

Youth Labor Markets and Educational Attainment
In Burkina Faso: Recent Trends and Analysis

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Themes covered in the presentation

- 1. Descriptive analysis of Main Activity at Survey Time**
- 2. Multiple Job Holding and Underemployment**
- 3. Changes Over Time in Distribution of Occupations, 1993-2003**
- 4. Impact of Changes in Household Income/Economic Status on Labor Force Participation**
- 5. School Enrollment Determinants**
- 6. Economic Return to Schooling**

1. Main Activity at Survey Time (Tables 1-4)

- Substantial growth of female labor market in rural areas
- Females' unemployment rate has increased over time in all likelihood as the result of more active participation (search)
- Males' employment rates have held steady, except perhaps for those in youngest age group
- Whatever deterioration there has been in the case of males appears to be concentrated among the least educated

Unemployment rate increases with education, most particularly in urban areas (search)

Multiple Job Holding and Underemployment (Tables 5-6)

- Men living in rural areas are more likely to report that they want more work; this is particularly true the older they get
- At the same time many of those who want more work are already holding more than one job
- For females there is only a small distinction between the fraction who want more work in rural vs urban areas.
- However, more rural than urban women are already working in more than one job

3. Occupational Transitions Over Time for Same Cohort (Figures 3a-3l)

-Port of entry pretty much the same (family helper) except for the very few with at least secondary education

-Having more education accelerates transition rate to better paid occupations. Education thus has positive effect on careers

4. Impact of Changes in Household Income/Economic Status on Labor Force Participation (Tables 7-8)

-Fairly strong evidence that labor force participation of 12-14 year-olds living in urban areas is counter-cyclical relative to changes in major source of household income

-Also true for self-reported changes in household economic conditions

-That relationship is particularly true for poorer households

-Evidence is weaker for same aged-individuals in rural areas

-Little evidence of any cyclical pattern for 8-11 year-olds

-Overall, no evidence that households pull their children out of school to take advantage of favorable economic circumstances

5. School Enrollment Determinants

- School proximity (in terms of the time it takes to reach one) is a strong determinant of enrollment.
- Results show that proximity to primary schools matters most for children of primary school age while proximity to secondary schools matters most for those of secondary school age
- For females aged 12-14 living in urban areas, school proximity and shocks to household income have similar effects on enrollment rates
- For males aged 12-14 in urban areas, school proximity is a stronger determinant of school attendance
- For younger children 8-11 in rural areas, proximity to schools is the overwhelming contributor to enrollment rates

6. Economic Return to Schooling (Figures 4-6, Tables 10-12)

- Using household per capita income and household average educational attainment, i.e. analysis is carried out at household level
- Less than 25% of individuals report positive earnings. Not clear what useful conclusion could be drawn from such a selected sample.
- Per capita household income is greater for households living relatively close to a school, especially secondary schools
- True even within narrowly defined geographical areas
- Relationship between household income and educational attainment in rural areas suggests that significant differences in income start to show for households with at least (on average) completed primary schooling
- In urban areas, relationship between schooling and log income is basically linear

6. Economic Return to Schooling (Figures 4-6, Tables 10-12)

-Endogeneity of schooling handled through the use of school proximity as an exogenous source of variation in schooling (instrument)

-Also use a combination of panel data methods + instrumental variable estimation to provide further control for potential lack of exogeneity of instrument

-Overall, little evidence that cross-sectional positive relationship between average household income and average household educational attainment is spurious (i.e. not causal to a considerable degree)

Policy Implications

Labor Force Participation and Household Income Shocks

Negative relationship between household wealth and children participating in labor force suggests that education is viewed as desirable by household: if they can afford it, they prefer sending to child(ren) to school instead of having them working (more true in urban areas).

This result is consistent with what Edmonds finds with Vietnam.

It implies that a conditional cash transfer to household with young children-the condition being that they stay enrolled-is likely to work and not be too costly. Would be very costly if households had strong preference for sending their children into the labor force, which does not seem to be the case.

School Enrollment and Availability of Schools

School enrollment strongly influenced by proximity of schools.

Relationship is particularly strong if the household head has low education, which is consistent with the hypothesis that access constraints are real for less economically favored households.

School/Road Infrastructures

Evidence that there are readily available human resources suggests that finding labor to improve infrastructures won't put undue pressures on labor market or take valuable resources away from other equally valuable projects.

Table 1. Distribution of Activity at Interview*
Source: Surveys of Household Living Standards

| Age Group | Women | | | Men | | | Activity |
|---------------|-------|------|------|------|------|------|-----------------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 | |
| 10-14 yrs-old | 0.27 | 0.22 | 0.26 | 0.35 | 0.29 | 0.33 | School Only |
| | 0.01 | 0.02 | 0.01 | 0.02 | 0.04 | 0.01 | School and Work |
| | 0.57 | 0.66 | 0.59 | 0.57 | 0.62 | 0.56 | Work Only |
| | 0.03 | 0.03 | 0.08 | 0.02 | 0.02 | 0.07 | Unemployed |
| | 0.05 | 0.02 | 0.03 | 0.03 | 0.01 | 0.02 | Inactive |
| 15-19 yrs-old | 0.11 | 0.11 | 0.13 | 0.16 | 0.16 | 0.17 | School Only |
| | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 | 0.01 | School and Work |
| | 0.70 | 0.75 | 0.73 | 0.78 | 0.77 | 0.77 | Work Only |
| | 0.02 | 0.04 | 0.06 | 0.03 | 0.02 | 0.04 | Unemployed |
| | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | Inactive |
| 20-24 yrs-old | 0.03 | 0.05 | 0.05 | 0.08 | 0.09 | 0.08 | School Only |
| | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | School and Work |
| | 0.71 | 0.77 | 0.77 | 0.84 | 0.84 | 0.85 | Work Only |
| | 0.02 | 0.03 | 0.05 | 0.06 | 0.04 | 0.06 | Unemployed |
| | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | Inactive |
| 25-34 yrs-old | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | School Only |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | School and Work |
| | 0.79 | 0.85 | 0.83 | 0.94 | 0.95 | 0.95 | Work Only |
| | 0.01 | 0.02 | 0.04 | 0.03 | 0.02 | 0.04 | Unemployed |
| | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | Inactive |
| 35-44 yrs-old | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | School Only |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | School and Work |
| | 0.84 | 0.89 | 0.88 | 0.96 | 0.98 | 0.97 | Work Only |
| | 0.00 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | Unemployed |
| | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | Inactive |
| 45 yrs-old | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | School Only |
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | School and Work |
| | 0.79 | 0.86 | 0.83 | 0.94 | 0.96 | 0.95 | Work Only |
| | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | Unemployed |
| | 0.07 | 0.06 | 0.06 | 0.03 | 0.01 | 0.02 | Inactive |
| All 10-64 | 0.07 | 0.07 | 0.08 | 0.12 | 0.11 | 0.12 | School Only |
| | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | School and Work |
| | 0.73 | 0.79 | 0.77 | 0.81 | 0.83 | 0.82 | Work Only |
| | 0.02 | 0.02 | 0.04 | 0.03 | 0.02 | 0.04 | Unemployed |
| | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | Inactive |

*In 1998 and 2003 the interviews were partly conducted during the summer months, thus the school enrollment figures refer to enrollment in the relevant school year (current year for non summer interviews and prior year for summer month interviews). See text for discussion on how "unemployed" is defined across surveys.

Table 2. Employment and Unemployment Rates Among Individuals Not Enrolled
 Employment Rates

Employment Rates:

| Age Group | Women | | | Men | | |
|---------------|-------|------|------|------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| 10-14 yrs-old | 0.78 | 0.88 | 0.82 | 0.91 | 0.94 | 0.86 |
| 15-19 yrs-old | 0.79 | 0.85 | 0.84 | 0.94 | 0.95 | 0.94 |
| 20-24 yrs-old | 0.74 | 0.82 | 0.81 | 0.92 | 0.93 | 0.92 |
| 25-29 yrs-old | 0.78 | 0.85 | 0.83 | 0.94 | 0.96 | 0.95 |
| 30-34 yrs-old | 0.81 | 0.87 | 0.84 | 0.96 | 0.97 | 0.97 |
| 35-39 yrs-old | 0.83 | 0.89 | 0.88 | 0.97 | 0.98 | 0.97 |
| Total | 0.78 | 0.86 | 0.83 | 0.94 | 0.95 | 0.93 |

Unemployment Rates:

| Age Group | Women | | | Men | | |
|---------------|-------|------|------|------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| 10-14 yrs-old | 0.04 | 0.03 | 0.10 | 0.03 | 0.02 | 0.10 |
| 15-19 yrs-old | 0.03 | 0.04 | 0.07 | 0.04 | 0.03 | 0.05 |
| 20-24 yrs-old | 0.03 | 0.03 | 0.05 | 0.06 | 0.05 | 0.07 |
| 25-29 yrs-old | 0.01 | 0.02 | 0.04 | 0.04 | 0.03 | 0.05 |
| 30-34 yrs-old | 0.00 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 |
| 35-39 yrs-old | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.03 |
| Total | 0.02 | 0.03 | 0.06 | 0.04 | 0.03 | 0.06 |

Table 3. Employment and Unemployment Rates by Age, Year, Gender, and Education.

Employment Rates:

| Educational Attainment and Age Group | Women | | | Men | | |
|--|-------|------|------|------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| No Schooling | | | | | | |
| 10-14 yrs-old | 0.79 | 0.89 | 0.82 | 0.92 | 0.95 | 0.86 |
| 15-19 yrs-old | 0.83 | 0.88 | 0.87 | 0.96 | 0.97 | 0.96 |
| 20-24 yrs-old | 0.80 | 0.87 | 0.85 | 0.97 | 0.97 | 0.96 |
| 25-29 yrs-old | 0.81 | 0.89 | 0.86 | 0.96 | 0.98 | 0.97 |
| 30-34 yrs-old | 0.84 | 0.89 | 0.87 | 0.97 | 0.99 | 0.98 |
| 35-39 yrs-old | 0.85 | 0.90 | 0.90 | 0.97 | 0.99 | 0.97 |
| Total | 0.82 | 0.89 | 0.86 | 0.96 | 0.97 | 0.94 |
| Partial Primary | | | | | | |
| 10-14 yrs-old | 0.69 | 0.68 | 0.77 | 0.87 | 0.91 | 0.84 |
| 15-19 yrs-old | 0.63 | 0.69 | 0.70 | 0.92 | 0.92 | 0.90 |
| 20-24 yrs-old | 0.57 | 0.56 | 0.69 | 0.90 | 0.89 | 0.92 |
| 25-29 yrs-old | 0.69 | 0.53 | 0.71 | 0.94 | 0.98 | 0.93 |
| 30-34 yrs-old | 0.60 | 0.63 | 0.73 | 0.96 | 0.98 | 0.96 |
| 35-39 yrs-old | 0.73 | 0.68 | 0.73 | 0.98 | 0.99 | 0.91 |
| Total | 0.65 | 0.63 | 0.72 | 0.92 | 0.93 | 0.91 |
| Primary Compl. | | | | | | |
| 10-14 yrs-old | 0.74 | 0.72 | 0.87 | 0.94 | 0.80 | 0.72 |
| 15-19 yrs-old | 0.61 | 0.63 | 0.69 | 0.90 | 0.91 | 0.89 |
| 20-24 yrs-old | 0.39 | 0.59 | 0.58 | 0.87 | 0.90 | 0.90 |
| 25-29 yrs-old | 0.50 | 0.64 | 0.58 | 0.93 | 0.92 | 0.92 |
| 30-34 yrs-old | 0.54 | 0.68 | 0.43 | 0.91 | 0.94 | 0.97 |
| 35-39 yrs-old | 0.64 | 0.69 | 0.80 | 0.95 | 0.98 | 0.96 |
| Total | 0.53 | 0.64 | 0.63 | 0.91 | 0.92 | 0.91 |
| Partial Sec ond. | | | | | | |
| 10-14 yrs-old | 0.55 | 0.00 | 0.68 | 0.74 | 1.00 | 0.91 |
| 15-19 yrs-old | 0.39 | 0.51 | 0.43 | 0.79 | 0.66 | 0.76 |
| 20-24 yrs-old | 0.37 | 0.39 | 0.47 | 0.69 | 0.75 | 0.72 |
| 25-29 yrs-old | 0.48 | 0.52 | 0.56 | 0.80 | 0.87 | 0.89 |
| 30-34 yrs-old | 0.66 | 0.64 | 0.62 | 0.94 | 0.92 | 0.93 |
| 35-39 yrs-old | 0.61 | 0.78 | 0.65 | 0.94 | 0.96 | 0.97 |
| Total | 0.48 | 0.52 | 0.54 | 0.80 | 0.84 | 0.85 |

(Table 3, cont.)

| Second. Compl. | | | | | | | |
|----------------|------|------|------|------|------|------|--|
| 10-14 yrs-old | | | | | | | |
| 15-19 yrs-old | 1.00 | | | 1.00 | 0.00 | 0.64 | |
| 20-24 yrs-old | 0.64 | 0.49 | 1.00 | 0.82 | 0.73 | 0.87 | |
| 25-29 yrs-old | 0.61 | 0.67 | 0.60 | 0.77 | 0.91 | 0.83 | |
| 30-34 yrs-old | 0.87 | 0.68 | 0.90 | 0.98 | 0.92 | 0.98 | |
| 35-39 yrs-old | 0.87 | 0.80 | 0.93 | 0.95 | 0.96 | 1.00 | |
| Total | 0.74 | 0.67 | 0.79 | 0.85 | 0.90 | 0.93 | |
| Post-Second. | | | | | | | |
| 10-14 yrs-old | | | | | | | |
| 15-19 yrs-old | | | | | | 0.00 | |
| 20-24 yrs-old | 0.21 | 0.54 | | 0.73 | 0.50 | 0.34 | |
| 25-29 yrs-old | 0.41 | 0.90 | 0.65 | 0.83 | 0.81 | 0.78 | |
| 30-34 yrs-old | 0.87 | 1.00 | 0.94 | 0.97 | 0.88 | 0.95 | |
| 35-39 yrs-old | 1.00 | 0.82 | 1.00 | 0.98 | 0.98 | 0.97 | |
| Total | 0.69 | 0.87 | 0.90 | 0.94 | 0.89 | 0.90 | |

Unemployment Rates:

| Educational Attainment and Age Group | Women | | | Men | | |
|--|-------|------|------|------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| No Schooling | | | | | | |
| 10-14 yrs-old | 0.03 | 0.03 | 0.10 | 0.02 | 0.02 | 0.10 |
| 15-19 yrs-old | 0.01 | 0.02 | 0.04 | 0.02 | 0.01 | 0.03 |
| 20-24 yrs-old | 0.01 | 0.01 | 0.03 | 0.02 | 0.01 | 0.04 |
| 25-29 yrs-old | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.03 |
| 30-34 yrs-old | 0.00 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| 35-39 yrs-old | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 |
| Total | 0.01 | 0.01 | 0.04 | 0.02 | 0.01 | 0.05 |
| Partial Primary | | | | | | |
| 10-14 yrs-old | 0.05 | 0.17 | 0.14 | 0.09 | 0.07 | 0.10 |
| 15-19 yrs-old | 0.10 | 0.18 | 0.17 | 0.07 | 0.06 | 0.08 |
| 20-24 yrs-old | 0.07 | 0.13 | 0.15 | 0.07 | 0.10 | 0.07 |
| 25-29 yrs-old | 0.01 | 0.06 | 0.16 | 0.05 | 0.02 | 0.07 |
| 30-34 yrs-old | 0.01 | 0.03 | 0.09 | 0.03 | 0.02 | 0.04 |
| 35-39 yrs-old | 0.01 | 0.03 | 0.13 | 0.01 | 0.01 | 0.06 |
| Total | 0.06 | 0.13 | 0.15 | 0.06 | 0.06 | 0.07 |

Table 3, cont.

| Primary Compl. | | | | | | | |
|------------------|------|------|------|------|------|------|--|
| 10-14 yrs-old | 0.14 | 0.20 | 0.09 | 0.01 | 0.13 | 0.28 | |
| 15-19 yrs-old | 0.05 | 0.19 | 0.28 | 0.07 | 0.05 | 0.10 | |
| 20-24 yrs-old | 0.08 | 0.10 | 0.16 | 0.10 | 0.08 | 0.09 | |
| 25-29 yrs-old | 0.02 | 0.05 | 0.11 | 0.07 | 0.05 | 0.08 | |
| 30-34 yrs-old | 0.00 | 0.03 | 0.10 | 0.08 | 0.06 | 0.03 | |
| 35-39 yrs-old | 0.03 | 0.02 | 0.00 | 0.05 | 0.01 | 0.04 | |
| Total | 0.05 | 0.11 | 0.16 | 0.07 | 0.06 | 0.08 | |
| Partial Sec ond. | | | | | | | |
| 10-14 yrs-old | 0.00 | 1.00 | 0.32 | 0.00 | 0.00 | 0.00 | |
| 15-19 yrs-old | 0.05 | 0.09 | 0.35 | 0.13 | 0.24 | 0.20 | |
| 20-24 yrs-old | 0.14 | 0.25 | 0.26 | 0.29 | 0.23 | 0.26 | |
| 25-29 yrs-old | 0.10 | 0.12 | 0.16 | 0.16 | 0.11 | 0.11 | |
| 30-34 yrs-old | 0.04 | 0.13 | 0.15 | 0.06 | 0.07 | 0.07 | |
| 35-39 yrs-old | 0.04 | 0.03 | 0.11 | 0.04 | 0.04 | 0.03 | |
| Total | 0.09 | 0.16 | 0.21 | 0.16 | 0.14 | 0.14 | |
| Second. Compl. | | | | | | | |
| 10-14 yrs-old | | | | | | | |
| 15-19 yrs-old | 0.00 | | | 0.00 | 1.00 | 0.36 | |
| 20-24 yrs-old | 0.22 | 0.25 | 0.00 | 0.18 | 0.20 | 0.13 | |
| 25-29 yrs-old | 0.10 | 0.12 | 0.26 | 0.23 | 0.09 | 0.17 | |
| 30-34 yrs-old | 0.05 | 0.05 | 0.10 | 0.02 | 0.05 | 0.02 | |
| 35-39 yrs-old | 0.13 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | |
| Total | 0.11 | 0.10 | 0.13 | 0.14 | 0.08 | 0.07 | |
| Post-Second. | | | | | | | |
| 10-14 yrs-old | | | | | | | |
| 15-19 yrs-old | | | | | | 1.00 | |
| 20-24 yrs-old | 0.25 | 0.00 | | 0.27 | 0.50 | 0.66 | |
| 25-29 yrs-old | 0.48 | 0.05 | 0.24 | 0.17 | 0.16 | 0.17 | |
| 30-34 yrs-old | 0.08 | 0.00 | 0.00 | 0.03 | 0.12 | 0.01 | |
| 35-39 yrs-old | 0.00 | 0.18 | 0.00 | 0.02 | 0.02 | 0.03 | |
| Total | 0.20 | 0.08 | 0.06 | 0.06 | 0.10 | 0.07 | |

Table 4. Employment and Unemployment Rates By Residence

Employment Rates:

| Area of Residence and Age Group | Women | | | Men | | |
|---------------------------------------|-------|------|------|------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| Urban | | | | | | |
| 10-14 yrs-old | 0.30 | 0.40 | 0.46 | 0.52 | 0.65 | 0.57 |
| 15-19 yrs-old | 0.34 | 0.42 | 0.45 | 0.68 | 0.72 | 0.73 |
| 20-24 yrs-old | 0.35 | 0.41 | 0.44 | 0.67 | 0.77 | 0.74 |
| 25-29 yrs-old | 0.42 | 0.51 | 0.53 | 0.80 | 0.87 | 0.85 |
| 30-34 yrs-old | 0.55 | 0.57 | 0.59 | 0.88 | 0.92 | 0.93 |
| 35-39 yrs-old | 0.54 | 0.65 | 0.68 | 0.90 | 0.96 | 0.93 |
| Total | 0.41 | 0.49 | 0.52 | 0.76 | 0.83 | 0.81 |
| Rural | | | | | | |
| 10-14 yrs-old | 0.83 | 0.91 | 0.84 | 0.94 | 0.96 | 0.87 |
| 15-19 yrs-old | 0.87 | 0.92 | 0.91 | 0.98 | 0.98 | 0.97 |
| 20-24 yrs-old | 0.82 | 0.91 | 0.90 | 0.97 | 0.98 | 0.98 |
| 25-29 yrs-old | 0.85 | 0.92 | 0.90 | 0.98 | 0.99 | 0.98 |
| 30-34 yrs-old | 0.87 | 0.93 | 0.90 | 0.99 | 0.99 | 0.99 |
| 35-39 yrs-old | 0.88 | 0.94 | 0.92 | 0.99 | 0.99 | 0.98 |
| Total | 0.85 | 0.92 | 0.89 | 0.97 | 0.98 | 0.95 |

Unemployment Rates:

| Area of Residence and Age Group | Women | | | Men | | |
|---------------------------------------|-------|------|------|------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| Urban | | | | | | |
| 10-14 yrs-old | 0.17 | 0.29 | 0.29 | 0.24 | 0.21 | 0.31 |
| 15-19 yrs-old | 0.12 | 0.28 | 0.31 | 0.23 | 0.22 | 0.25 |
| 20-24 yrs-old | 0.10 | 0.17 | 0.24 | 0.28 | 0.21 | 0.24 |
| 25-29 yrs-old | 0.06 | 0.09 | 0.16 | 0.17 | 0.11 | 0.13 |
| 30-34 yrs-old | 0.02 | 0.06 | 0.12 | 0.08 | 0.07 | 0.07 |
| 35-39 yrs-old | 0.03 | 0.03 | 0.05 | 0.08 | 0.04 | 0.06 |
| Total | 0.08 | 0.15 | 0.20 | 0.18 | 0.14 | 0.17 |
| Rural | | | | | | |
| 10-14 yrs-old | 0.02 | 0.01 | 0.09 | 0.02 | 0.01 | 0.09 |
| 15-19 yrs-old | 0.01 | 0.01 | 0.03 | 0.01 | 0.00 | 0.02 |
| 20-24 yrs-old | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 |
| 25-29 yrs-old | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 |
| 30-34 yrs-old | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 |
| 35-39 yrs-old | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 |
| Total | 0.01 | 0.01 | 0.03 | 0.01 | 0.00 | 0.04 |

Table 5. Multiple Job Holding and Under Employment in 2003

| Age Group | Women | | Men | | |
|---------------|--------------|--------------|--------------|--------------|--|
| | Urban | Rural | Urban | Rural | |
| 10-14 yrs-old | 0.11 0.08 | 0.08 0.07 | 0.06 0.03 | 0.08 0.09 | Wants More Work (%) More than One Job (%) |
| 15-19 yrs-old | 0.10 0.08 | 0.13 0.14 | 0.12 0.07 | 0.14 0.13 | Wants More Work More than One Job |
| 20-24 yrs-old | 0.12 0.11 | 0.16 0.18 | 0.13 0.10 | 0.20 0.21 | Wants More Work More than One Job |
| 25-34 yrs-old | 0.15 0.09 | 0.17 0.21 | 0.15 0.11 | 0.23 0.28 | Wants More Work More than One Job |
| 35-44 yrs-old | 0.15 0.09 | 0.18 0.25 | 0.15 0.13 | 0.26 0.35 | Wants More Work More than One Job |
| 45 yrs-old+ | 0.18 0.17 | 0.16 0.24 | 0.16 0.16 | 0.22 0.33 | Wants More Work More than One Job |

Table 6. Incidence of Multiple Job Holding and Household Income.

| Household Income Quintile | Women | | Men | |
|---------------------------|-------|--|------|--|
| | | | | |
| 1 | 0.16 | | 0.18 | |
| 2 | 0.19 | | 0.23 | |
| 3 | 0.22 | | 0.24 | |
| 4 | 0.19 | | 0.23 | |
| 5 | 0.13 | | 0.17 | |

Table 7. Household Income Shocks and Labor Force Participation
(Robust Standard Errors in Parentheses)

Dependent Variable: Whether the individual works or is unemployed and looking for work

Panel A: Individuals Aged 12 to 14 Living in Urban Areas

| | Males | | | | Females | | | |
|--|------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Household Income Decreased Between Survey Year and Year Before | 0.045 (0.028) | 0.049 (0.029) | 0.037 (0.029) | 0.121 (0.046) | 0.053 (0.027) | 0.062 (0.032) | 0.026 (0.028) | 0.060 (0.044) |
| Decrease in Income X Head's Education | - | -0.005 (0.003) | - | | - | -0.016 (0.022) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | 0.077 (0.086) | | - | - | 0.275 (0.116) | |
| Decrease in Income X Household Size | | | | -0.007 (0.003) | | | | -0.001 (0.003) |
| 30-59 Minutes Away From Elementary School | 0.031 (0.042) | 0.031 (0.042) | 0.031 (0.042) | 0.033 (0.042) | -0.024 (0.040) | -0.024 (0.040) | -0.020 (0.040) | -0.024 (0.040) |
| 60+ Minutes Away From Elementary School | 0.008 (0.143) | 0.007 (0.144) | 0.006 (0.139) | 0.000 (0.141) | 0.446 (0.172) | 0.446 (0.172) | 0.458 (0.168) | 0.446 (0.172) |
| 30-59 Minutes Away From Secondary School | 0.031 (0.031) | 0.031 (0.031) | 0.032 (0.031) | 0.030 (0.031) | 0.015 (0.030) | 0.015 (0.030) | 0.015 (0.030) | 0.015 (0.030) |
| 60+ Minutes Away From Secondary School | 0.061 (0.061) | 0.061 (0.061) | 0.054 (0.061) | 0.065 (0.061) | 0.049 (0.063) | 0.049 (0.063) | 0.037 (0.061) | 0.050 (0.063) |
| N | 1575 | 1575 | 1575 | 1575 | 1692 | 1692 | 1692 | 1692 |

Panel B: Individuals Aged 12 to 14 Living in Rural Areas

| | Males | | | | Females | | | |
|--|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Household Income Decreased Between Survey Year and Year Before | 0.007 (0.016) | 0.005 (0.016) | 0.002 (0.018) | 0.019 (0.024) | -0.010 (0.016) | -0.011 (0.016) | -0.005 (0.018) | -0.016 (0.022) |
| Decrease in Income X Head's Education | - | 0.011 (0.004) | - | | - | 0.005 (0.003) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | 0.020 (0.031) | | - | - | -0.022 (0.038) | |
| Decrease in Income X Household Size | | | | -0.001 (0.024) | | | | 0.000 (0.001) |
| 30-59 Minutes Away From Elementary School | 0.060 (0.017) | 0.060 (0.017) | 0.060 (0.017) | 0.060 (0.017) | 0.033 (0.017) | 0.032 (0.017) | 0.033 (0.017) | 0.033 (0.017) |
| 60+ Minutes Away From Elementary School | 0.170 (0.017) | 0.170 (0.017) | 0.170 (0.017) | 0.170 (0.017) | 0.091 (0.021) | 0.091 (0.021) | 0.091 (0.021) | 0.091 (0.021) |
| 30-59 Minutes Away From Secondary School | 0.097 (0.027) | 0.098 (0.027) | 0.096 (0.027) | 0.097 (0.027) | 0.067 (0.025) | 0.067 (0.025) | 0.067 (0.025) | 0.067 (0.025) |
| 60+ Minutes Away From Secondary School | 0.165 (0.033) | 0.166 (0.033) | 0.164 (0.033) | 0.165 (0.033) | 0.151 (0.032) | 0.151 (0.032) | 0.151 (0.032) | 0.151 (0.032) |
| N | 5033 | 5033 | 5033 | 5033 | 4643 | 4643 | 4643 | 4643 |

Panel C: Individuals Aged 8 to 11 Living in Urban Areas

| | Males | | | | Females | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Household Income Decreased Between Survey Year and Year Before | -0.010 (0.011) | -0.020 (0.011) | -0.014 (0.012) | 0.016 (0.018) | -0.012 (0.013) | -0.005 (0.014) | -0.011 (0.013) | -0.049 (0.018) |
| Conditions Deteriorated X Head's Educ. | - | 0.024 (0.011) | - | | - | -0.021 (0.013) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | 0.028 (0.035) | | - | - | -0.005 (0.039) | |
| Decrease in Income X Household Size | | | | -0.002 (0.001) | | | | 0.004 (0.002) |
| 30-59 Minutes Away From Elementary School | 0.037 (0.021) | 0.037 (0.020) | 0.037 (0.020) | 0.036 (0.020) | 0.033 (0.017) | 0.032 (0.017) | 0.033 (0.017) | 0.033 (0.017) |
| 60+ Minutes Away From Elementary School | 0.046 (0.119) | 0.039 (0.113) | 0.051 (0.122) | 0.044 (0.117) | 0.091 (0.021) | 0.091 (0.021) | 0.091 (0.021) | 0.091 (0.021) |
| 30-59 Minutes Away From Secondary School | 0.004 (0.012) | 0.004 (0.012) | 0.004 (0.012) | 0.005 (0.012) | 0.067 (0.025) | 0.067 (0.025) | 0.067 (0.025) | 0.067 (0.025) |
| 60+ Minutes Away From Secondary School | -0.010 (0.021) | -0.010 (0.020) | -0.012 (0.020) | -0.010 (0.021) | 0.151 (0.032) | 0.151 (0.032) | 0.151 (0.032) | 0.151 (0.032) |
| N | 2191 | 2191 | 2191 | 2191 | 2156 | 2156 | 2156 | 2156 |

Panel D: Individuals Aged 8 to 11 Living in Rural Areas

| | Males | | | | Females | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Household Income Decreased Between Survey Year and Year Before | -0.023 (0.013) | -0.031 (0.013) | -0.022 (0.015) | -0.005 (0.018) | -0.015 (0.013) | -0.014 (0.013) | -0.005 (0.016) | -0.012 (0.018) |
| Conditions Deteriorated X Head's Educ. | - | 0.083 (0.030) | - | | - | -0.006 (0.006) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | -0.004 (0.015) | | - | - | -0.035 (0.027) | |
| Decrease in Income X Household Size | | | | -0.001 (0.001) | | | | 0.000 (0.001) |
| 30-59 Minutes Away From Elementary School | 0.078 (0.015) | 0.077 (0.015) | 0.078 (0.015) | 0.078 (0.015) | 0.027 (0.016) | 0.027 (0.016) | 0.027 (0.016) | 0.027 (0.016) |
| 60+ Minutes Away From Elementary School | 0.095 (0.020) | 0.094 (0.020) | 0.095 (0.020) | 0.095 (0.020) | 0.053 (0.018) | 0.053 (0.018) | 0.053 (0.018) | 0.053 (0.018) |
| 30-59 Minutes Away From Secondary School | -0.044 (0.029) | -0.047 (0.029) | -0.044 (0.029) | -0.044 (0.029) | 0.053 (0.031) | 0.053 (0.031) | 0.054 (0.031) | 0.053 (0.031) |
| 60+ Minutes Away From Secondary School | -0.010 (0.027) | -0.013 (0.027) | -0.010 (0.027) | -0.010 (0.027) | 0.079 (0.025) | 0.079 (0.025) | 0.079 (0.025) | 0.079 (0.025) |
| N | 8084 | 8084 | 8084 | 8084 | 7470 | 7470 | 7470 | 7470 |

Table 8. Changes in Household's Economic Conditions and Labor Force Participation
(Robust Standard Errors in Parentheses)

Dependent Variable: Whether the individual works or is unemployed and looking for work

Panel A: Individuals Aged 12 to 14 Living in Urban Areas

| | Males | | | | Females | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Economic Conditions of Household Deteriorated Over Last Calendar Year | 0.080 (0.045) | 0.132 (0.057) | 0.067 (0.046) | -0.019 (0.103) | 0.070 (0.045) | 0.108 (0.057) | 0.023 (0.045) | 0.105 (0.091) |
| Conditions Deteriorated X Head's Educ. | - | -0.073 (0.044) | - | | - | -0.035 (0.029) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | 0.029 (0.122) | | - | - | 0.643 (0.154) | |
| Conditions Deteriorated X Household Size | | | | 0.010 (0.010) | | | | -0.004 (0.009) |
| 30-59 Minutes Away From Elementary School | -0.023 (0.071) | -0.023 (0.068) | -0.016 (0.070) | -0.027 (0.070) | - | - | - | - |
| 60+ Minutes Away From Elementary School | -0.190 (0.057) | -0.140 (0.053) | -0.191 (0.061) | -0.190 (0.056) | -0.067 (0.086) | -0.065 (0.086) | -0.054 (0.085) | -0.069 (0.086) |
| 30-59 Minutes Away From Secondary School | 0.093 (0.058) | 0.105 (0.057) | 0.091 (0.059) | 0.102 (0.060) | -0.080 (0.053) | -0.075 (0.055) | -0.106 (0.053) | -0.081 (0.054) |
| 60+ Minutes Away From Secondary School | 0.228 (0.129) | 0.236 (0.132) | 0.228 (0.125) | 0.237 (0.132) | -0.119 (0.070) | -0.115 (0.072) | -0.131 (0.062) | -0.120 (0.071) |
| N | 486 | 486 | 486 | 486 | 508 | 508 | 508 | 508 |

Panel B: Individuals Aged 12 to 14 Living in Rural Areas

| | Males | | | | Females | | | |
|---|------------------|------------------|-------------------|-------------------|------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Economic Conditions of Household Deteriorated Over Last Calendar Year | 0.008 (0.026) | 0.006 (0.027) | 0.012 (0.030) | -0.060 (0.055) | 0.003 (0.025) | 0.012 (0.025) | -0.002 (0.027) | -0.060 (0.057) |
| Conditions Deteriorated X Head's Educ. | - | 0.011 (0.051) | - | | - | -0.087 (0.062) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | -0.021 (0.052) | | - | - | 0.019 (0.058) | |
| Conditions Deteriorated X Household Size | | | | 0.006 (0.005) | | | | 0.006 (0.005) |
| 30-59 Minutes Away From Elementary School | 0.089 (0.031) | 0.090 (0.031) | 0.089 (0.032) | 0.088 (0.031) | 0.040 (0.032) | 0.040 (0.032) | 0.039 (0.032) | 0.039 (0.032) |
| 60+ Minutes Away From Elementary School | 0.203 (0.028) | 0.202 (0.028) | 0.201 (0.028) | 0.201 (0.028) | 0.058 (0.038) | 0.062 (0.038) | 0.058 (0.037) | 0.055 (0.038) |
| 30-59 Minutes Away From Secondary School | 0.093 (0.049) | 0.093 (0.049) | 0.094 (0.050) | 0.093 (0.049) | 0.032 (0.046) | 0.031 (0.047) | 0.032 (0.046) | 0.036 (0.046) |
| 60+ Minutes Away From Secondary School | 0.122 (0.060) | 0.122 (0.060) | 0.121 (0.062) | 0.110 (0.061) | 0.032 (0.046) | 0.031 (0.053) | 0.032 (0.053) | 0.038 (0.054) |
| N | 1564 | 1564 | 1564 | 1564 | 1425 | 1425 | 1425 | 1425 |

Panel C: Individuals Aged 8 to 11 Living in Urban Areas

| | Males | | | | Females | | | |
|--|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Economic Conditions of Household Deteriorated Over Last Calendar Year | 0.051 (0.035) | 0.038 (0.037) | 0.056 (0.035) | 0.052 (0.073) | 0.036 (0.026) | 0.032 (0.031) | 0.022 (0.026) | 0.079 (0.051) |
| Conditions Deteriorated X Head's Educ. | - | 0.036 (0.044) | - | | - | 0.004 (0.017) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | -0.046 (0.044) | | - | - | 0.248 (0.246) | |
| Conditions Deteriorated X Household Size | | | | -0.001 (0.006) | | | | -0.004 (0.004) |
| 30-59 Minutes Away From Elementary School | 0.001 (0.045) | 0.001 (0.045) | 0.001 (0.044) | 0.001 (0.045) | -0.016 (0.032) | -0.016 (0.032) | -0.020 (0.031) | -0.017 (0.032) |
| 60+ Minutes Away From Elementary School | 0.076 (0.202) | 0.073 (0.202) | 0.096 (0.220) | 0.076 (0.202) | 0.116 (0.105) | 0.117 (0.106) | 0.102 (0.098) | 0.118 (0.108) |
| 30-59 Minutes Away From Secondary School | 0.035 (0.032) | 0.032 (0.033) | 0.040 (0.032) | 0.035 (0.033) | 0.019 (0.029) | 0.018 (0.028) | 0.020 (0.028) | 0.018 (0.028) |
| 60+ Minutes Away From Secondary School | 0.113 (0.106) | 0.105 (0.107) | 0.076 (0.095) | 0.113 (0.106) | -0.020 (0.019) | -0.021 (0.019) | -0.130 (0.023) | -0.020 (0.020) |
| N | 469 | 469 | 469 | 469 | 643 | 643 | 643 | 643 |

Panel D: Individuals Aged 8 to 11 Living in Rural Areas

| | Males | | | | Females | | | |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] |
| Economic Conditions of Household Deteriorated Over Last Calendar Year | -0.009 (0.023) | -0.008 (0.023) | -0.015 (0.025) | -0.042 (0.048) | -0.009 (0.023) | -0.002 (0.024) | -0.018 (0.028) | -0.001 (0.051) |
| Conditions Deteriorated X Head's Educ. | - | -0.007 (0.056) | - | | - | -0.098 (0.078) | - | |
| Decr. in Inc X Income in Bottom Quintile | - | - | 0.027 (0.046) | | - | - | 0.026 (0.050) | |
| Conditions Deteriorated X Household Size | | | | 0.003 (0.004) | | | | -0.001 (0.004) |
| 30-59 Minutes Away From Elementary School | 0.092 (0.032) | 0.092 (0.032) | 0.091 (0.032) | 0.092 (0.032) | 0.052 (0.026) | 0.052 (0.026) | 0.052 (0.026) | 0.052 (0.026) |
| 60+ Minutes Away From Elementary School | 0.101 (0.039) | 0.101 (0.039) | 0.101 (0.039) | 0.099 (0.039) | 0.017 (0.036) | 0.017 (0.036) | 0.017 (0.036) | 0.017 (0.036) |
| 30-59 Minutes Away From Secondary School | -0.052 (0.045) | -0.052 (0.045) | -0.051 (0.045) | -0.051 (0.045) | -0.015 (0.049) | -0.014 (0.049) | -0.014 (0.049) | -0.015 (0.049) |
| 60+ Minutes Away From Secondary School | -0.030 (0.045) | -0.029 (0.045) | -0.028 (0.045) | -0.029 (0.045) | 0.019 (0.041) | 0.020 (0.041) | 0.020 (0.042) | 0.019 (0.042) |
| N | 2418 | 2418 | 2418 | 2418 | 2314 | 2314 | 2314 | 2314 |

Table 9 School Enrollment Probits
(Standard Errors in Parentheses)

Panel A; Individuals Aged 7-11

| | Males | | | Females | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| Head's Educ.:Some Primary | 0.039 (0.042) | 0.141 (0.046) | 0.133 (0.045) | 0.112 (0.049) | 0.092 (0.037) | 0.145 (0.043) |
| Head's Educ.:Primary Completed | 0.284 (0.055) | 0.130 (0.047) | 0.202 (0.077) | 0.206 (0.043) | 0.163 (0.048) | 0.248 (0.072) |
| Head's Educ.:Some Secondary | 0.272 (0.060) | 0.329 (0.068) | 0.409 (0.072) | 0.212 (0.064) | 0.284 (0.065) | 0.179 (0.067) |
| Head's Educ.:Secondary Completed | 0.500 (0.076) | 0.375 (0.136) | 0.275 (0.217) | 0.176 (0.160) | 0.586 (0.152) | 0.366 (0.178) |
| Head's Educ.:Post-Secondary | See Note | 0.375 (0.136) | See Note | 0.097 (0.095) | 0.104 (0.071) | 0.214 (0.142) |
| Head Handicapped | 0.055 (0.056) | -0.018 (0.034) | 0.109 (0.053) | 0.022 (0.051) | -0.004 (0.028) | -0.072 (0.043) |
| 30-59 Minutes Away From Elementary School | -0.089 (0.029) | -0.075 (0.020) | -0.107 (0.022) | -0.062 (0.028) | -0.055 (0.014) | -0.063 (0.021) |
| 60+ Minutes Away From Elementary School | -0.226 (0.048) | -0.205 (0.022) | -0.178 (0.029) | -0.177 (0.027) | -0.181 (0.017) | -0.101 (0.025) |
| 30-59 Minutes Away From Secondary School | -0.023 (0.033) | -0.067 (0.028) | 0.030 (0.035) | -0.056 (0.021) | -0.041 (0.019) | -0.044 (0.023) |
| 60+ Minutes Away From Secondary School | -0.149 (0.029) | -0.144 (0.032) | 0.007 (0.033) | -0.110 (0.026) | -0.128 (0.025) | -0.087 (0.029) |
| Household Size | -0.011 (0.002) | -0.003 (0.001) | -0.016 (0.002) | -0.013 (0.002) | -0.002 (0.001) | -0.018 (0.002) |
| Household Income in Second Quintile | 0.008 (0.030) | -0.004 (0.030) | -0.006 (0.030) | -0.018 (0.033) | 0.006 (0.033) | 0.069 (0.030) |

(Table 9, Cont.)

Panel B; Individuals Aged 12-14

| | Males | | | Females | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| Head's Educ.:Some Primary | 0.120 (0.104) | 0.066 (0.058) | 0.148 (0.065) | 0.046 (0.057) | 0.125 (0.066) | 0.074 (0.049) |
| Head's Educ.:Primary Completed | 0.053 (0.066) | 0.146 (0.070) | 0.162 (0.106) | 0.105 (0.049) | 0.119 (0.049) | 0.170 (0.088) |
| Head's Educ.:Some Secondary | 0.290 (0.092) | 0.344 (0.083) | 0.246 (0.091) | 0.114 (0.048) | 0.157 (0.052) | 0.200 (0.072) |
| Head's Educ.:Secondary Completed | See Note | 0.525 (0.199) | 0.300 (0.224) | 0.277 (0.124) | 0.250 (0.125) | 0.104 (0.128) |
| Head's Educ.:Post-Secondary | See Note | 0.583 (0.113) | 0.598 (0.156) | 0.065 (0.082) | 0.195 (0.116) | 0.026 (0.080) |
| Head Handicapped | -0.053 (0.065) | -0.021 (0.045) | -0.102 (0.066) | -0.032 (0.043) | 0.063 (0.047) | 0.104 (0.071) |
| 30-59 Minutes Away From Elementary School | -0.017 (0.038) | 0.038 (0.031) | -0.038 (0.032) | -0.026 (0.026) | -0.015 (0.020) | -0.036 (0.029) |
| 60+ Minutes Away From Elementary School | -0.114 (0.050) | -0.119 (0.038) | -0.185 (0.040) | 0.026 (0.048) | -0.067 (0.030) | -0.065 (0.038) |
| 30-59 Minutes Away From Secondary School | -0.070 (0.039) | -0.074 (0.033) | -0.110 (0.034) | -0.049 (0.021) | -0.068 (0.022) | -0.023 (0.029) |
| 60+ Minutes Away From Secondary School | -0.115 (0.038) | -0.177 (0.037) | -0.138 (0.041) | -0.090 (0.025) | -0.176 (0.033) | -0.013 (0.033) |
| Household Size | -0.011 (0.002) | -0.001 (0.001) | -0.009 (0.002) | -0.006 (0.001) | -0.002 (0.001) | -0.010 (0.003) |
| Household Income in Second Quintile | 0.054 (0.021) | 0.043 (0.021) | 0.013 (0.021) | 0.020 (0.020) | 0.020 (0.020) | 0.007 (0.020) |

(Table 9, Cont.)

Panel C; Individuals Aged 15-18

| | Males | | | Females | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| Head's Educ.:Some Primary | 0.034 (0.022) | 0.021 (0.035) | 0.027 (0.035) | 0.036 (0.022) | 0.050 (0.042) | 0.002 (0.016) |
| Head's Educ.:Primary Completed | 0.019 (0.029) | 0.083 (0.033) | 0.057 (0.040) | 0.043 (0.021) | 0.107 (0.037) | 0.081 (0.038) |
| Head's Educ.:Some Secondary | 0.097 (0.038) | 0.217 (0.046) | 0.074 (0.035) | 0.103 (0.036) | 0.114 (0.034) | 0.033 (0.036) |
| Head's Educ.:Secondary Completed | 0.133 (0.108) | 0.384 (0.147) | 0.486 (0.182) | 0.089 (0.076) | 0.147 (0.089) | 0.010 (0.032) |
| Head's Educ.:Post-Secondary | 0.212 (0.110) | 0.325 (0.099) | 0.327 (0.126) | 0.069 (0.039) | 0.114 (0.054) | -0.007 (0.016) |
| Head Handicapped | -0.003 (0.039) | -0.016 (0.026) | -0.041 (0.029) | 0.003 (0.015) | -0.010 (0.017) | -0.018 (0.034) |
| 30-59 Minutes Away From Elementary School | 0.052 (0.021) | 0.036 (0.025) | -0.009 (0.019) | 0.024 (0.017) | -0.004 (0.012) | -0.016 (0.012) |
| 60+ Minutes Away From Elementary School | -0.072 (0.019) | 0.027 (0.027) | -0.080 (0.018) | 0.035 (0.045) | -0.020 (0.018) | -0.024 (0.017) |
| 30-59 Minutes Away From Secondary School | -0.072 (0.01) | -0.043 (0.015) | -0.023 (0.017) | -0.027 (0.006) | -0.018 (0.010) | -0.005 (0.010) |
| 60+ Minutes Away From Secondary School | -0.172 (0.024) | -0.147 (0.025) | -0.076 (0.021) | -0.088 (0.014) | -0.077 (0.019) | -0.071 (0.018) |
| Household Size | -0.006 (0.001) | -0.002 (0.001) | -0.006 (0.002) | -0.002 (0.001) | -0.001 (0.001) | -0.003 (0.001) |
| Household Income in Second Quintile | 0.003 (0.001) | 0.004 (0.001) | 0.051 (0.001) | 0.033 (0.001) | 0.017 (0.001) | 0.011 (0.001) |

Table 10. Rate of Return to Schooling

Dependent Variable: Log of Household Total Income Per Head in 2003

| | OLS | OLS | Census Zone Fixed-Effects | Census Zone Fixed-Effects |
|--|-------------------|-------------------|------------------------------|------------------------------|
| | [1] | [2] | [3] | [4] |
| Variables | | | | |
| Household Average Educational Attainment | 0.350 (0.019) | 0.211 (0.028) | 0.285 (0.018) | 0.175 (0.029) |
| Number of Household Members Enrolled in School | 0.085 (0.045) | 0.102 (0.044) | 0.050 (0.041) | 0.057 (0.041) |
| Head of Household's Educational Attainment | - | 0.125 (0.019) | - | 0.101 (0.021) |
| Fraction of Females in Household | -0.113 (0.065) | -0.143 (0.065) | -0.066 (0.063) | -0.089 (0.063) |
| Household Size | 0.059 (0.005) | 0.060 (0.005) | 0.058 (0.004) | 0.059 (0.004) |
| Lives in Rural Area | -0.521 (0.071) | -0.528 (0.007) | - | - |
| Average Age of Household Members | 0.043 (0.010) | 0.039 (0.010) | 0.031 (0.009) | 0.028 (0.009) |
| Average Age Squared X 100 | -0.060 (0.010) | -0.050 (0.015) | -0.042 (0.013) | -0.037 (0.013) |
| Regional Dummies | Yes | Yes | Yes | Yes |
| Number of Observations: | 7,125 | | | |

Table 11. Instrumental Variables Estimates of Rate of Return to Schooling

Dependent Variable: Log of Household Total Income Per Head in 2003

| Variables | Model [1] | | Model [2] | | Model [3] | |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | First-Stage | IV-Estimate | First-Stage | IV-Estimate | First-Stage | IV-Estimate |
| Household Average Educational Attainment | | 0.369 (0.030) | | 0.385 (0.028) | | 1.497 (0.624) |
| Number of Household Members Enrolled in School | 0.292 (0.020) | 0.080 (0.045) | 0.292 (0.020) | 0.104 (0.047) | 0.256 (0.017) | -0.185 (0.171) |
| Head of Household's Educational Attainment | - | - | - | - | 0.642 (0.011) | -0.642 (0.367) |
| Fraction of Females in Household | -0.284 (0.032) | -0.115 (0.070) | -0.284 (0.032) | -0.109 (0.070) | -0.286 (0.026) | -0.209 (0.193) |
| Household Size | -0.009 (0.002) | 0.045 (0.006) | -0.009 (0.002) | 0.045 (0.005) | -0.005 (0.002) | 0.051 (0.006) |
| Lives in Rural Area | -0.389 (0.020) | -0.600 (0.071) | -0.389 (0.020) | -0.613 (0.080) | -0.295 (0.017) | -0.274 (0.199) |
| Time to Primary School | 0.014 (0.011) | - | 0.014 (0.011) | 0.171 (0.046) | -0.032 (0.009) | 0.201 (0.051) |
| Time to Secondary School | -0.263 (0.011) | - | -0.263 (0.011) | -0.043 (0.040) | -0.063 (0.010) | 0.049 (0.068) |
| Head's Education X Time to Second. School | 0.322 (0.004) | - | 0.322 (0.004) | - | -0.036 (0.007) | - |
| First-Stage F | 2430.9 | | 6731.9 | | 28.24 | |
| Overidentification Test Statistic [P-Value] | | 12.597 0.002 | | Just Identified | | Just Identified |
| Number of Observations: 7,125 | | | | | | |

Table 12. Panel Data IV Estimates

Dependent Variable: Log of Household Total Income Per Head in 2003

Fixed-Effects IV Models

| Variables | Model [1] | | Model [2] | | Model [3] | |
|--|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| | First-Stage | IV-Estimate | First-Stage | IV-Estimate | First-Stage | IV-Estimate |
| Household Average Educ. Attainment | | 0.354 (0.027) | | 0.350 (0.027) | | 0.793 (0.603) |
| Head of Household's Educ. Attainment | - | - | - | - | 0.598 (0.012) | -0.241 (0.336) |
| Time to Primary School | 0.001 (0.014) | - | 0.001 (0.014) | -0.019 (0.029) | -0.024 (0.012) | -0.009 (0.032) |
| Time to Secondary School | -0.232 (0.016) | - | -0.232 (0.016) | -0.030 (0.031) | -0.020 (0.014) | -0.013 (0.040) |
| Head's Educ. X Time to Second. School | 0.296 (0.004) | - | 0.296 (0.004) | - | -0.029 (0.007) | - |
| First-Stage F | 1437.29 | | 4286.15 | | 14.95 | |
| Overidentification Test Statistic [P-Value] | | 2.191 0.334 | | Just Identified | | Just Identified |

Number of Observations: 7,125

Appendix Table 1. Distribution of the Time It Takes to Get to School (%)

| | Elementary School | | | Secondary School | | |
|------------------|-------------------|------|------|------------------|------|------|
| | 1993 | 1998 | 2003 | 1993 | 1998 | 2003 |
| Less Than ½ Hour | 0.68 | 0.58 | 0.61 | 0.19 | 0.16 | 0.23 |
| ½ Hour to 1 Hour | 0.21 | 0.21 | 0.25 | 0.26 | 0.15 | 0.22 |
| More than 1 Hour | 0.11 | 0.21 | 0.14 | 0.56 | 0.69 | 0.55 |

Source. 1993, 1998, and 2003 Surveys on Household Living Standards.

Appendix Table 2. Probits for Relationship Between Being Unemployed and Education

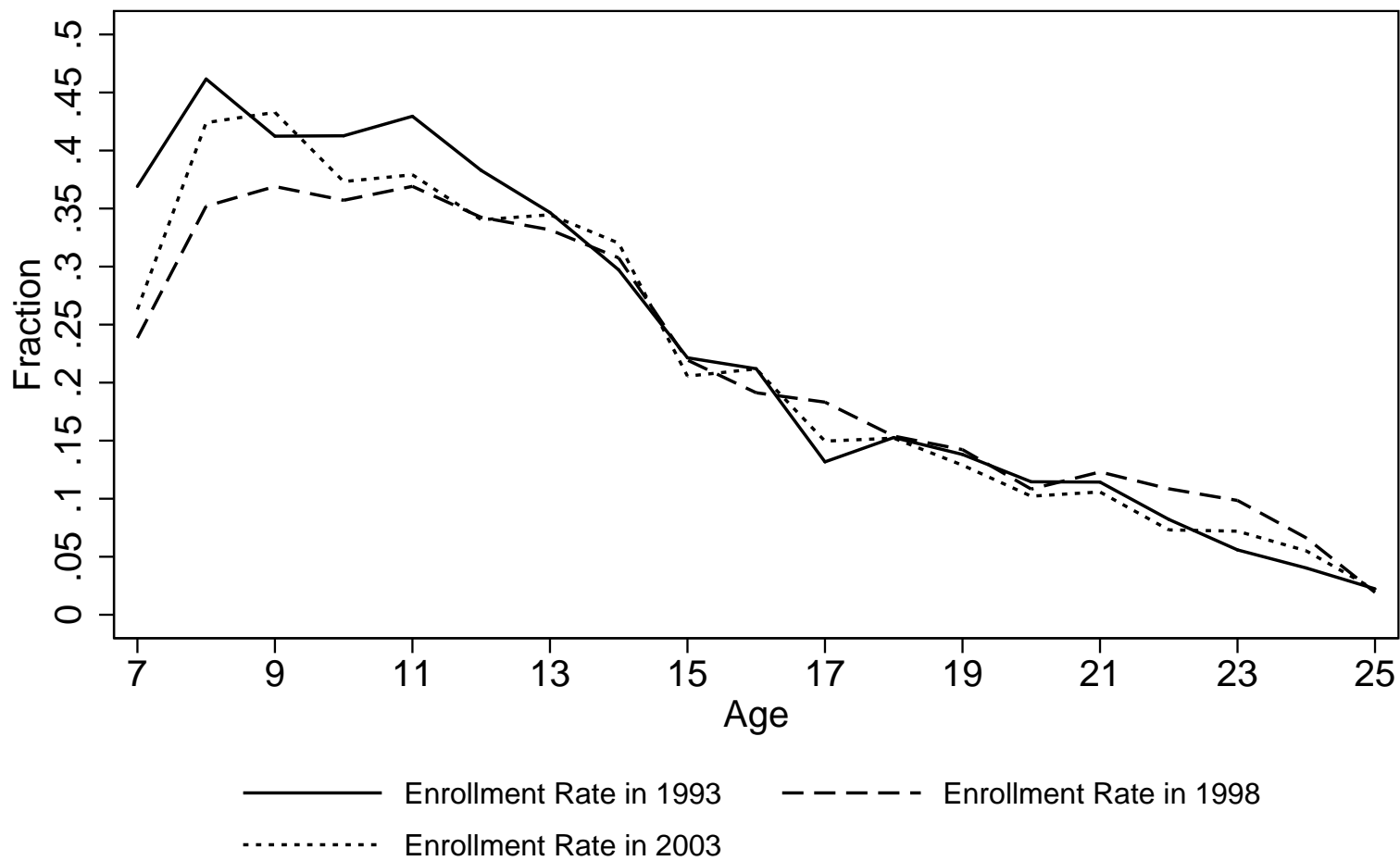
Dependent Variable: Whether the individual is unemployed at time of the interview

| Variables | Males | | | | Females | | | |
|---------------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|
| | Urban | | Rural | | Urban | | Rural | |
| | [1] | [2]* | [3] | [4]* | [5] | [6]* | [7] | [8]* |
| Education enters linearly | 0.0231 (0.0025) | - | 0.0018 (0.0003) | - | 0.0300 (0.0026) | - | 0.0043 (0.0005) | - |
| Partial Primary | - | 0.0261 (0.0112) | - | 0.0001 (0.0011) | - | 0.0704 (0.0123) | - | 0.0177 (0.0054) |
| Primary Completed | - | 0.0058 (0.0115) | - | 0.0115 (0.0047) | - | 0.0559 (0.0134) | - | 0.0437 (0.0099) |
| Partial Secondary | - | 0.1085 (0.0122) | - | 0.0206 (0.0080) | - | 0.1491 (0.0139) | - | 0.0388 (0.0153) |
| Secondary Completed | - | 0.0874 (0.0285) | - | -0.0005 (0.0056) | - | 0.1402 (0.0418) | - | - |
| Post-Secondary | | 0.1035 (0.0292) | | 0.0937 (0.0574) | | 0.1097 (0.0512) | | - |
| N | 8,695 | 8,695 | 26,278 | 26,278 | 9,285 | 26,278 | 31,615 | 31,591** |

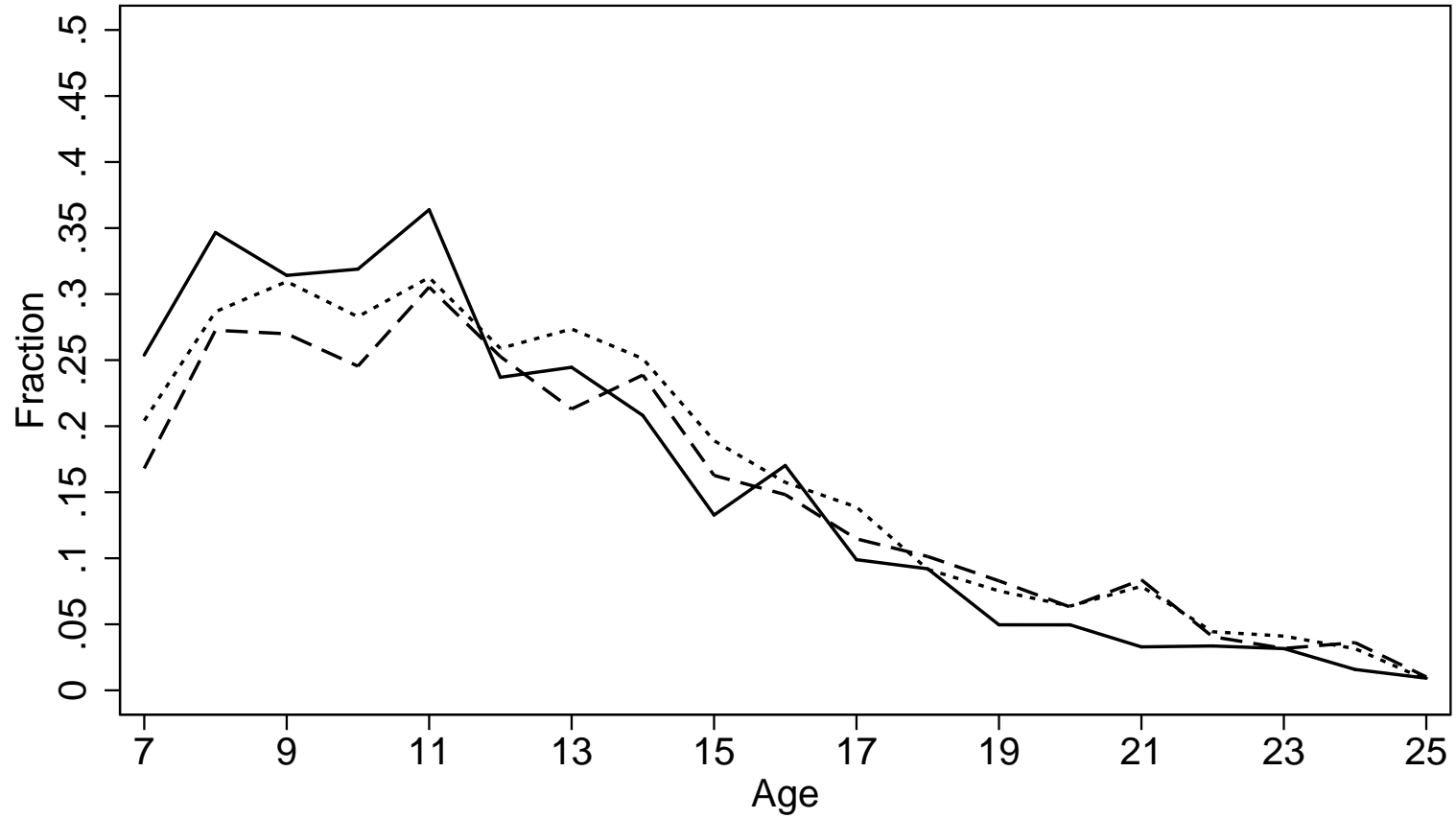
*Effects measured relative to having no schooling at all. Individuals are aged 10 to 39. **Coefficients cannot be estimated because variables are perfect predictors. Observations for those cases are dropped. Other regressors include dummies for age group and survey year.

Figure 1. School Enrollment 1993–2003

Panel A. Males



Panel B. Females



— Enrollment Rate in 1993 - - - - Enrollment Rate in 1998
..... Enrollment Rate in 2003

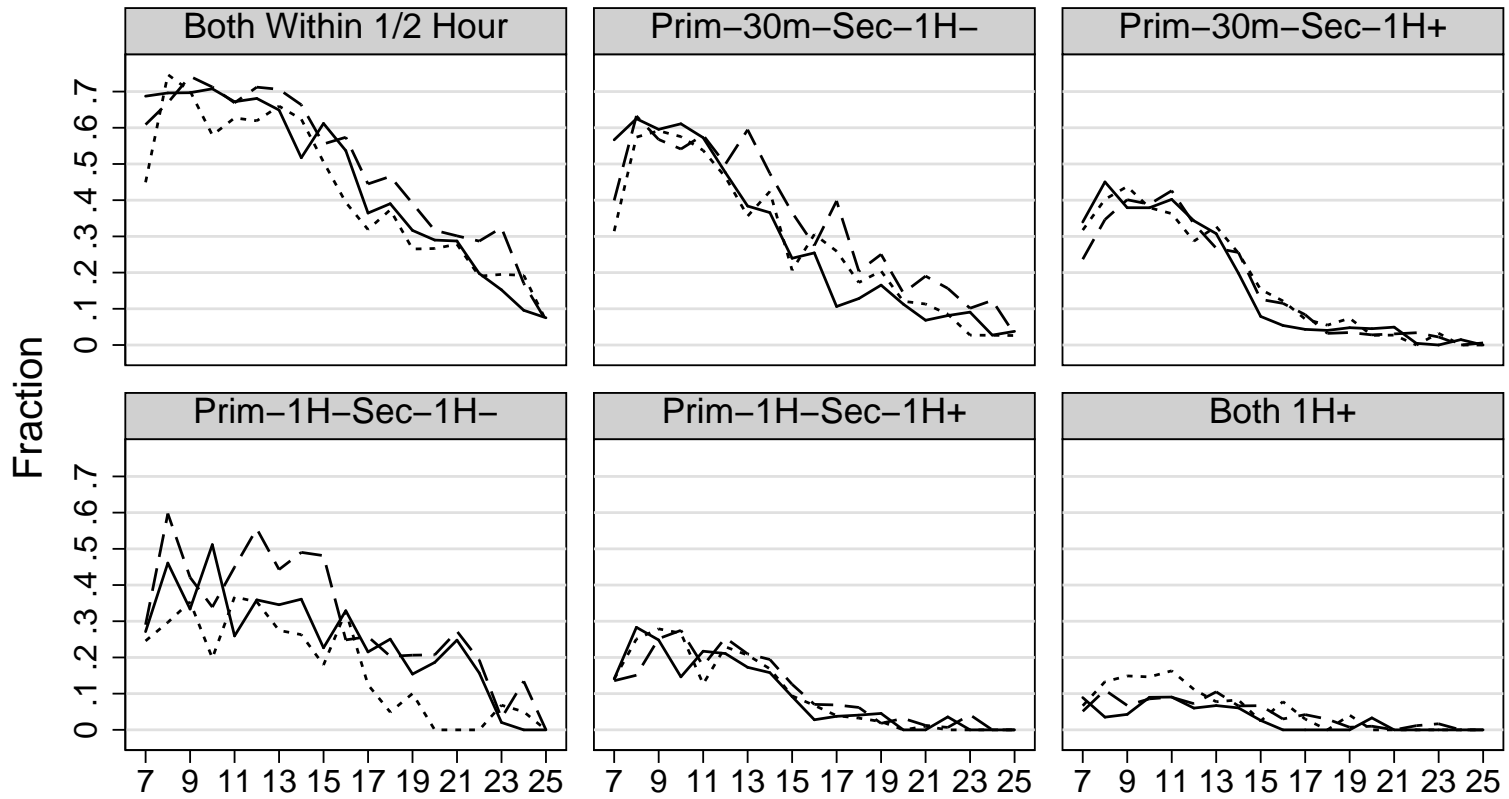


Figure 2a. School Enrollment 1993–2003 by Proximity to Schools: Males

— Enrollment Rate in 1993 - - - - Enrollment Rate in 1998
 Enrollment Rate in 2003

Graphs by Proximity

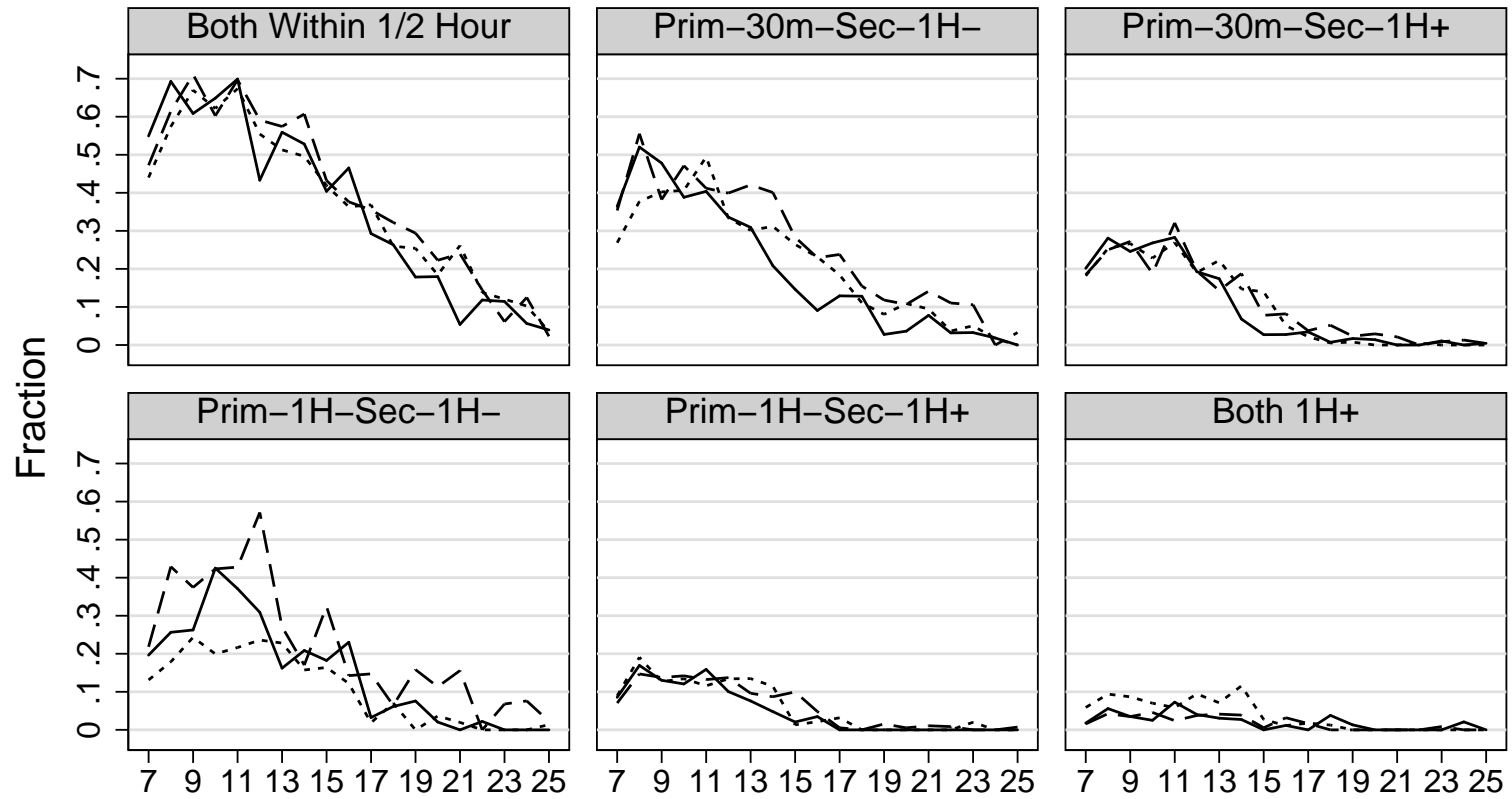


Figure 2b. School Enrollment 1993–2003 by Proximity to Schools: Females

— Enrollment Rate in 1993 - - - - Enrollment Rate in 1998
 Enrollment Rate in 2003

Graphs by Proximity

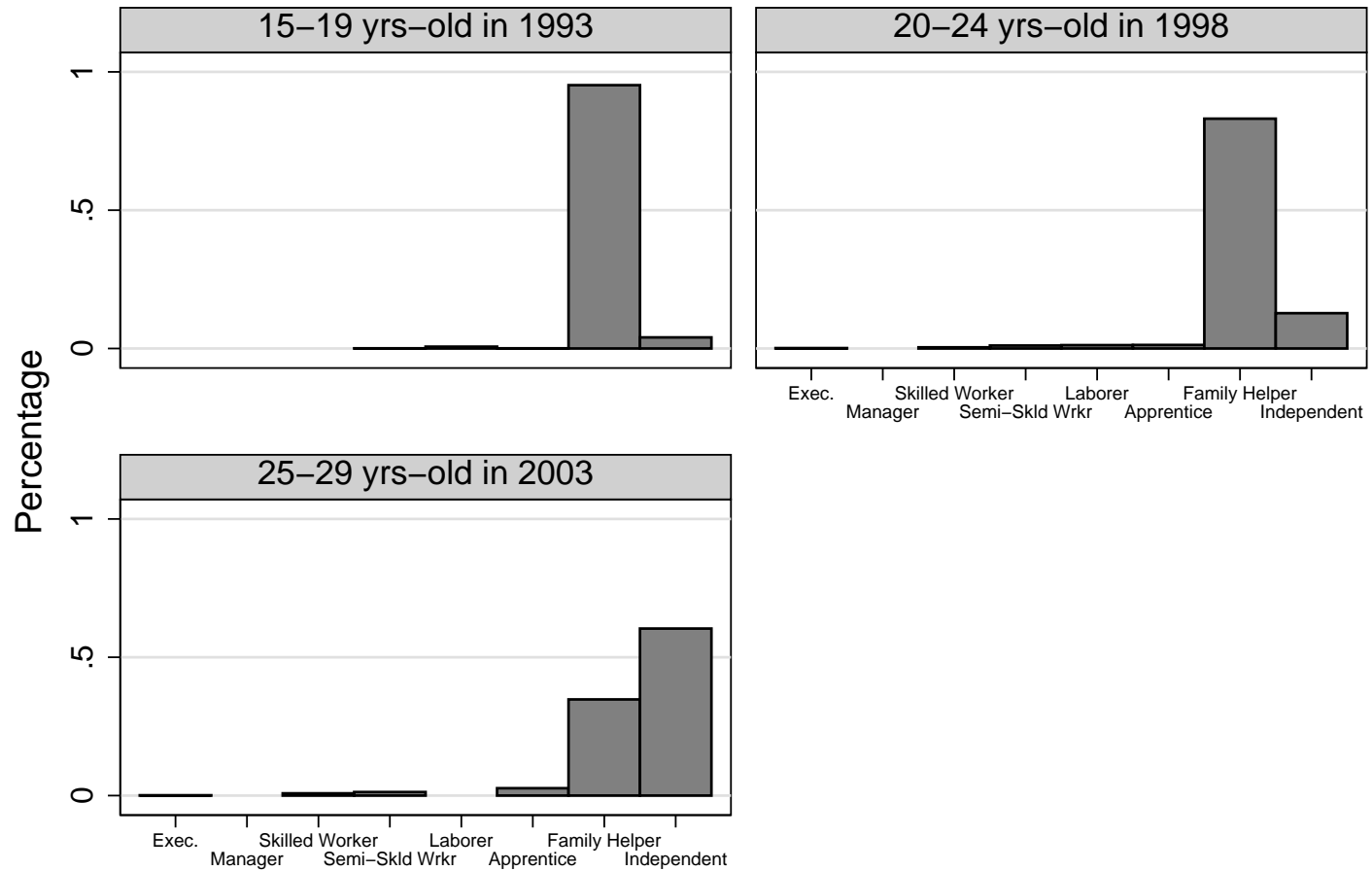


Figure 3a. 15-19 Male Cohort in 1993 With No Education
 Graphs by Age and Year

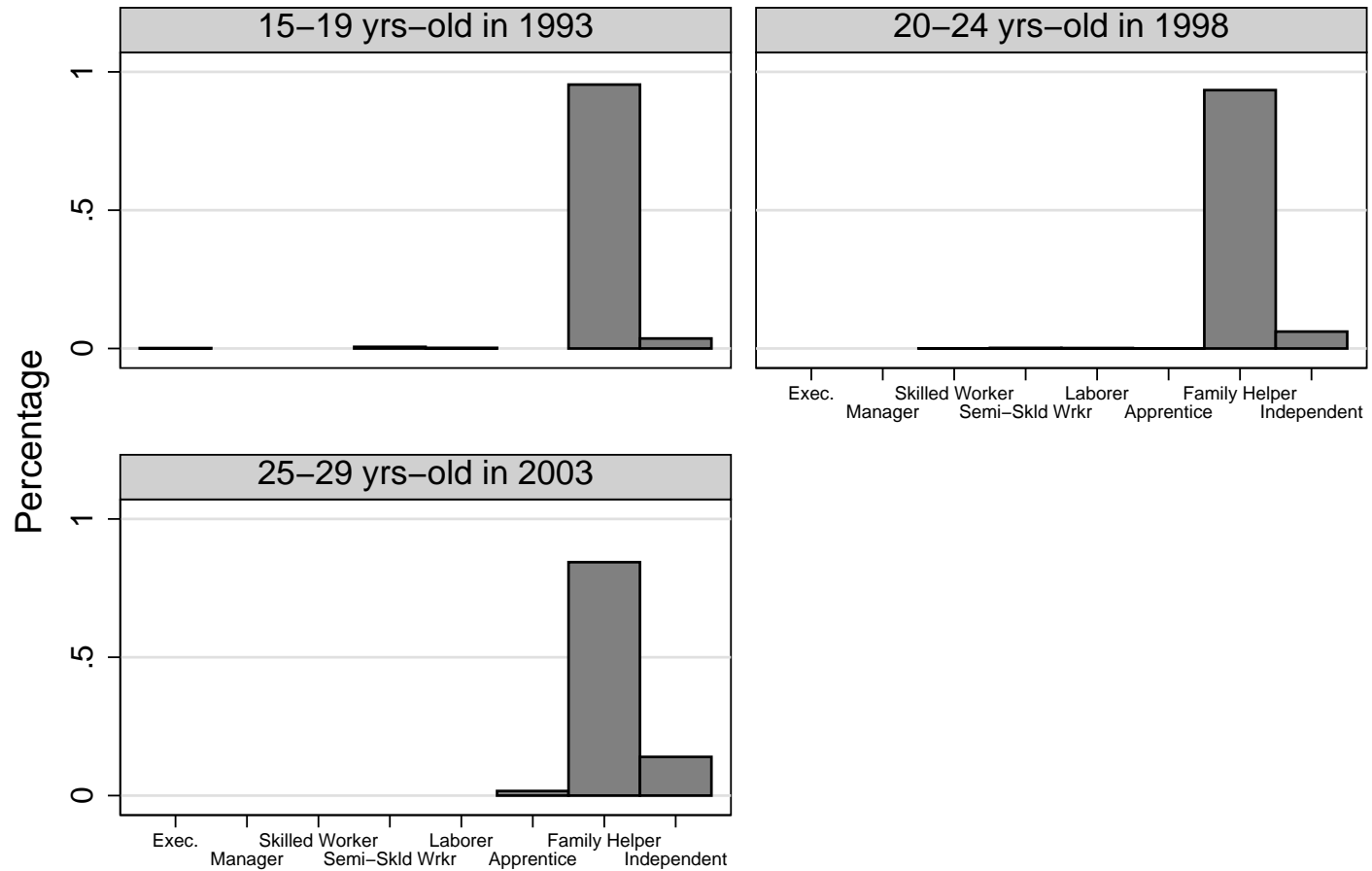


Figure 3b. 15-19 Female Cohort in 1993 With No Education
 Graphs by Age and Year

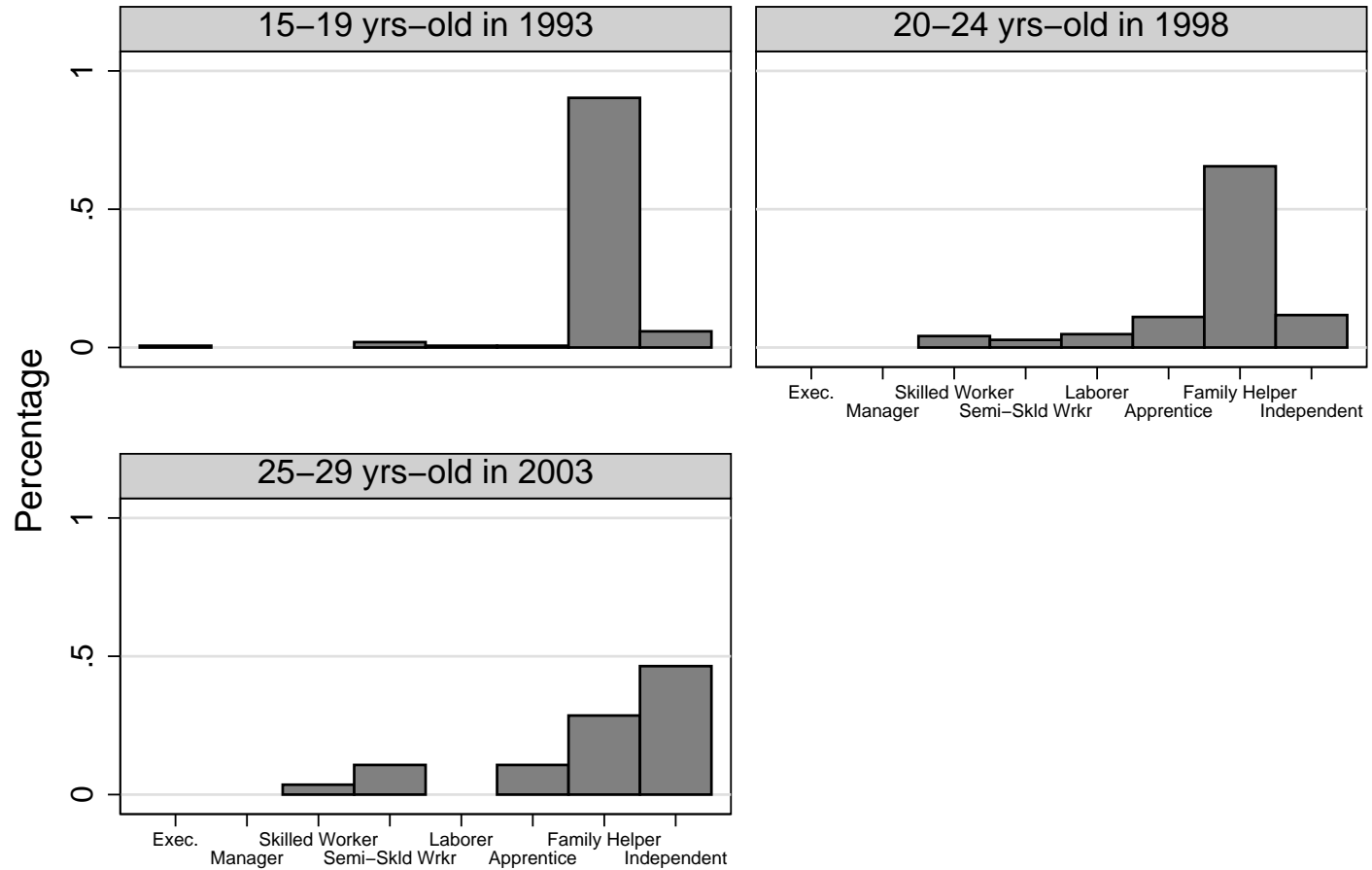


Figure 3c. 15–19 Male Cohort in 1993 With Completed Primary Education
 Graphs by Age and Year

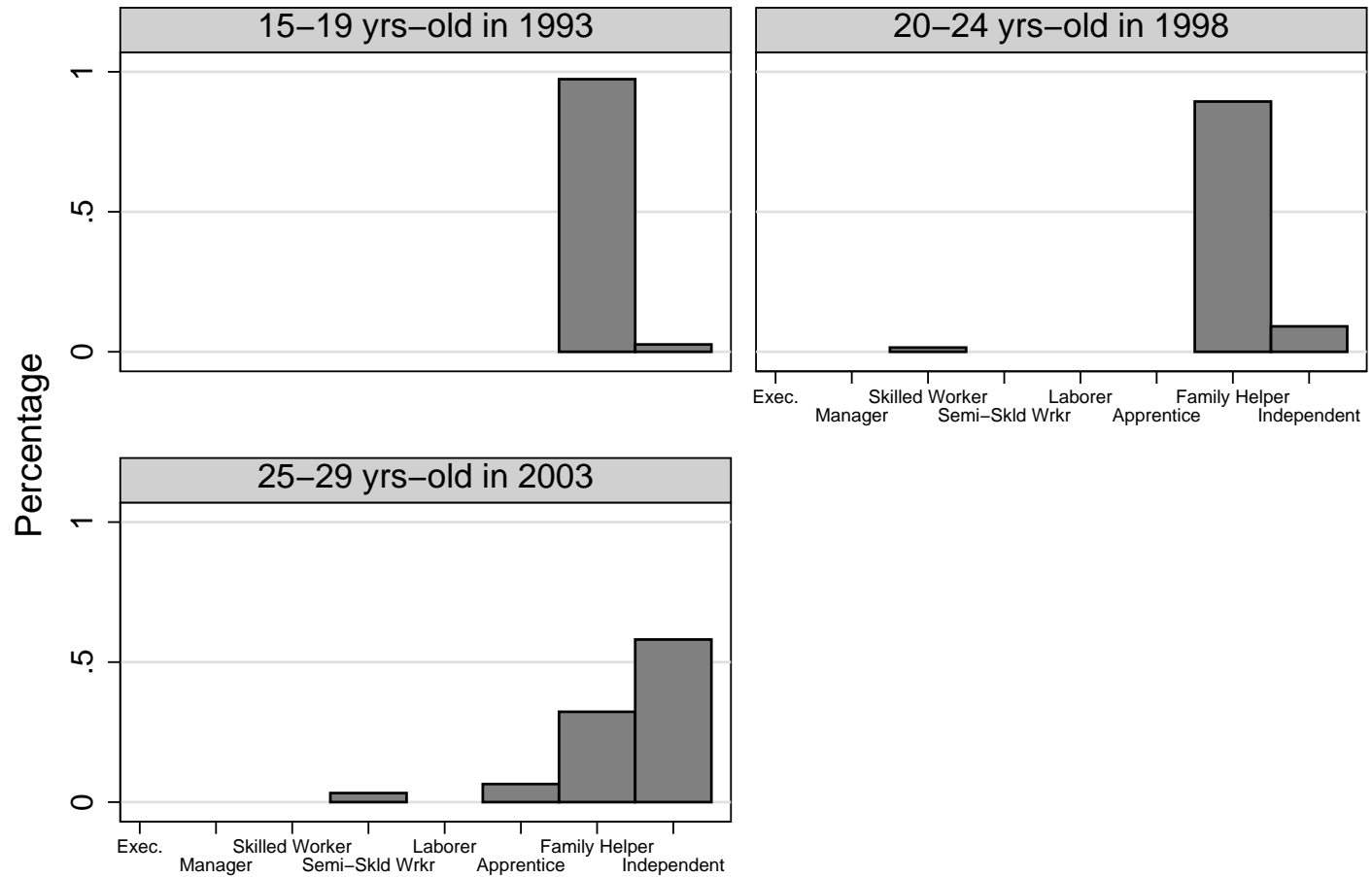


Figure 3d. 15-19 Male Cohort in 1993 With Completed Primary Education: Rural
 Graphs by Age and Year

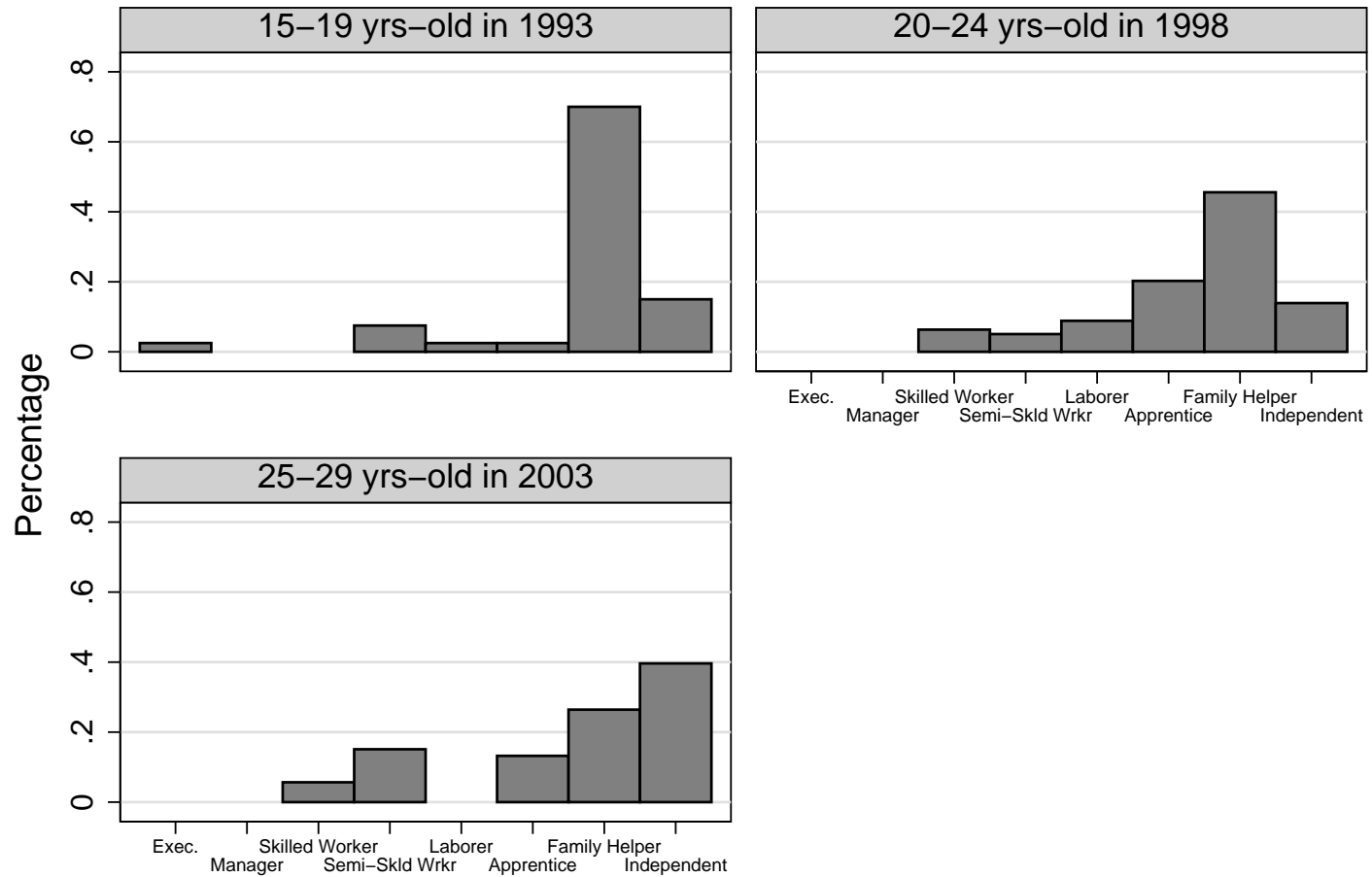


Figure 3e. 15-19 Male Cohort in 1993 With Completed Primary Education: Urban
 Graphs by Age and Year

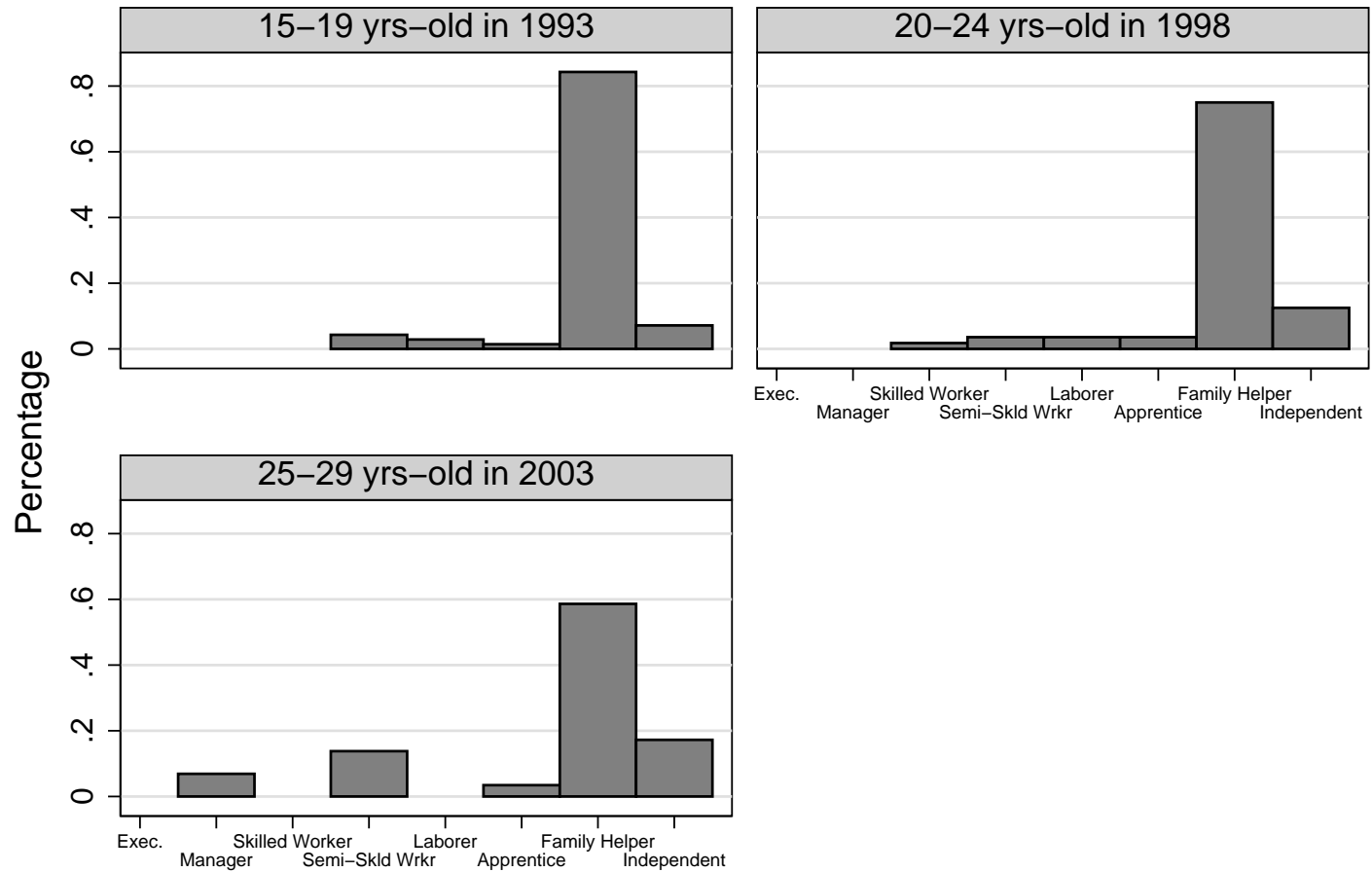


Figure 3f. 15-19 Female Cohort in 1993 With Completed Primary Education
 Graphs by Age and Year

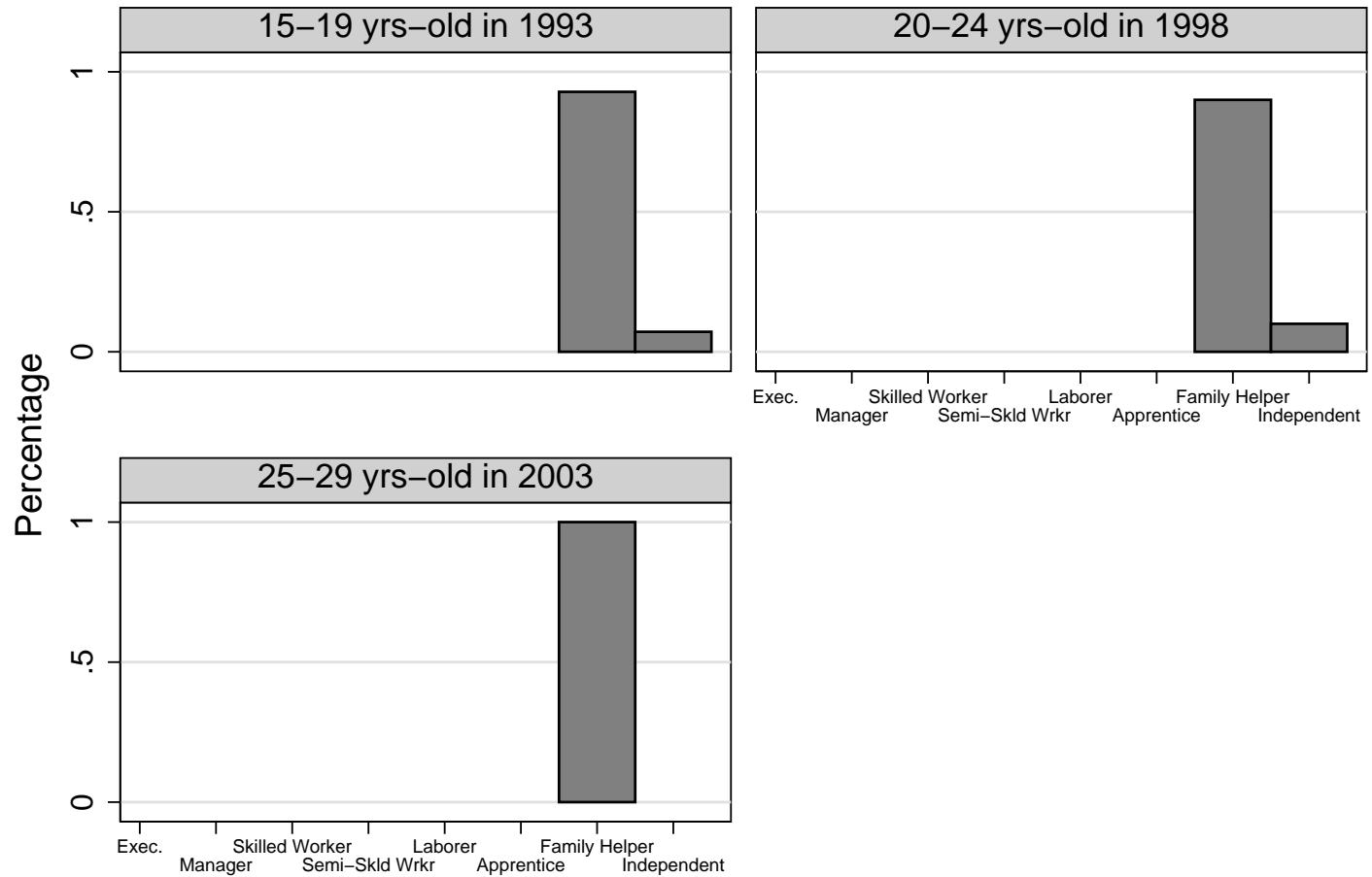


Figure 3g. 15-19 Female Cohort in 1993 With Completed Primary Education: Rural
 Graphs by Age and Year

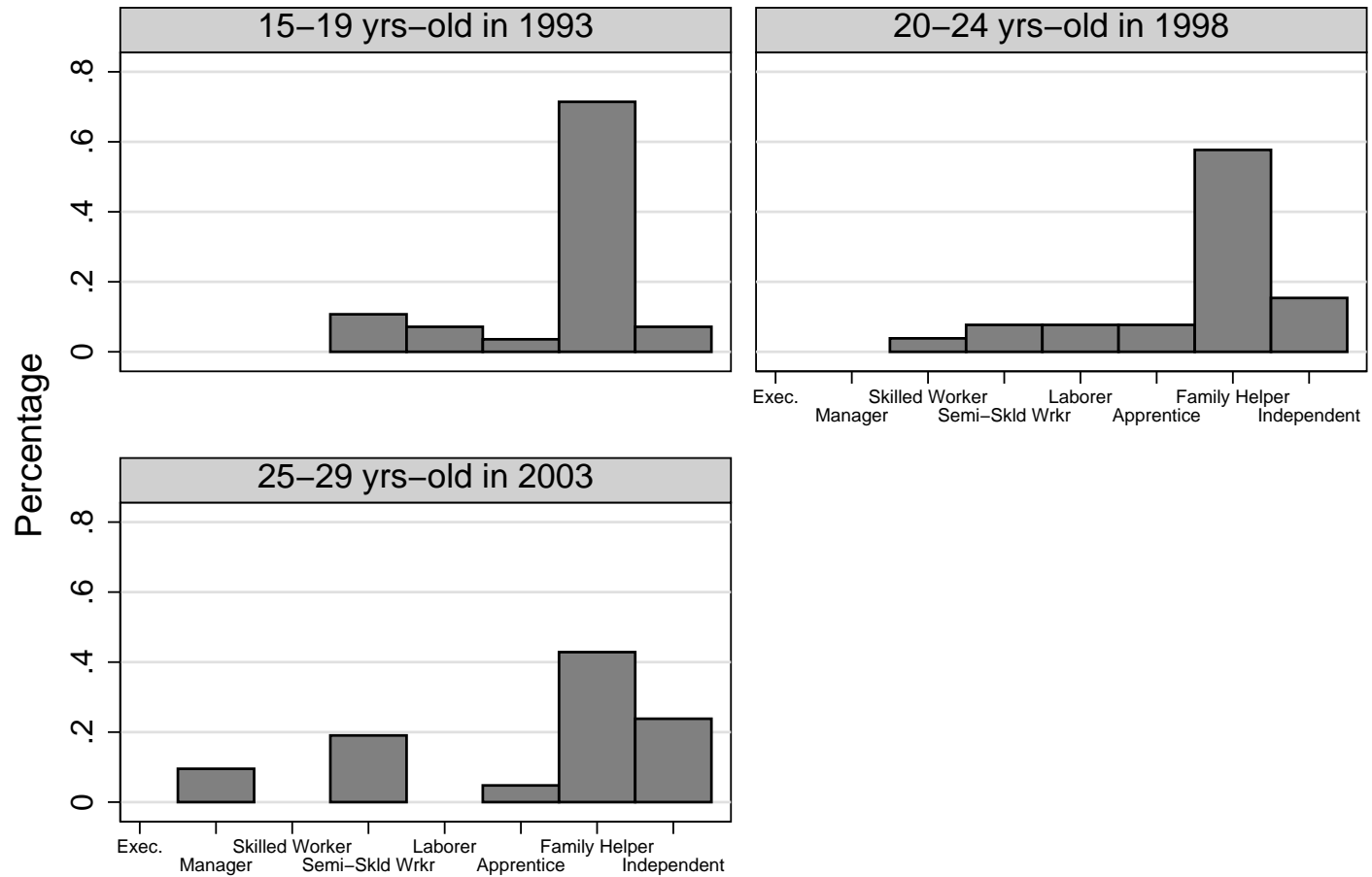


Figure 9h. 15-19 Female Cohort in 1993 With Completed Primary Education: Urban
 Graphs by Age and Year

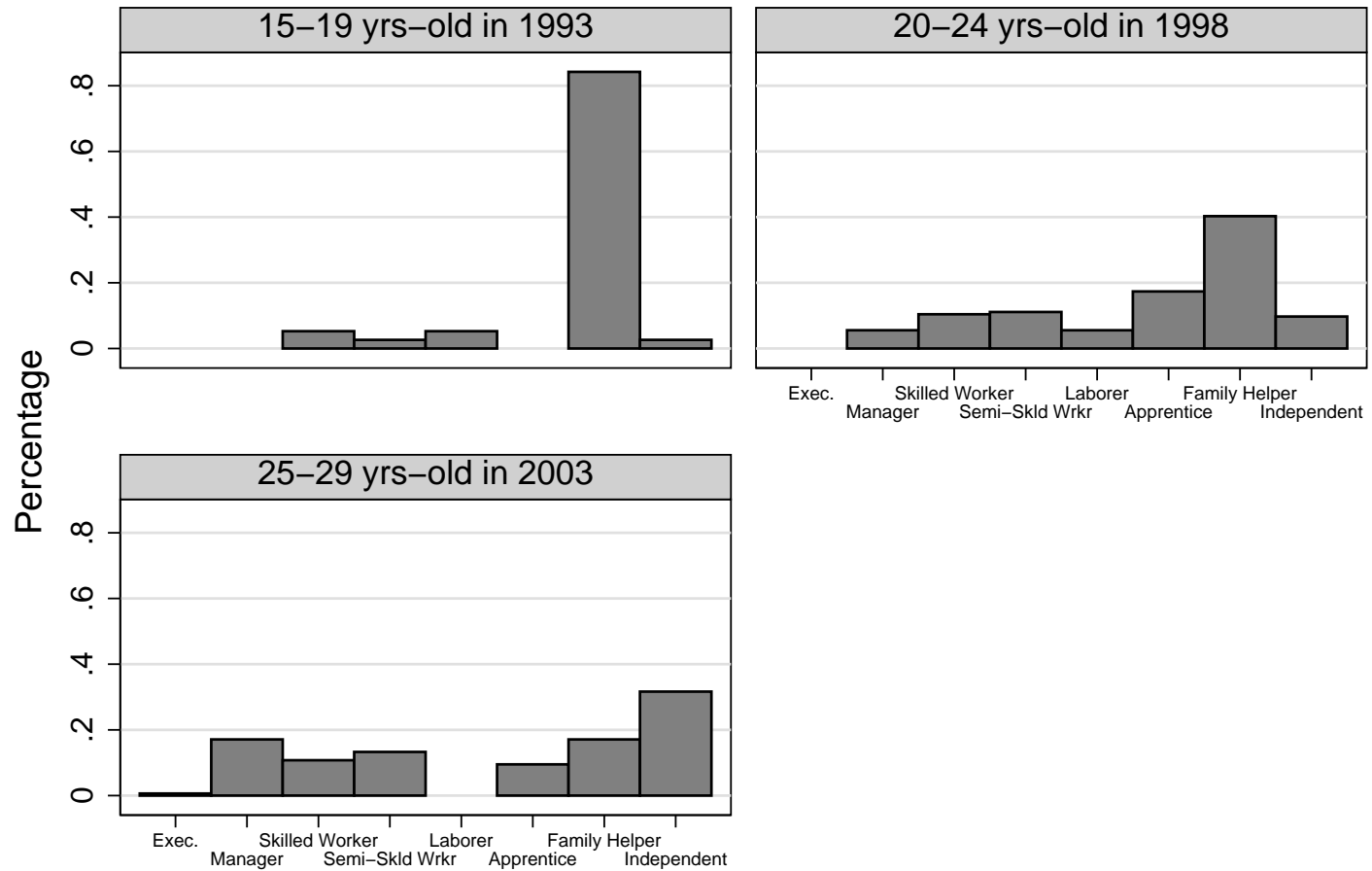


Figure 3i. 15-19 Male Cohort in 1993 With Partial Secondary Education
 Graphs by Age and Year

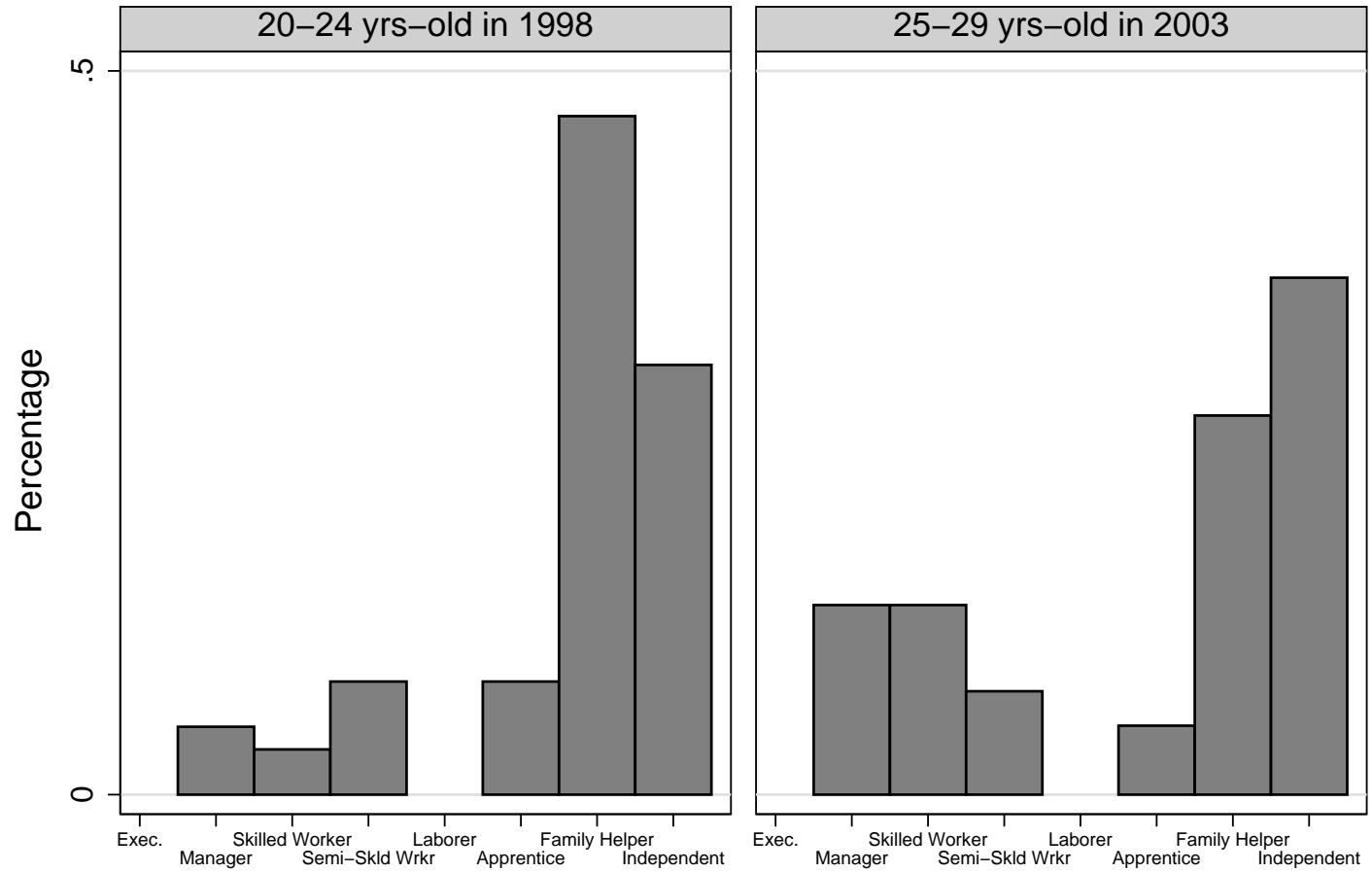


Figure 3j. 15-19 Female Cohort in 1993 With Partial Secondary Education
 Graphs by Age and Year

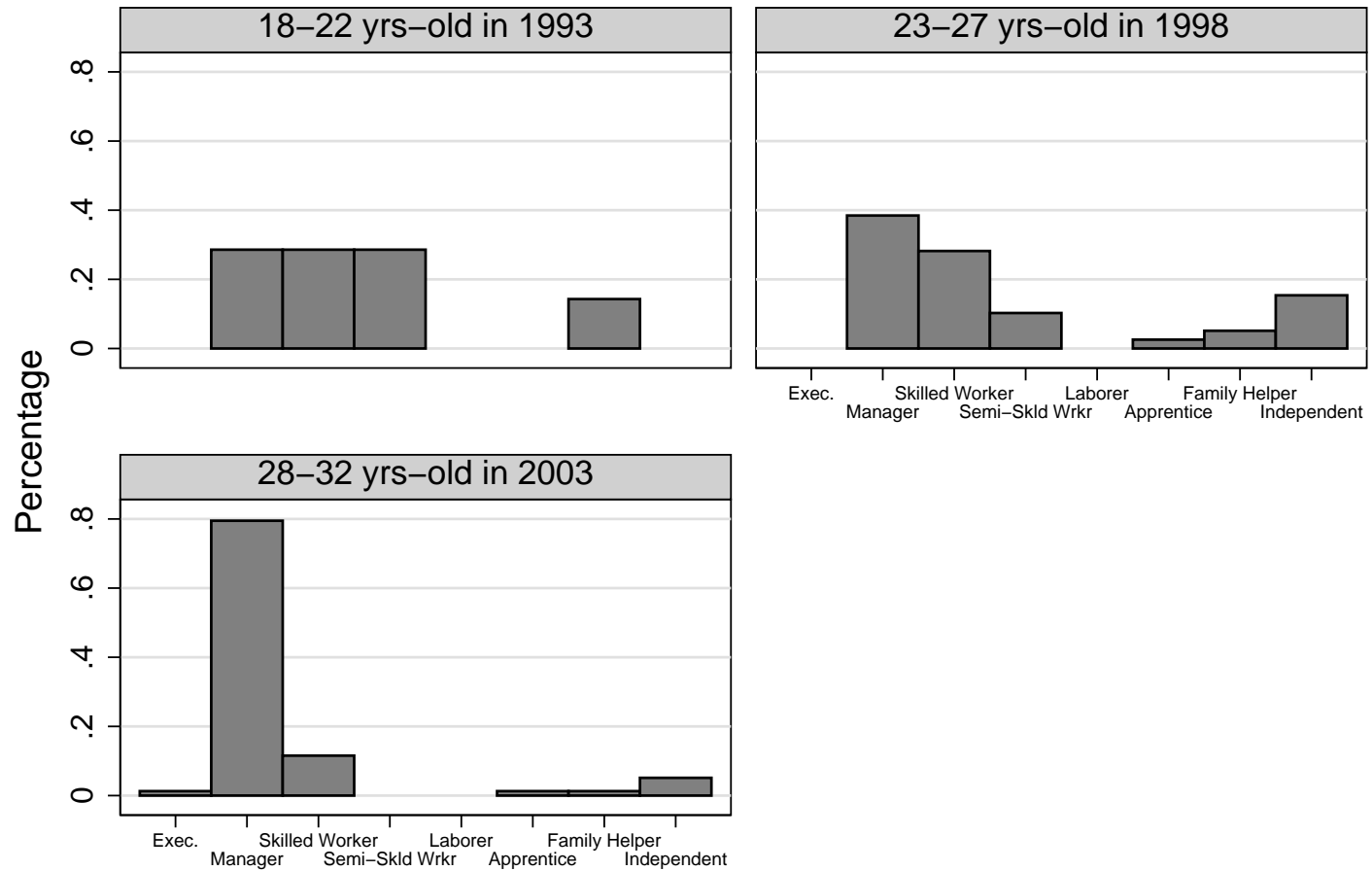


Figure 3k. 18-22 Male Cohort in 1993 With Completed Secondary Education
 Graphs by Age and Year

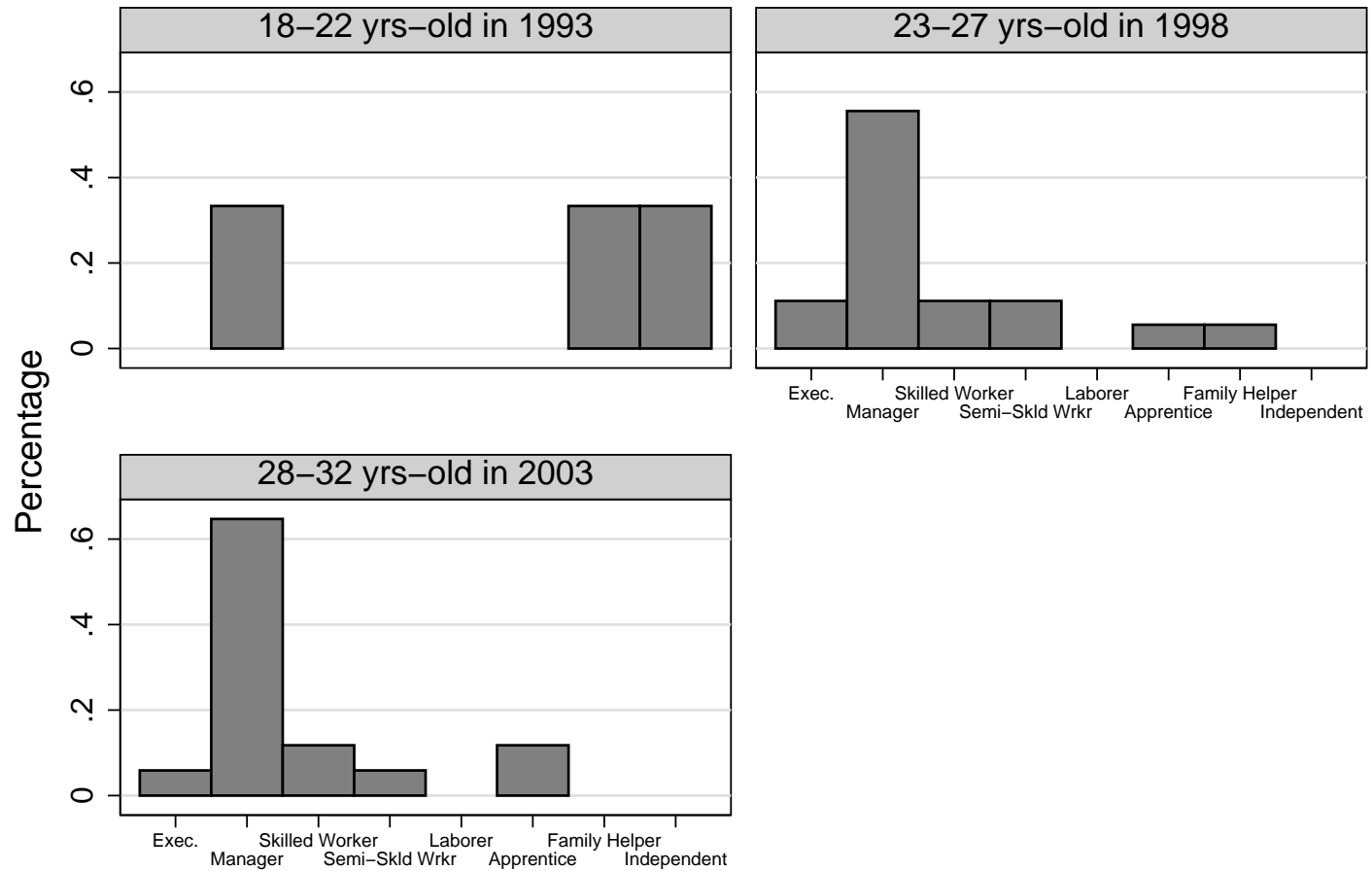


Figure 31. 18-22 Female Cohort in 1993 With Completed Secondary Education
 Graphs by Age and Year

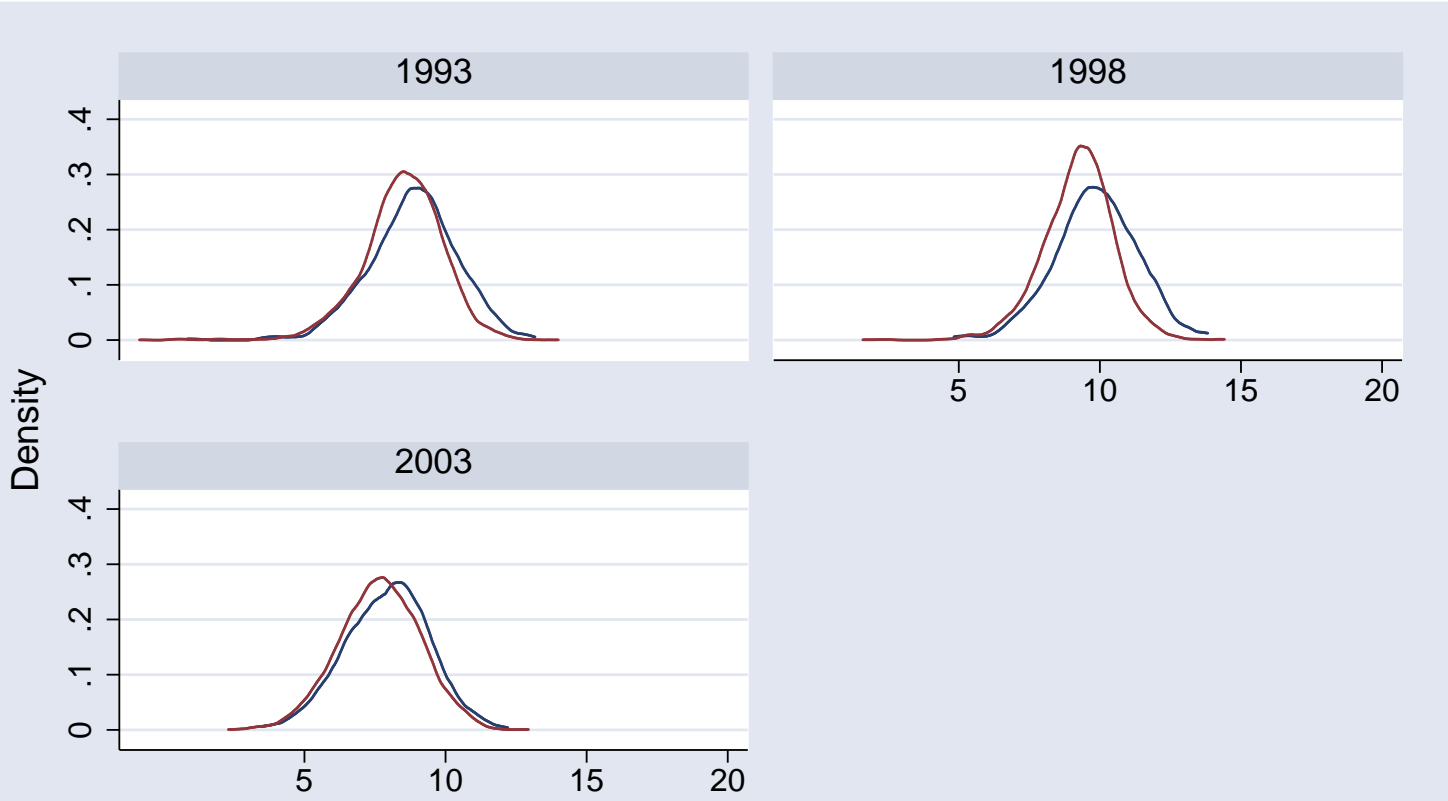


Figure 4. Distribution of Log Household Per Capita Income In Rural Areas

— kdensity Secondary_School_Nearby
 — kdensity No_Secondary_School_Nearby

Graphs by year

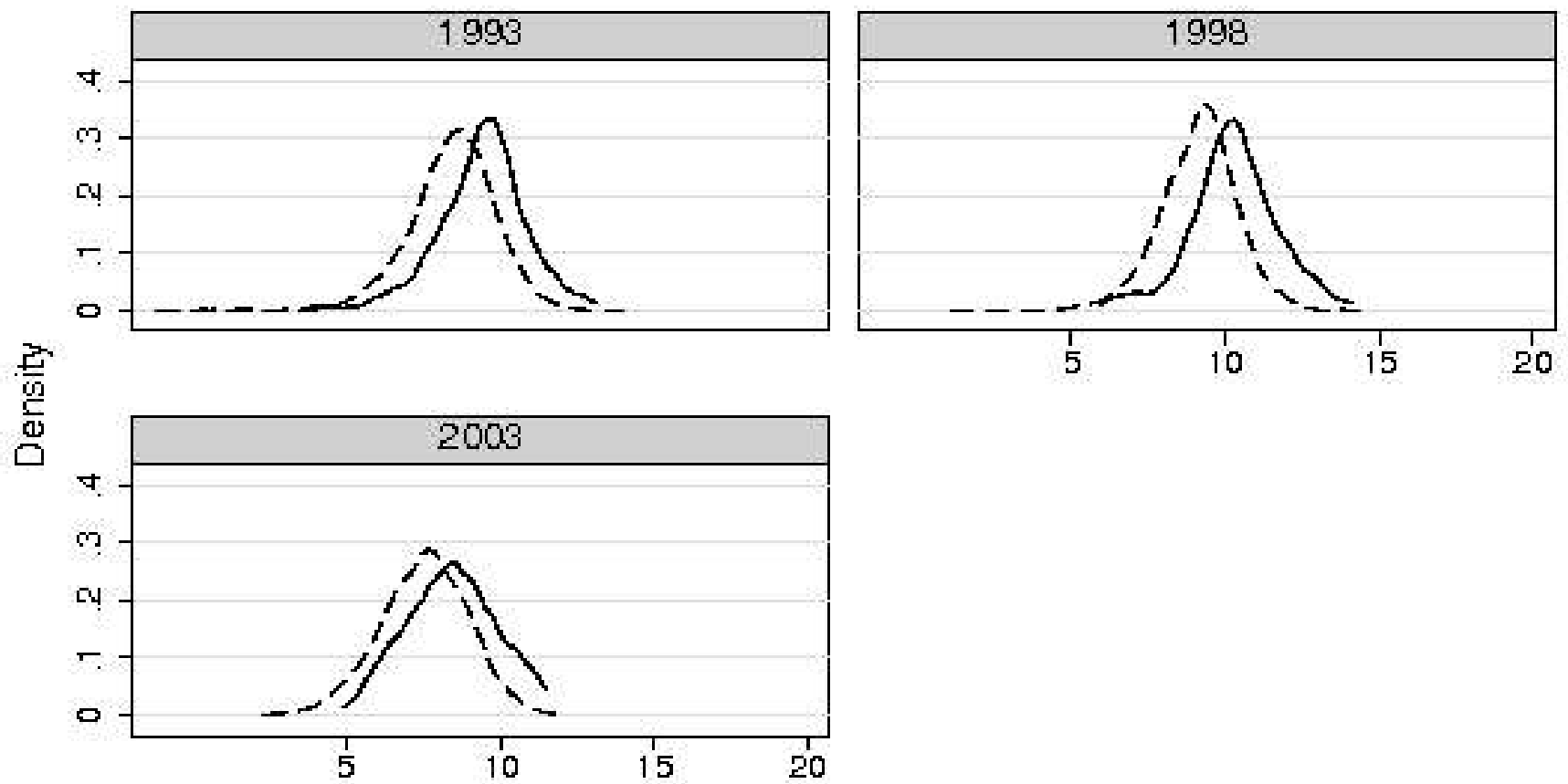


Figure 5. Distribution of Log Household Per Capita Income in Rural Areas

———— kdensity head_literate
 - - - - - kdensity head_illiterate

Graphs by year

Figure 6. Log Household Per Capita Income and Schooling
Burkina Faso 2003

