'Connell, McCoy and Clancey 2006). A study of 15 countries reports that on balance "inequality declined as higher education expanded" (Arum, Gamoran and Shavit 2007: 20). Finally, it has been said that in Egypt, "elitism was successfully eradicated" from higher education by the policies introduced in the years after the 1952 revolution (Arabsheibani 1988: 645).

In this paper, we assess how policy changes implemented after the revolution, and that remain largely in place to the present day plus the expansion of universities and upper-

intermediate institutes in the period from 1988 to 2005 affected equality of access to higher education.

Data and Methodology

We use seven national Egypt Demographic and Health Surveys⁴ (DHS) collected between 1988 and 2005. We focus on adults from 19 to 22 years of age, asking whether they have *ever* attended higher education.⁵ In Egypt, most students complete secondary school by the age of 18. By using a cohort beginning with age 19, we permit students to be slightly delayed in completing secondary school, while still being included among those who advance to higher education. We cap the cohort at 22 so as to capture the effects of relatively recent social, economic and political effects, rather than factors that affected the educational choices of older cohorts.

As noted above, in the Egyptian system there are two tracks of higher education: upper-intermediate and university. The upper-intermediate provides advanced technical/vocational training, while university provides academic and professional education. University enrollment comprises more than 75 percent of participation in higher education and is currently favored both by government policy⁶ and by almost all students seeking admission to the higher education system (University of Buffalo n.d.; Metz 1990). The principal determinant of the type of higher

⁴ All Egypt DHS surveys are downloadable from Macro International's DHS website (<http://www.macoint.com/content/research/>). DHS data are collected from representative samples of households. All households are eligible for selection using probability sampling techniques. Although the main focus of most DHS analyses is women 15-49 years of age, the household listing data set includes information for all selected households, whether or not there is a resident Aeligible@ woman. Therefore, the sample of young adults, 19-22 years of age used in this work is representative of young adults in this age range in the population who are resident in households.

⁵ Note that the measure we are using is *ever*-enrollment in higher education, not *currently* enrolled.

⁶ Government policy on upper-intermediate has been erratic. In the early 1990s, the policy was to boost upper-intermediate education in an effort to provide skilled workers and relieve pressure for university admission (Richards 1992; Shann 1992. This policy seems to have failed; in the recent past the focus has been on university education (Helal 2007).

education in which a student will enroll is the type of secondary school s/he attended. Similar to higher education, secondary schooling is divided into: 1) technical/vocational; and 2) academic (called “general”) tracks. The vast majority of students graduating from general secondary attend university. It is very difficult for technical/vocational graduates to gain admission to university; indeed most leave education upon completing their secondary schooling. However, among those graduates from the technical/vocational track who do go on to higher education, most go to upper-intermediate. Thus, to a large degree a student’s educational future is determined at the transition from preparatory (middle) to secondary school (World Bank 2002). Unfortunately, the DHS data do not differentiate between technical and general secondary, and therefore we are unable to consider this important factor in our analysis. For this reason we present results for the transition from all secondary, to all higher education combined. As we have noted, the number of university students far exceeds the number of upper-intermediate students. Therefore, gender, wealth, and other patterns of inclusion found for higher education students as a whole are essentially the same as those for participants in university alone.

We assess equality of higher education enrollment by gender and by family wealth. We use five wealth quintiles, based on a set of questions about family assets (Filmer and Pritchett 2001). We excluded anyone who was not a usual resident in a survey household, and all those who had missing information for any of the relevant variables.

We first assess higher education enrollment trends by gender and family wealth quintile. Next, we present the higher education enrollment trends after controlling for secondary school completion. This avoids confounding the effects of wealth and gender on the transition from secondary school to higher education “with the cumulative impact of background over all

previous transitions” (Mare 1980: 295). Third, we analyze the changes in the population of students enrolled in higher education by family wealth and by gender.

Finally, we use logistic regression to determine the effect of a young adult’s gender and wealth on her or his likelihood of enrolling in higher education. This can be represented with the following model:

$$\log(E) = \alpha + \beta_1 y + \beta_2 m + \beta_3 m * y + \beta_4 W + \beta_5 W * y + \beta_6 R + \varepsilon,$$

where E represents the maximum likelihood of a young adult enrolling in higher education and α is a constant intercept. Variable y represents the year of the national survey, where 1988 is coded as 1, and each subsequent round is coded by the number of years elapsed since 1988. Variable m is an indicator variable that equals 1 if the respondent is male and 0 if female. Variable $m*y$, an interaction term between gender and year, equals the year variable if the respondent is male and equals 0 if the respondent is female. Variable W is a vector of dummy variables that represent each respondent’s family wealth quintile. The poorest wealth quintile is omitted as a reference group. Variable $W*y$ is a vector that results from the interaction of the vector of wealth dummy variables and the scalar year variable. Variable R is a vector of dummy variables representing the various regions of data collection (urban governorates, rural Lower Egypt, urban Lower Egypt, and urban Upper Egypt). Rural Upper Egypt is omitted as a reference group. The β terms are coefficients that capture the effect of each of the variables on the respondent’s likelihood of enrolling in school. Variable ε is an error term.

We use four specifications of the logistic regression, starting with a base case and adding controls for region and interaction terms for wealth and year and gender and year. Regional

differences are highly correlated with wealth differences. Controlling for region allows us to determine the effects of a respondent's family wealth quintile on her or his chances of enrollment vis-à-vis the region in which s/he resides. All four specifications control for secondary school completion.

Results

Differences can be measured in two ways: absolute and relative. Both are important, but they may give contradictory results. For example, consider the absolute and relative disadvantages of the poor, and how these disadvantages change over time. In 1988, in the poorest quintile, just 5.4 percent of adults 19-22 years of age had ever attended higher education, in comparison with 53.5 percent of similar adults in the wealthiest quintile. Thus, the wealthiest group had an absolute enrollment advantage of 48.1 percentage points, while, relative to the poorest group, they are almost 10 times as likely to enroll in higher education. In 2005, higher education enrollment was 10.1 percent in the poorest quintile and 72.5 percent in the wealthiest quintile. Though the absolute advantage of the wealthy had increased to 62.4 percentage points, their relative likelihood of enrolling in university had declined to just seven times that of the poorest group.

In general, as the level of enrollment increases, a constant absolute difference will necessarily result in a smaller relative difference. If both the absolute and relative differences are declining, then it is clear that between group differences are being reduced. But, if, as often happens in the results below, the absolute difference is increasing, while the relative disadvantage is declining, the results may be seen as ambiguous.

With that warning, we proceed to our results.

Ever-Enrollment in Higher Education

As mentioned, our series of surveys begins in 1988. By starting the analysis in 1988, we have missed the impact of the egalitarian reforms and dramatic growth in higher education enrollment that occurred in the first 35 years following the 1952 revolution. However, in 1988 the same equalitarian policies implemented during the 1950s were still in place, and higher education enrollment continued to expand rapidly between 1988 and 2005: in our data, the percent of adults 19-22 years of age who had attended higher education increased by more than 60 percent from 19.6 percent in 1988 to 31.5 percent in 2005 (Table 1).

Moreover, despite the assertion by Arabsheibani (1988) that elitism had been eradicated from higher education after the 1952 revolution, Table 2 shows that, still in 1988, enrollment by wealth was highly unequal. This was true for both males and females—though the degree of disadvantage was particularly great for poor females: in 1988, only 1.5 percent of 19-22 year old females from families in the poorest wealth quintile had ever enrolled in higher education. But, in that year participation rates for both males and females, and in all quintiles except the wealthiest, were low—below 25 percent. The top quintile stands apart from the other groups, with overall enrollment more than twice the enrollment of the second quintile and almost 10 times the enrollment of the bottom quintile.

By 2005 enrollments of both males and females, in all wealth quintiles, had increased. However, the basic pattern of disadvantage remained largely unchanged. For both males and females, the absolute difference in enrollment levels between the poorest and the wealthiest quintiles increased between 1988 and 2005. On the other hand, the relative disadvantage of the poor has declined over time. This is especially true for females where enrollment among the

poor was exceptionally low in 1988. But, even for males, the relative advantage of the wealthy declined slightly between 1988 and 2005. In this way, the results for Egypt are consistent with the “continuity and change” seen in Ireland (O’Connell, McCoy and Clancy 2006: 312).

However, the only real evidence of increasing inclusiveness in these results is the suggestion of some trickle down of advantage into the second wealth quintile. Those in the second quintile, particularly second quintile females, improved vis-à-vis their wealthier counterparts. For males the absolute difference remained the same while the relative difference declined slightly. For females, both the absolute and relative differences decreased. In 1988 females from the richest families had been almost 3 times as likely to attend higher education as had females from the second quintile. By 2005, the ever-enrollment of the wealthy was less than twice that of their less well-to-do sisters. The greatest change, however, is the degree to which those in the second quintile opened a gap over the young adults in the middle and poorer quintiles. Enrollment rates of those in the second quintile have increased more rapidly than enrollments of the poorer three groups. By 2005, the absolute advantage of both males and females in the second quintile over those in the third quintile had grown, and even the relative advantage of males had increased.

Over all, however, still in 2005, young adults in the top quintile remain uniquely advantaged with enrollment rates exceeding 70 percent. Meanwhile, the two poorest quintiles remain distinctly disadvantaged, with relative enrollment rates about one-fifth, or less, of those of young adults in the wealthiest quintile. A graphical representation of change over time is shown in Figure 1.

Transitions to Higher Education

As mentioned, measuring equality of attainment in terms of ever-enrollment in higher education does not isolate the effect of wealth and gender on the transition from secondary education to higher education. Instead, such analysis confounds the effect of wealth and gender on the attainment of lower levels of education with their effects on the likelihood of enrolling in higher education (Mare 1980). This is especially important in Egypt where the effect of wealth and gender on secondary school completion changed substantially between 1988 and 2005 (Table 3). Both males and females in all wealth quintiles made significant gains in secondary school completion during this period. Young adults in the poorer quintiles have all made steady progress throughout the period of study. Between 1988 and 2005, the absolute difference in the likelihood that the wealthiest quintile completed secondary school relative to the poorest quintile was reduced by about 7 percentage points for both males and females. Though this is relatively small progress, it is likely that progress will be quicker in the future, as more poor children enter school, and continue their educations. Moreover, the decline in the relative advantage of the wealthy was much greater, especially for girls, since in 1988 poor girls had a very low likelihood of completing secondary education.

Raftery and Hout have put forward a theory of *maximally maintained inequality* (MMI), which “means that transition rates ... remain the same from cohort to cohort” unless more advantaged groups have reached saturation for a given level of education (1993: 56-7). The transition rate of interest here is the proportion of young adults who enroll in higher education, given that they have successfully completed secondary education. According to the MMI, transition rates should remain steady as higher education expands unless young adults from

wealthy family backgrounds have been saturated with higher education. We test this theory using both descriptive data (Table 4) and logistic regression (Table 5).

The most striking feature of these transition rates is the lack of change for males in each of the poorest three quintiles (Table 4). Although rates fluctuate substantially between surveys, in all three of the poorest quintiles the likelihood that males who have completed secondary school enroll in higher education *decreases* between 1988 and 2005 (Figure 3). Transition rates for females in all wealth quintiles increase—but they begin from very low levels, and end, in 2005, at about the same level as the transition rates for males.

In the two wealthiest quintiles, transition rates increase for both males and females. Once again, the second quintile has improved relative to the poorest three quintiles. Comparing the transition rates of the second quintile with the best of the gender-specific transition rates from the poorest three quintiles we find that both the absolute and relative advantage of the second quintile increased between 1988 and 2005. The absolute advantage of the wealthiest quintile in comparison to the second quintile changed little during this interval, while the relative advantage declined slightly.

The logistic regression confirms these results. As Table 5 shows, even after selecting for secondary school completion, females attend higher education at lower rates than males. However, they have significantly closed this gap between 1988 and 2005. There are strong differences between the enrollment rates of secondary school completers from the five wealth quintiles. Young adults from the wealthiest quintile are more than seven times more likely to attend higher education than young adults from the poorest wealth quintile, even after controls for region are included in the model.

The most striking conclusion from the logistic regression is that there is *no* significant change between the effects of family wealth on the likelihood of young adults enrolling in higher education between 1988 and 2005. Although the educational expansion benefited young adults from all wealth quintiles, relative inequality persisted.

Diversity in the Higher Education Population

There's another way of looking at these results. We have shown that young adults from the wealthiest quintile maintain their absolute advantage in terms of higher education enrollment rates, and in the likelihood of making the transition to higher education among those who have completed secondary school. We now ask, to what degree has the student population enrolled in higher education changed over time? Have the poor come to comprise a larger share of students studying in higher education?

In the case of males, the answer is no (Figure 5). Singly, and in combination, the share of male higher education students comprised of young men from the three poorest quintiles remained virtually unchanged between 1988 and 2005 (despite some year-to-year fluctuations). Although the share of higher education students from the wealthiest quintile declined by 3 percentage points, from 45 to 42 percent, male students from the second quintile more than filled this gap. Their enrollment grew by 5 percentage points over this period, leaving even less space for males from poorer quintiles.

For females, on the other hand, the picture is very different (Figure 6). The share of female higher education students coming from the wealthiest quintile dropped by 17 percentage points from about 63 percent to 46 percent. The share of female students from all other quintiles increased, with the second and middle quintiles demonstrating particularly large advances.

Thus this approach to the data confirms our earlier findings. There is overall continuity in that the wealthy remain the dominant group among both males and females. However, this continuity is tempered by some trickledown among male higher education students, and by a substantial increase in the proportion of female students coming from families in the three poorest quintiles. This 60 percent of families increased its share of female students from about 15 percent in 1988 to more than 27 percent in 2005. While the poor remain grossly under-represented, there has been some change toward greater diversity.

Discussion

Our results do not provide a complete analysis of inequality in higher education in Egypt. We acknowledge that other issues affect the interpretation of our results. We discuss two of these issues.

First, this analysis addresses higher education enrollment as a whole. There are almost certain to be substantial differences in the picture of upper-intermediate enrollment when compared to enrollment in university. In Egypt, tracking begins with middle and secondary school. Students with low grades are placed in vocational middle schools and in vocational and technical secondary schools (Sabry, Badawi and Saleh 2007). Graduates of the vocational / technical track have a great deal of difficulty in progressing to university, but may more easily attend the upper-intermediate institutes. Graduates of general secondary education, on the other hand, have about an 80 percent chance of attending university. This type of tracking can lead to increased inequality in higher education (Arum, Gamoran and Shavit 2007; Jao and McKeever 2006).

Second, this analysis only addresses quantity of higher education, not quality. It has long been recognized that the upper-intermediate institutions suffer from inadequate resources and provide poor quality education (University of Buffalo n.d.). Moreover, recent rapid expansion of university enrollments has led to a decrease in per-student spending in the universities (University of Buffalo n.d.). It is possible that declines in quality affect different wealth and gender groups in different ways. Without information on quality, we might misjudge changes in equality in higher education.

Conclusion

Our results indicate that, at best, Egypt's leaders made only limited progress toward their goal of increasing inclusiveness in higher education by implementing egalitarian policies and expanding the number of students enrolled between 1988 and 2005. On the one hand, the expansion benefited everyone. Males and females in all wealth quintiles enrolled in higher education at higher rates in 2005 than in 1988, and gender equality increased in the poorest three wealth quintiles and among students of higher education as a whole. On the other hand, the expansion did not substantially alter the pattern of wealth inequality. Inequality in enrollment rates for females remained largely the same since all of the wealth categories increased their enrollment in higher education by roughly the same absolute amount. Wealth inequality in enrollments for males increased. The richest two quintiles of males received most of the benefits of the expansion while the poorest three quintiles had only small increases in higher education enrollment rates. Despite the massive expansion in higher education, the wealthy still enroll at much higher rates than the poor and middle class.

Even for secondary school completers, transition rates to higher education remained unequal in terms of family wealth. For females, this inequality was relatively stable between 1988 and 2005. As the higher education system expanded, females from all wealth quintiles enrolled in higher education at higher rates, but the relative distribution remained roughly the same. On the other hand, poor females came to comprise a larger share of all female students while the share of the wealthiest female students declined. For males, inequality in higher education enrollment of secondary school completers increased between 1988 and 2005. As the number of people completing secondary school rose, the higher education enrollment rate of males who had completed secondary school in the wealthiest two quintiles rose. The enrollment rate of the poorest three quintiles of secondary school graduates remained virtually unchanged. As a result, the share of all male students made up of poor students was essentially the same in 2005 as it had been in 1988.

This does not necessarily mean that expansions in higher education will never lead to increased inclusiveness. As demand for higher education by adults in the wealthiest quintiles becomes saturated, further expansion will open higher education spaces for students from poorer families. Since this demand was not saturated in 1988, the wealthiest groups seized the new higher education spaces first (Raftery and Hout 1993). In all likelihood, demand by the advantaged groups remains unsaturated in 2005. Thus, it is likely that inequality will continue unless new policies, targeted specifically to help poor students enter higher education, are implemented.

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Table 1: Enrollment in Higher Education of Adults 19-22 Years of Age, Egypt 1988 – 2005

Year	Percent Enrolled in Higher Education		
	Male	Female	Both
1988	22.9%	15.7%	19.6%
1992	23.6%	25.7%	24.5%
1995	26.2%	26.8%	26.5%
1997	27.3%	22.6%	25.1%
2000	27.8%	31.7%	29.5%
2003	34.4%	34.2%	34.3%
2005	32.8%	30.3%	31.5%

Table 2: Enrollment in Higher Education of Adults 19-22 Years of Age, by Gender and Wealth, Egypt 1988 – 2005

Year	Poorest 1/5			Fourth 1/5			Middle 1/5			Second 1/5			Richest 1/5		
	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio
1988	8.6%	1.5%	573.3	13.9%	3.4%	408.8	20.0%	7.2%	277.8	24.8%	18.4%	134.8	54.8%	52.1%	105.2
1992	8.5%	4.8%	177.1	12.6%	7.1%	177.5	19.5%	13.5%	144.4	28.9%	23.3%	124.0	54.7%	60.0%	91.2
1995	13.2%	2.8%	471.4	17.0%	11.5%	147.8	20.6%	16.2%	127.2	28.0%	29.3%	95.6	59.5%	56.2%	105.9
2000	13.1%	11.0%	119.1	13.8%	14.4%	95.8	20.3%	21.1%	96.2	36.8%	34.7%	106.1	70.2%	70.2%	100.0
2003	14.2%	10.4%	136.5	17.9%	18.3%	97.8	28.8%	26.5%	108.7	38.9%	34.1%	114.1	69.0%	64.4%	107.1
2005	13.0%	6.6%	197.0	15.8%	15.4%	102.6	24.0%	20.5%	117.1	43.0%	39.5%	108.9	73.7%	71.2%	103.5

Figure 1: Higher Education Enrollment of Adults 19-22 Years of Age by Gender and Wealth, Egypt 1988 & 2005

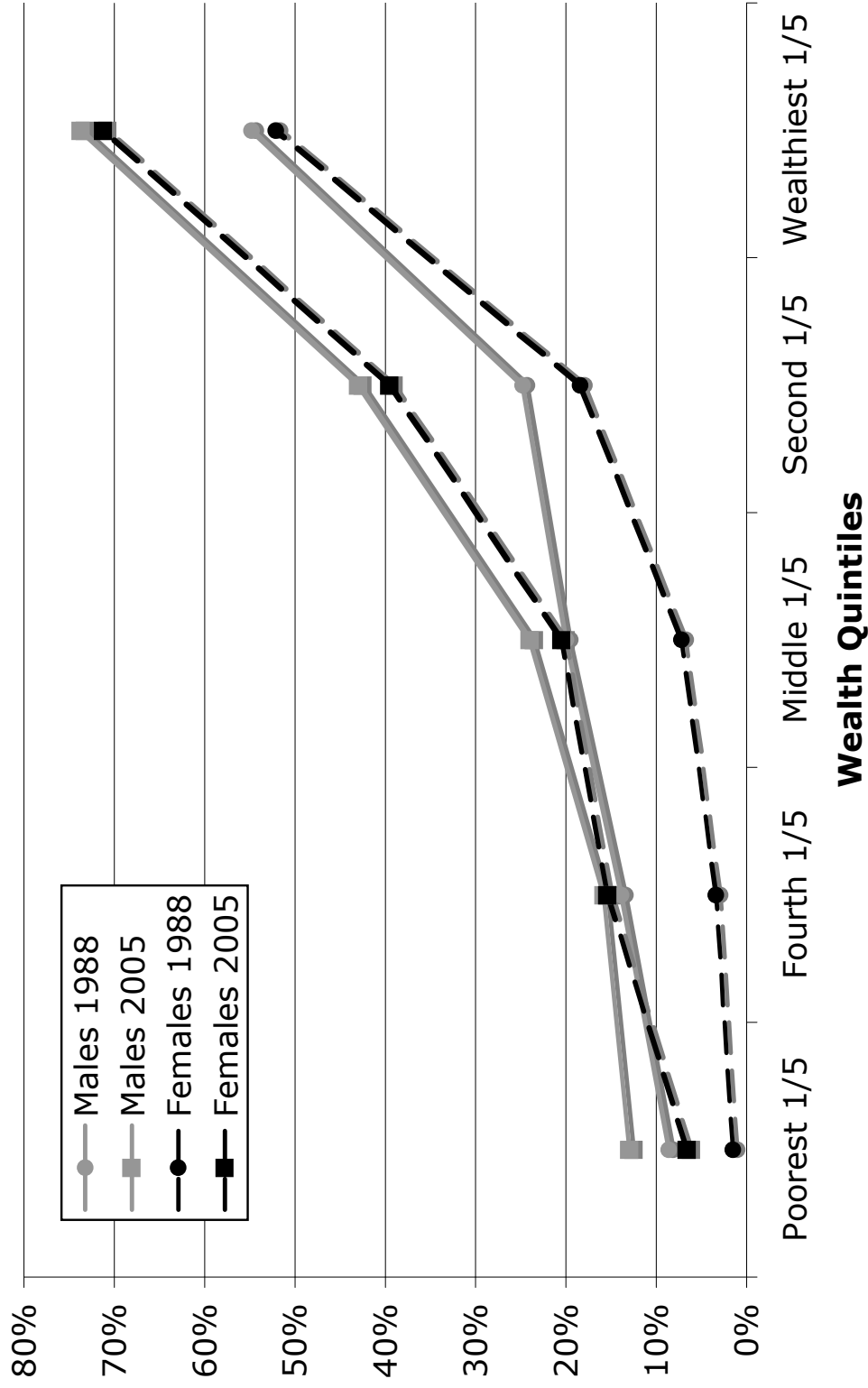


Table 3: Secondary School Completion Rates of Adults 19-22 Years of Age by Gender and Wealth, Egypt 1988 – 2005

Year	Poorest 1/5			Fourth 1/5			Middle 1/5			Second 1/5			Richest 1/5		
	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio
1988	29.3%	7.2%	406.4	38.5%	16.9%	227.8	45.5%	32.9%	138.3	55.1%	60.1%	91.7	78.6%	78.2%	100.5
1992	32.2%	9.7%	332.0	40.6%	23.8%	170.6	50.9%	40.1%	126.9	61.9%	61.4%	100.8	76.8%	81.2%	94.5
1995	35.9%	13.1%	274.0	41.5%	25.5%	162.7	49.9%	41.4%	120.5	60.8%	62.3%	97.6	84.3%	81.0%	104.1
2000	44.6%	24.4%	182.8	52.1%	39.9%	130.6	60.1%	55.8%	107.7	71.8%	71.2%	100.8	88.8%	90.6%	98.0
2003	46.3%	22.3%	207.6	55.5%	46.7%	118.8	62.3%	59.3%	105.1	77.1%	75.4%	102.2	89.6%	87.0%	103.0
2005	49.5%	28.3%	175.8	57.2%	48.8%	116.9	70.0%	62.9%	111.3	76.5%	81.4%	94.1	91.6%	92.2%	99.5

Figure 2: Secondary School Completion of Adults 19-22 Years of Age by Gender and Wealth, Egypt 1988 & 2005

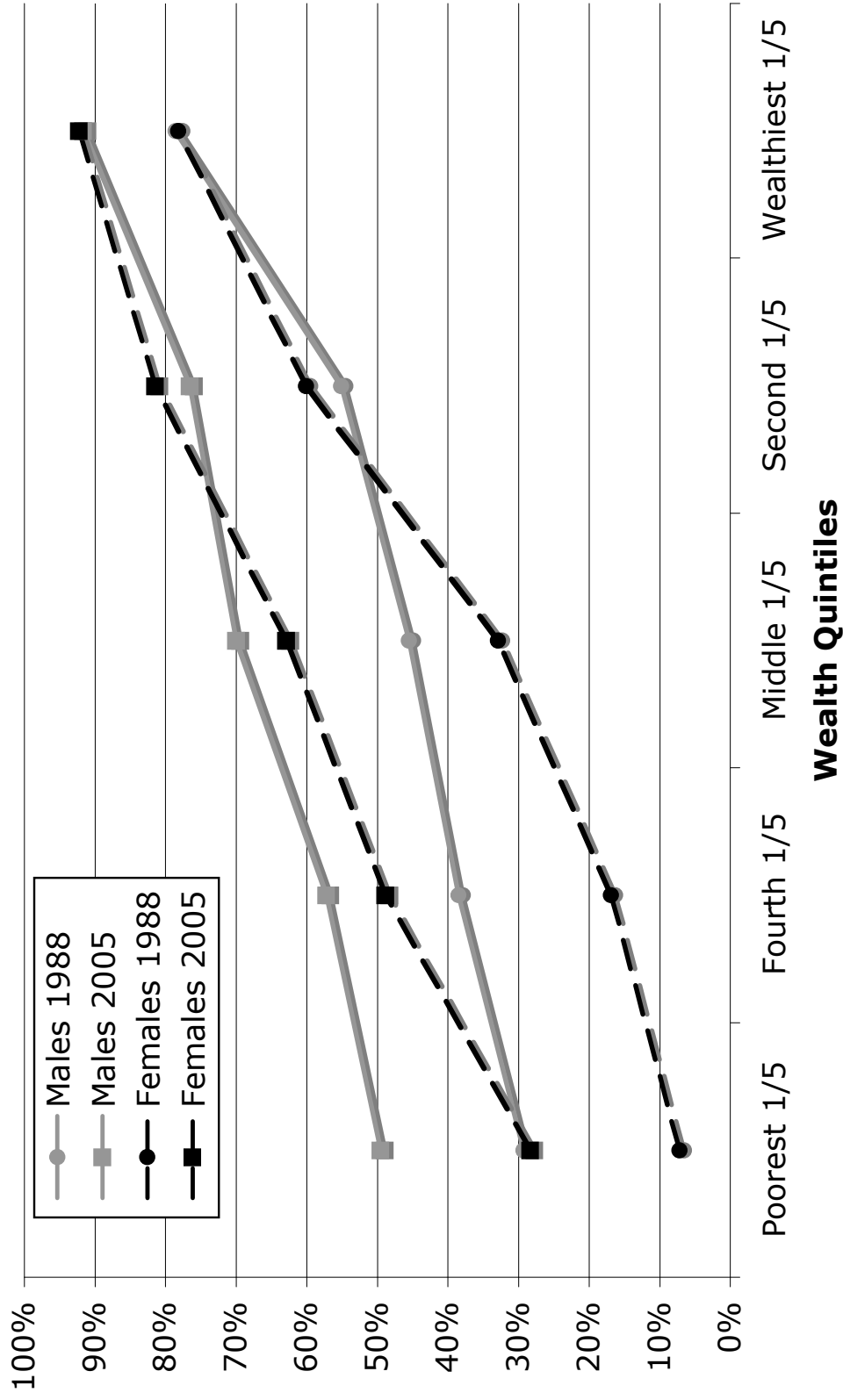


Table 4: Enrollment in Higher Education of Adults 19-22 Years of Age by Gender and Wealth Selecting for Secondary School Completion, Egypt 1988 – 2005.

Year	Poorest 1/5			Fourth 1/5			Middle 1/5			Second 1/5			Richest 1/5		
	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio	Male	Female	Ratio
1988	29.4%	20.8%	141.3	36.2%	20.3%	178.3	43.9%	21.9%	200.5	44.9%	30.6%	146.7	69.7%	66.7%	104.5
1992	19.2%	12.1%	158.7	26.6%	15.2%	175.0	36.2%	25.1%	144.2	45.3%	34.4%	131.7	70.5%	73.4%	96.0
1995	28.9%	8.2%	352.4	36.0%	26.7%	134.8	39.4%	30.7%	128.3	44.9%	43.3%	103.7	69.8%	69.2%	100.9
2000	24.3%	22.9%	106.1	24.4%	26.1%	93.5	32.3%	31.9%	101.3	49.9%	46.2%	108.0	78.9%	75.9%	104.0
2003	25.4%	21.9%	116.0	29.1%	29.0%	100.3	43.6%	38.0%	114.7	50.0%	43.2%	115.7	76.7%	72.2%	106.2
2005	26.2%	23.2%	112.9	27.7%	31.6%	87.7	34.3%	32.6%	105.2	56.2%	48.6%	115.6	80.5%	77.2%	104.3

Figure 3: Higher Education Enrollment of Adults 19-22 Years of Age by Gender and Wealth Selecting for Secondary School Completion, Egypt 1988 & 2005

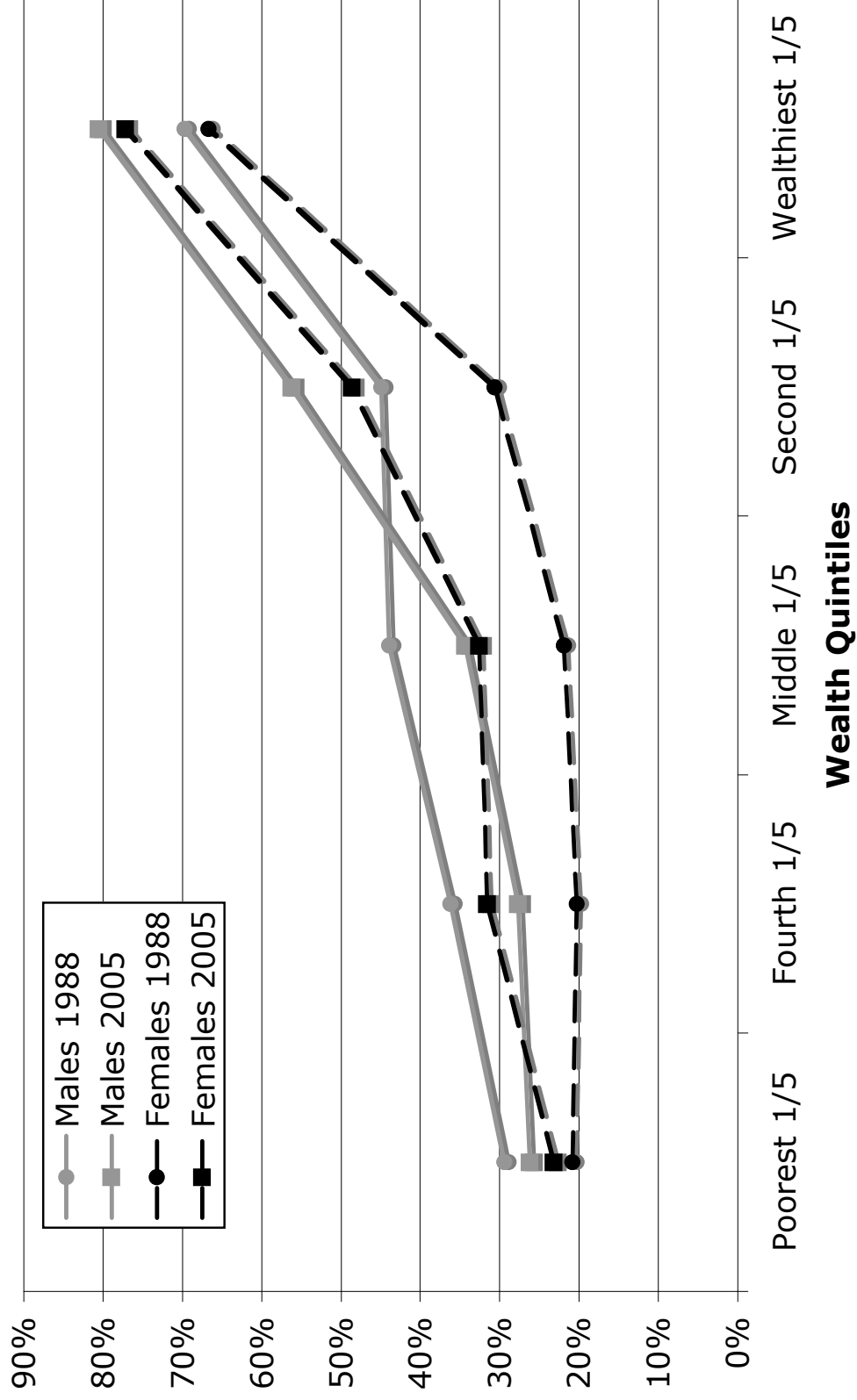


Figure 4: Higher Education Enrollment of Adults 19-22 Years of Age by Gender, Egypt 1988-2005

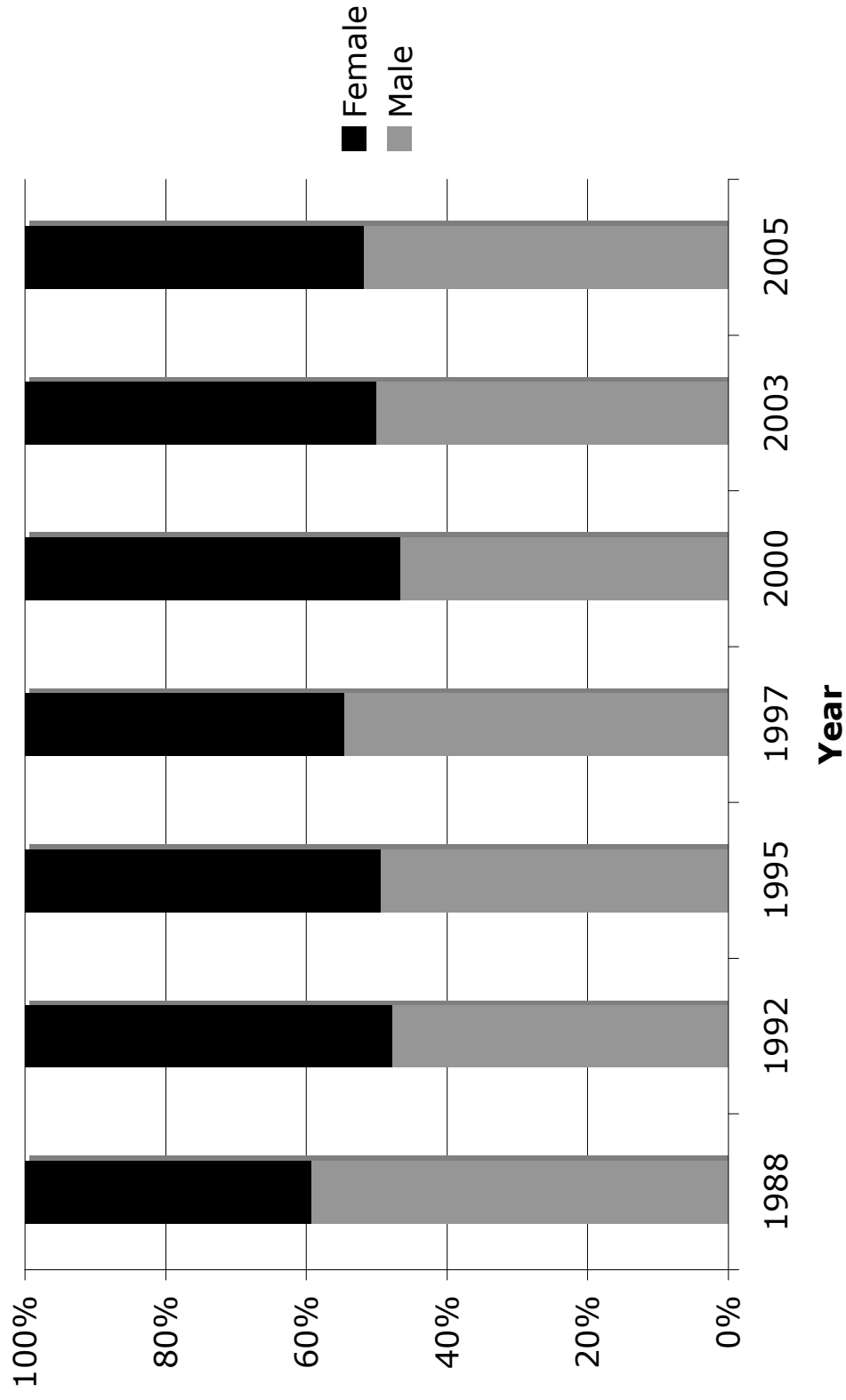


Figure 5: Higher Education Enrollment of Males 19-22 Years of Age by Wealth, Egypt 1988-2005

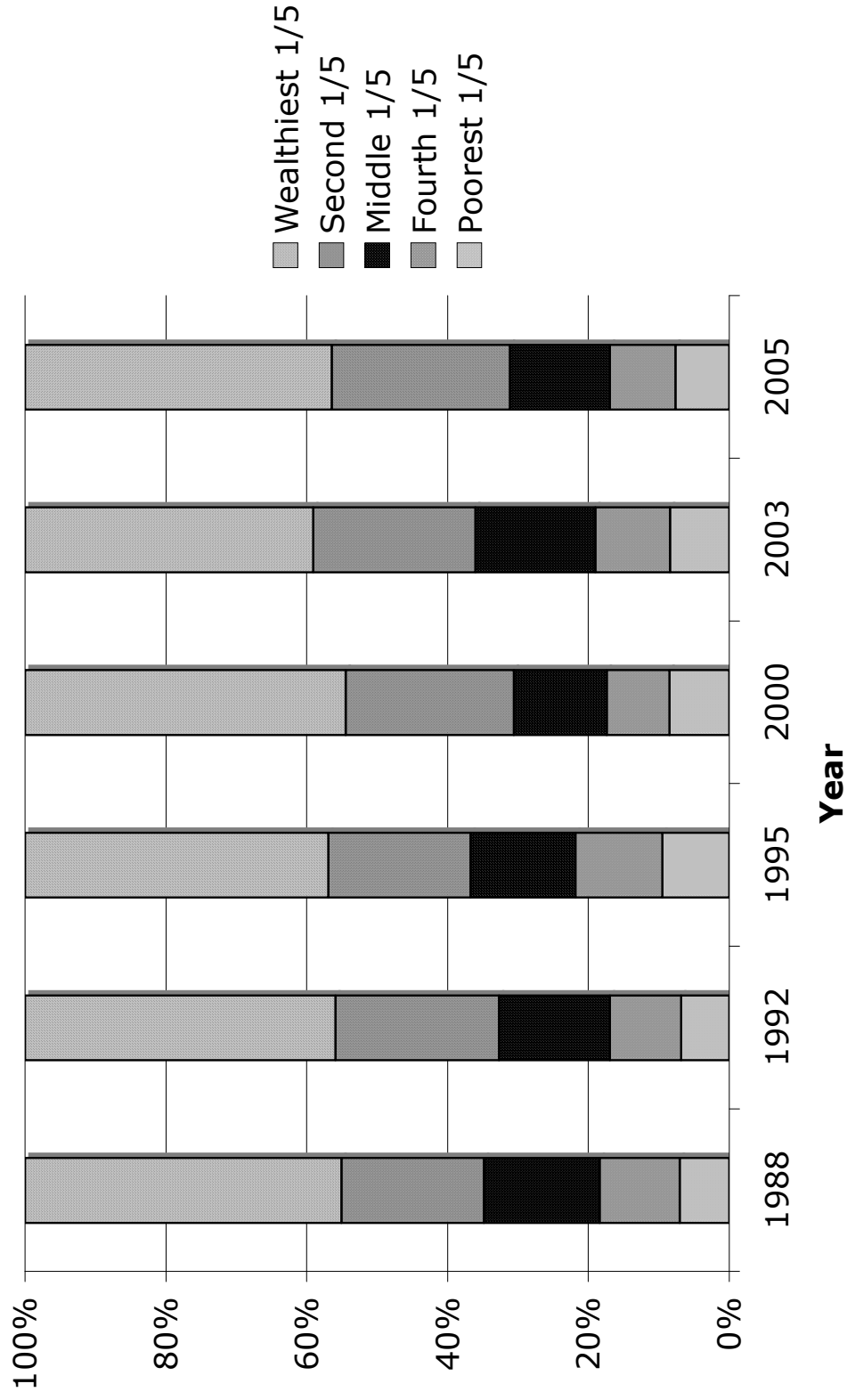


Figure 6: Higher Education Enrollment of Females 19-22 Years of Age by Gender and Wealth, Egypt 1988-2005

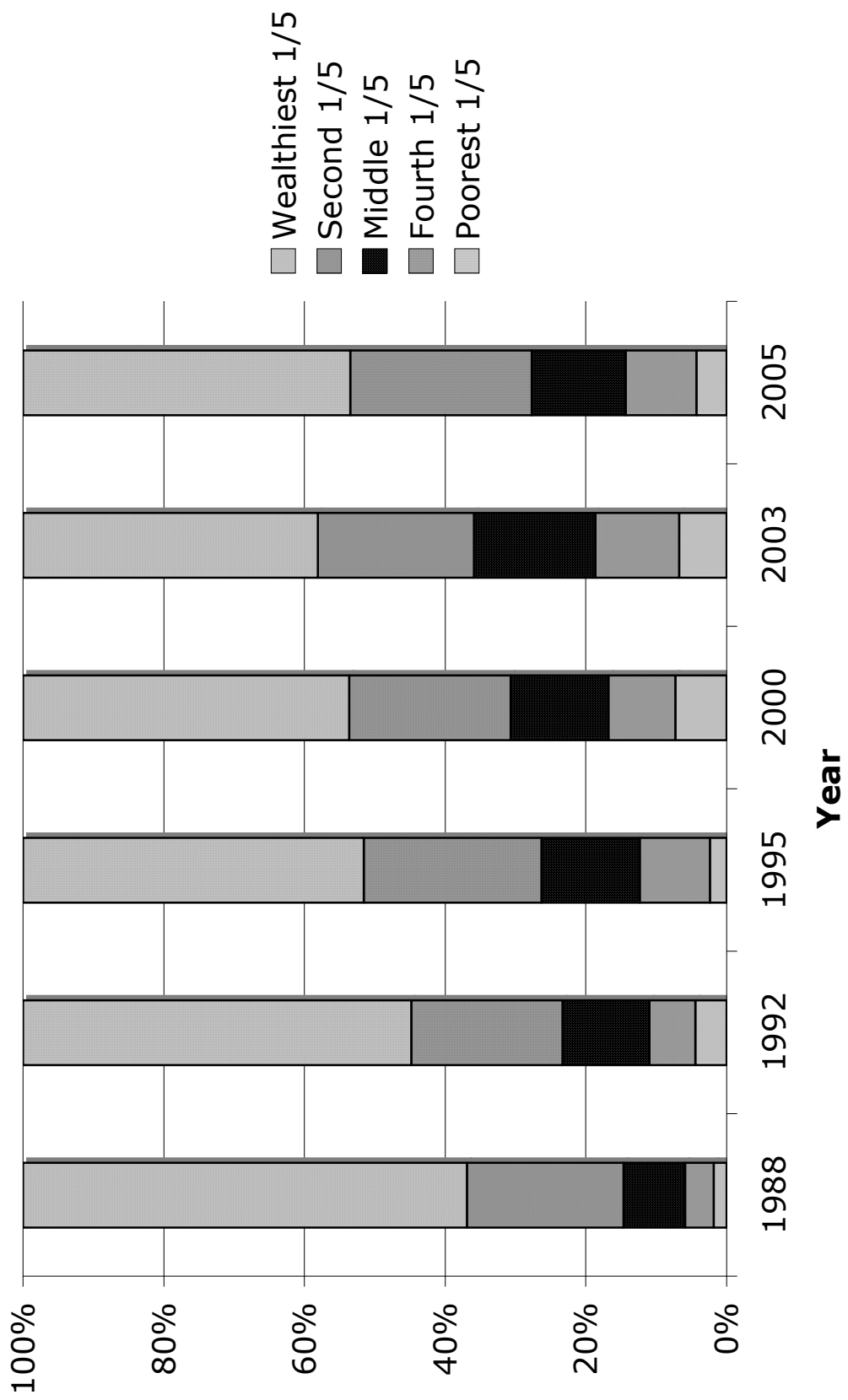


Table 5: Logistic Regression of Gender and Wealth on Higher Education Enrollment, Controlling for Region and Completion of Secondary School for Adults Ages 19 to 22, Egypt 1988-2005

	(1)	(2)	(3)	(4)
Year	.022*** (.004)	.025*** (.004)	.025* (.015)	.028* (.015)
Male	.172*** (.038)	.191*** (.038)	.315*** (.110)	.354*** (.110)
Male*Year Interaction	--	--	-.012*** (.008)	-.013* (.008)
2 nd Wealth Quintile	.208*** (.075)	.175** (.075)	.277 (.229)	.254 (.230)
Middle Wealth Quintile	.528*** (.072)	.444*** (.074)	.650*** (.220)	.536** (.221)
4 th Wealth Quintile	1.077*** (.071)	.901*** (.075)	.900*** (.215)	.717*** (.217)
Wealthiest Quintile	2.307*** (.073)	2.066*** (.081)	2.141*** (.222)	1.895*** (.225)
2 nd Wealth Quintile*Year Interaction	--	--	-.006 (.017)	-.007 (.017)
Middle Wealth Quintile	--	--	-.010 (.016)	-.008 (.017)
4 th Wealth Quintile*Year Interaction	--	--	.014 (.016)	.015 (.016)
Wealthiest Quintile*Year Interaction	--	--	.013 (.017)	.014 (.017)
Urban Governorates	--	.449*** (.065)	--	.451*** (.065)
Urban Lower Egypt	--	.353*** (.068)	--	.346*** (.068)
Rural Lower Egypt	--	.144*** (.054)	--	.138** (.054)
Urban Upper Egypt	--	.228*** (.069)	--	.224*** (.069)
Constant	-1.536*** (.085)	-1.687*** (.090)	-1.56*** (.206)	-1.713*** (.209)
F-statistic	303.97***	190.26***	165.91***	126.89***
Degrees of Freedom	17,672	17,668	17,667	17,663

Source: Demographic and Health Surveys 1988 – 2005.

Note: The reference group is females from the poorest wealth quintile in rural Upper Egypt. The number in the parentheses is the standard error.

*Significant at a 90% confidence level.

**Significant at a 95% confidence level.

***Significant at a 99% confidence level.