
School-to-Work Transitions in Mongolia

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Abstract²

Relatively little is known about the youth labour market in Mongolia. This paper addresses the issue by taking advantage of a recent ad hoc School to Work Transition Survey (SWTS) on young people aged 15-29 years carried out in 2006. After a period of sharp reduction in the 1990s, educational attainment is increasing, as compared to other countries in the area. Nonetheless, important constraints seem to affect the supply of education, especially in rural areas. In addition, as application of the new ILO school-to-work transition classification shows, the country is unable to provide young people with a sufficient number of decent jobs. This translates into high youth unemployment in urban areas and very low productivity jobs in rural areas. Mincerian estimates confirm that human capital is an important determinant of earnings in urban, but not in rural areas.

JEL Classification: I21, J13, J24, J31, J62, P30, R23

Keywords: Economic Transition from Plan to Market; School to Work Transitions; Youth Labour Supply and Demand; Earnings; Gender Pay Gap; Urban/Rural Divide; Mongolia

Introduction

The aim of this paper is to study the influence of youth education on: a) the accumulation of human capital; 2) and the distribution of incomes. According to UNDP (2006), Mongolia features as one of the 50 poorest countries in the world and understanding the difficulties young people face is important for the future growth prospects of the country. As new growth theory has ascertained, in fact, the fight against poverty and income inequality should have as one of its main instruments an increase in the human capital level of the population. In turn, this requires increasing the investment in human capital of the youngest generation. In addition, the case of Mongolia might be of interest also for understanding the youth labour market problem in other developing and transition countries, especially in the Asian continent.

Economic transition from plan to market has brought important changes to the country's education system and the youth labour market, which has dramatically modified the structure of incentives for young people and their families to invest in the formation of human capital. This paper provides an assessment of such incentives in the mid-2000s by looking at both the impact of human capital on employment opportunities and earnings. Previous studies (such as, for instance, Gerelmaa, 2005) argued that the disruption of agricultural cooperatives and state farms has reduced incentives to invest in primary education. This paper adds arguments as to why also

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² Acknowledgements. This paper is the result of research carried out as part of the project "Promoting decent and productive work for young women and men in Mongolia" within the framework of the ILO/Korea Partnership programme. Special thanks are due to all those who have carried out the Mongolian SWTS. For brevity's sake, the paper reports only some of the research results, which have circulated in the ILO Employment Working Paper n. 14. Moreover, the author wishes to thank especially Claire Harasty, Diego Rei, two anonymous referees and one of the Editors of this Journal for very useful comments on earlier versions of the paper. This notwithstanding, the usual disclaimer applies.

secondary (and tertiary) education is underdeveloped, by showing that its supply is low relative to demand.

Relatively little is known about the youth labour market in Mongolia. Previous studies have looked at the drop-out rate or at other specific aspects of the school-to-work transition process (UNDP, 2007; Gerelmaa, 2005; National Tripartite Plus Youth Committee, 2005; Morris and Bruun, 2005; Darii and Suruga, 2006). This paper addresses the issue by taking advantage of a recent ad hoc School to Work Transition Survey (SWTS) of young people aged 15-29 years³ carried out in 2006 by the National Statistical Office of Mongolia (NSO) with the International Labour Office's (ILO) financial and technical assistance.

The Survey was conducted through interviews of a sample that reflected the composition of the targeted population. Information was collected through a questionnaire that captures both quantitative and qualitative data relating to a number of aspects (e.g. education and training, perceptions and aspirations in terms of employment and life goals and values, job search processes, family's influence in career choice, barriers to and supports for entry into the labour market, wage versus self-employment preference, working conditions, etc.). A second questionnaire gathered information from employers with the aim of determining the extent of demand for young workers and the attitude and expectations of employers when hiring them.

The outline of the paper is as follows. Section 1 looks at the historical evolution of the country and at the youth labour market in the aftermath of transition from plan to market. Section 2 focuses on the determinants of educational attainment at an individual and family level. Educational attainment is relatively high and increasing in Mongolia, as compared to other countries in the area, which mirrors the perceived need for new and higher skills, confirmed by the aspirations of young people declared in answers to questions of the SWTS. Nonetheless, important constraints seem to affect the supply of education, especially in rural areas. In addition, as discussed in the Sections 3, the country is unable to provide young people with a sufficient number of decent jobs. This translates into high youth unemployment in urban areas and very low productivity jobs in rural areas, especially in the livestock sector. In addition, results of Mincerian earnings equations suggest that returns to educational attainment are high relative to other transition countries, especially in urban areas. Returns to work experience are also high when it is longer than five years, suggesting that the so-called fixed-term contracts, which seem to be of quite short duration, and mobile labour bring with them wage penalties.

Section 4 applies the new ILO (2004) school-to-work classification disentangling young people: a) with completed transition from school to work; b) "in transition" to work; and c) whose transition to work has not yet started. Only 0.9 per cent of the sample has completed their transition into decent jobs. The "in transition" group is about three times bigger than the unemployment rate, due to the very high portion of young workers wishing to change their job or experiencing important work deficits. The paper concludes with a number of policy suggestions for policy-makers and practitioners at all levels.

³ The information provided is broken down for different age groups: teenagers (aged 15-19 years), young adults (aged 20-24 years) and the oldest segment of young people (aged 25-29 years).

1. Economic and social context

1.1. The historical framework

In Mongolia, economic transition from a planned to market economy began in 1990, at the end of Russian rule. Unprecedented problems emerged, such as macroeconomic instability, the dismantling of the State sector and the need to encourage private initiative, and the ensuing process of workers' reallocation.

The manufacturing sector in particular experienced a dramatic process of downsizing in the mid 1990s and has only recently started expanding again. Nonetheless, it still only represents a minor share of employment and, like the service sector, is mainly located in urban areas. The slowness of private sector growth has meant that the industrial restructuring of non-viable State-owned enterprises has increased unemployment in urban areas and the need for many households to resort to agricultural activities in rural areas (for a more detailed analysis of the labour market in Mongolia, see World Bank, 2006; UNDP, 2007, and references therein).

As noted in Morris and Brunn (2005), economic transition from plan to market further increased a traditionally deep geographical divide between urban and rural areas in a country that is one of the largest and least densely populated in the world. Mongolia is a large continental region sandwiched between Russia and China at the junction of the Siberian taiga forests, Dahurian steppes and Gobi Desert. On one hand, in urban areas, where *aimag* (provinces) and *soum* centres (rural districts) are located, economic transition has meant deep industrial restructuring and weakening of production. On the other hand, in the almost untouched, vast and sometimes desert rural territories, the dismantling of State-owned and cooperative farms and the privatization of livestock has made herding often the only means of subsistence. A series of harsh winters and summer droughts resulted in many families losing their animals and moving to urban areas, thereby contributing to local unemployment there.

The new problems compound the old ones, especially poverty, making it harder for many families to survive. Comparison of Mongolia's ranking on the UNDP-based Human Development Index (HDI) and Human Poverty Index (HPI) seems to confirm this. In 2006, it ranked 116 on the former while only 42 on the latter, meaning that it is one of the fifty poorest countries in the world. In addition, while the HDI ranking has improved in recent years, essentially due to a fast growth process, the HPI ranking has dropped further. Poverty and inequality are so apparent, dramatic and pervasive that the fight against them should be at the core of any policy intervention aimed at overcoming the difficulties linked to the transition phase and at strengthening and stabilizing the current growth path. Poverty and inequality represent important constraints for future development by hindering the expansion of internal demand, on one hand, and by reducing the competitiveness of the country in international markets, on the other, via a reduction of the educational and employment opportunities of the younger generation (UNDP, 2006; and 2007).

The first obstacle to a better labour market performance of young Mongolians is to be found in the macroeconomic problems of the country which should be addressed above all by increasing the level of aggregate demand, boosting private sector growth and alleviating the hardship of the poorest households. These are important pre-conditions for young people and their families to support the cost of the

transformation, become self-sustaining in the long term and, finally, generate a virtuous circle for economic growth and social development.

The 17 per cent of young people who are migrants confirms the nomadic nature of the population, especially those involved in herding. Not surprisingly, a large share of in-migrants, about 21.2 per cent, is in Ulaanbaatar, with a similar share in the *aimag* centres. In the *soum* centres, the percentage of in-migrants falls slightly to 16 per cent. In-migrants in rural areas are only about 8 per cent.

In the sample, the average monthly household income level is very low (TUGs123,580 i.e. about US\$105 and €80). In addition, there is a high level of inequality. Excluding the poorest (the lowest decile) and the richest (the 10th decile) households, the ratio of the richest to the poorest households' income is 6.7. At the time of the survey, the share of the population living on US\$30 a month or less was 10.1 per cent and those on US\$60 a month or less was 32.9 per cent. These shares are, however, lower than those reported by UNDP (2006, p. 293) based on average incomes for the period 1990-2004. This would suggest that an improvement has taken place in recent years. The poverty line, defined as the household income below half the median monthly household income is TUGs 50,000 (slightly more than US\$40 or €30).

1.2. The youth labour market

In the period from 1970 to 1990, there was a high rate of population growth resulting in more and more young people reaching working age. As a result, there was a workforce surplus in the labour market due to a lower level of demand associated with the transition to market economy.⁴ According to the 2002 statistics of the Ministry of Foreign Affairs, a total of more than 100,000 Mongolians were studying, working or living abroad.⁵ The average age of emigrants was 31.3 and most of them belong to the age group 20–35 years.

In 2003, money transfers totalling US\$101.6 million were made by overseas workers, amounting to 21 per cent of imports. Among positive economic consequences that cannot be expressed in monetary terms are learning modern technologies and production processes, gaining working skills, learning foreign languages, and changing attitudes to business.

More boys and young men, than girls and young women, are in the labour force as they are more likely to drop out of school to help with family herding or seek other employment. In rural areas, school attendance for boys drops sharply after 10 years of age and remains lower than for girls at all levels. This may reflect lower enrolment rates for older male cohorts as well as drop-outs from school. Among herding households, there are indications that wealthier herders with more animals rely on additional labour from poorer families. Some hire adolescent boys who work for food and lodging. This informal labour market for boys and young men may have placed additional burdens for unpaid work on girls and young women (UNIFEM, 2001).

⁴ For these reasons, the government has been pursuing a policy of promoting overseas employment for its citizens.

⁵ The adoption of the Law on Export and Import of Work Force in 2001 was intended to promote the services rendered by private companies to citizens in seeking job opportunities abroad. As of the end of 2004, over 3,000 persons were sent abroad by 20 authorized agencies within the workforce and trainee exchange agreements made at the governmental as well as ministerial levels with the Republic of Korea, Japan, Taiwan, and the Czech Republic.

In the National Action Plan on Youth Employment, the Mongolian Government (2006) places a high priority on generating productive employment for young people also via active employment policies. Youths are included in the national Millennium Development Goals (MDGs) and are a target group in the first draft for the National Plan of Action for Decent Work (NPADW). The government implements youth policy in cooperation with several non-governmental agencies, including the Mongolian Employers' Federation (MONEF), with international organisations, such as the ILO and the World Bank, and the government of other countries, such as the Republic of Korea.

1.3. Labour market characteristics of youth

As reported in Table 1, in 2006, youth wage employment represented about 16.2 per cent of the sample, which translates to about 34 per cent of the youth workforce (employed plus unemployed) or 48.2 per cent of total youth employment. That is, only one out of two jobs is a wage job, the other one being either self employment or work in a family business. Wage employment is more common in urban than rural areas, where it represents only about 4.5 per cent of the sample. Its very low share in rural areas is explained by unpaid work in family run businesses.

Around 6.5 per cent of youth in the sample (17.8 per cent of the labour force) are self-employed with significant differences between gender, educational levels and urban and rural areas. Young men are more frequently self-employed in rural areas, while young women are more frequently self-employed in urban areas. Tertiary education is correlated with self-employment in urban, but not rural areas.

Table 1. Labour market status by gender, age and location (%)

	All	Men	Women	15-19	20-24	25-29	Ulaan Baatar	Aimag centre	Soum centre	Rural area
In school	41.7	40.2	43.1	78.4	25.2	4.4	55.1	48.5	37.7	17.9
Unemployed	14.0	15.7	12.4	8.0	19.6	16.8	12.4	16.1	21.8	7.5
Self-employed	6.5	10.5	2.7	0.7	7.5	14.3	3.8	3.6	5.1	14.8
Unpaid family worker	10.9	9.8	11.9	5.7	14.9	14.2	0.6	1.7	4.0	41.9
Engaged in paid work	15.5	15.8	15.2	2.1	19.1	31.8	17.4	19.7	20.1	4.5
Part-time work	0.4	0.4	0.4	0.1	0.7	0.6	0.4	0.3	0.6	0.4
Temporarily absent from work	0.3	0.3	0.3	0.1	0.2	0.8	0.1	0.9	0.1	0.2
Engaged in home duties	7.7	5.5	9.9	4.2	9.0	11.7	6.7	6.0	7.7	10.8
On sick leave or leave of absence	1	1.3	0.7	0.6	1.2	1.4	1.1	1.0	1.1	0.6
Took care of children, elderly people or patients	2.0	0.6	3.5	0.3	2.8	3.9	2.4	2.2	1.9	1.5
Number of observations	6,415	3,167	3,248	2,671	2,007	1,737	2,449	1,082	1,436	1,448

Source: own elaboration on SWTS of Mongolia, NSO.

The structure of youth employment is polarized in the livestock sector where 45 per cent of young people work. The manufacturing sector employs only about 4 per cent of the youth workforce, a share lower than wholesale and retail trade (7.6 per cent), and similar to hotels and restaurants, as well as transport and storage. The State sector is

small: public administration employs 7.8 per cent, education 8.4 per cent and communal services 5.1 per cent.

Table 2. Sectoral composition of employment by gender and age group

	All	Men	Women	Young teenagers	Young adults	Oldest segment
Agriculture	0.73	0.93	0.49	0.87	0.23	1.09
Livestock	40.6	43.29	37.48	68.26	41.76	33.91
Forestry	0.68	0.85	0.49	1.3	0.7	0.55
Fishery	0.18	0.25	0.1	0.43	0.12	0.18
Mining and Quarrying	2.74	3.82	1.48	3.48	3.36	2.09
Manufacturing	3.88	3.14	4.73	2.61	3.6	4.36
Electricity, Gas and Water supply	1.96	2.89	0.89	1.3	1.39	2.55
Construction	2.92	4.33	1.28	2.17	3.25	2.82
Wholesale and Retail Trade	7.62	5.77	9.76	5.22	6.73	8.82
Hotels and Restaurants	3.51	1.44	5.92	6.09	4.52	2.18
Transport and storage	3.92	6.03	1.48	1.74	3.48	4.73
Tourism	0.82	0.85	0.79	0	0.81	1
Telecommunication	0.87	0.51	1.28	0	0.35	1.45
Financial services	3.28	2.72	3.94	0.43	3.13	4
Real estate, renting and business activities	0.78	0.59	0.99	0	1.04	0.73
Public Administration, Defence	7.85	9.0	6.51	1.74	7.54	9.36
Education	8.44	4.67	12.82	0	7.77	10.73
Health and social security	2.19	1.44	3.06	0.43	2.67	2.18
Community, social and personal services	5.06	5.09	5.03	2.61	5.45	5.27
Other	1.96	2.38	1.48	1.3	2.09	2
Total	2,192	1,178	1,014	230	862	1,100

Source: own elaboration on SWTS of Mongolia, NSO.

The polarization of employment in the primary sector is related to the amount of informal work. The majority of employed youth do have contracts (59.4 per cent). The majority of contracts are fixed-term. The share of temporary employment is constant by gender and represents about 74 per cent of contract holders.

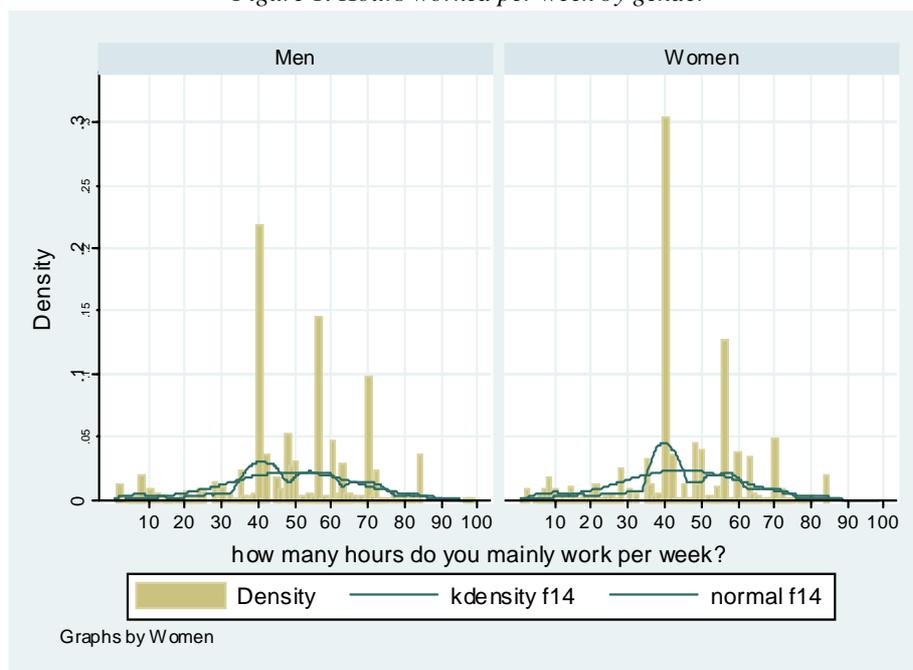
Youth unemployment is essentially an urban phenomenon. The urban/rural gap is significant for young adults but is especially wide for teenagers. The share of long-term youth unemployment is higher in rural areas. Only about 39 per cent of the unemployed in urban areas remain so for more than a year, whereas in rural areas, the comparable figure reaches 60.5 per cent. This reflects the greater degree of labour turnover in urban areas.

There is a gender gap in employment opportunities, as men have a higher unemployment to population ratio as compared to women: for men it equals 15.7 per

cent and for women it is 12.4 per cent. The advantage of women almost vanishes when the unemployment rate is looked at: for women it is 28.9 per cent and for men it is 30 per cent. This is due to the higher inactivity rate of women compared to men: 57.3 per cent and 47.5 per cent, respectively. In addition, women have lower unemployment rates at younger ages (and higher educational attainment), but also higher rates of long-term unemployment. This lower unemployment rate for women being due to their staying at school longer, it disappears for the oldest segments of the sample.

The distribution of working time varies for different groups as shown in Figure 1. The peak is 40 hours per week, in line with labour agreements currently in place. However, the distribution is clearly multi-modal, with apparent peaks at 40, 55 and even 70 hours per week, with a high proportion of young people working extremely long hours: about 56 per cent work more than 40 hours and 40 per cent work more than 50 hours. Long working hours are typical of certain types of activity, such as pastures, which are very common among young people and where productivity is low. Hence long working hours are an important indicator of low quality work.

Figure 1. Hours worked per week by gender



Source: own elaboration on SWTS of Mongolia, NSO.

2. Educational attainment

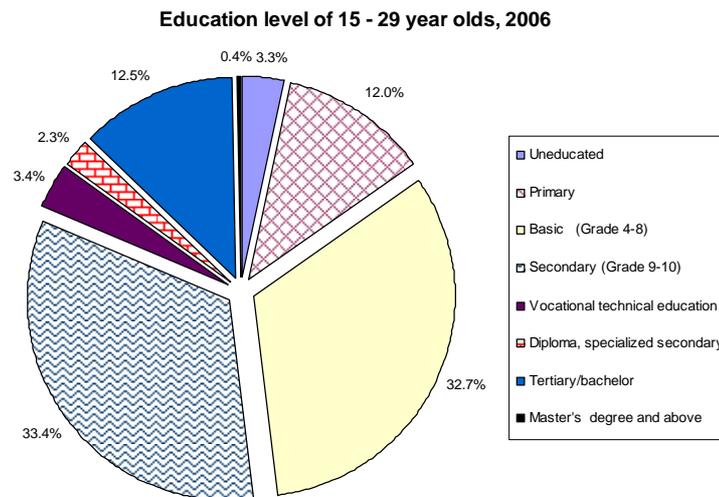
The country's relatively good performance in terms of educational attainment as compared to other countries in the region is one of the elements explaining its comparatively high ranking in the HDI (see also UNDP, 2007). Nonetheless, important weaknesses still remain.

Before 1990 the educational attainment was higher than it is now. In the years after 1990 many children – especially boys – dropped out of school. That means that the average educational attainment for people over 18 is lower now than it was in 1990

though it is on the rise again. Before 1990 virtually everyone had the possibility of going to school and talented children often (but not always) had a possibility of higher education.⁶ Appendix provides an overview of the reforms of the educational system implemented in the post-transition period.

Most worrying is the share (3.3 per cent) of those aged 15-29 years who receive no education (see Figure 2). The most immediate cause of illiteracy is child labour. As in other developing countries, the share of young people with below compulsory education or no education at all in Mongolia is twice as high among men as women, the main reason being that parents prefer boys for herding. Nevertheless, women also drop out of school, often for family reasons, such as taking care of the elderly and younger siblings. The share of the uneducated living in rural areas is 6.4 per cent, which is three times higher, in percentage terms, than in urban areas or in *aimag* or *soum* centres, although the larger population of the urban areas means that numerically the problem is greater there. About 27 per cent of the drop outs in the sample declared that they left school to take care of livestock. In rural areas in particular, a large proportion of young people drop out of the educational system at age 12 years or below or, in any case, before completing compulsory education, which is up to the age of 15 years in Mongolia. About 11-12 per cent of the entire sample achieved only primary education or below (20.4 per cent for those aged 25-29).

Figure 2



Source: own elaboration on SWTS, NSO, 2006.

As Gerelmaa (2005) notes, illiteracy and dropping out of compulsory education is not a heritage of socialism. Rather it is a consequence of economic transition from plan to market and, more specifically, of the hardship that many poor households in rural areas experienced after the closure of cooperative farms and their break up into small plots or cattle breeding units.

It should be noted, in fact, that food was provided for free in schools before 1990 and that poor people in rural areas had to keep their children at home once they had to provide food to the boarding schools for their children (as they could not afford

⁶ The author wishes to thank an anonymous referee who suggested this point.

the amount of meat they had to give for each individual child to the boarding schools in *soum* and *aimag* centres). The scarcity of fuel in the first years of transition also was a reason to keep children at home (especially in the winter) instead of sending them to unheated boarding schools.

The country also under performs in higher secondary education, but less so in tertiary education. The share of the sample with a tertiary degree is about 13 per cent and with completed higher secondary education about 56 per cent. This performance is better than former socialist and OECD countries in tertiary education (in 2001, 18 per cent only of those aged 25-34 years had achieved tertiary education in OECD countries), but worse in higher secondary education (in 2001, 74 per cent of 25-34 had completed high secondary education in OECD countries). This negative outcome in Mongolia is partly explained by the high dropout rate after finishing only primary or basic secondary.

The educational system has difficulties not only to integrate the weakest groups, but also to produce skilled manual labour through vocational education to those not wishing to continue their post-compulsory education. Less than five per cent of youth in the sample have a vocational/technical education.

The statistical correlation between parents and children's educational attainment is very high, confirming supply constraints in the educational system.⁷ Intergenerational transfer of human capital is a clear demonstration of the educational system's difficulty in providing equal opportunities. In terms of the country's growth prospects, it is of concern that talented young people from poor families with low educational attainment are unable to access an affordable education based on their skills. Policy-makers should be aware that intergenerational transfers are one of the main causes of the persistence of income inequality and, therefore, poverty.

Econometric analysis of the factors affecting educational attainment based on omitted results of estimates of a Multinomial LOGIT model⁸ of the choice of different school levels suggests that the level is increasing with age, is higher for women (by 47 per cent) and for young people working while studying. In addition, it is *ceteris paribus* lower for those with more than two children living in rural areas. The family background seems to be the most important factor affecting the decision to invest in further education. The educational level of parents is directly correlated with that of their children, even after controlling for other indicators of family welfare, such as number of siblings and the income level of the household.⁹

As also noted in Gerelmaa (2005), important constraints affect the supply of education, especially in rural areas. Widespread poverty is the first constraint. Although general education (up to the age of 17 years) is free of charge, poor households prefer to

⁷ One anonymous referee points out that already during socialist times, despite the effort of the government to increase the level of education of everybody, some less talented people reached a lower level of education. As a consequence, less skilled parents, often living in poor economic conditions after the transition started, generate children with a lower level of education, since the cognitive abilities of children correlate to the cognitive abilities of their parents.

⁸ For brevity's sake, the results of this model have been omitted, but are available from the author on request.

⁹ Considering the potentially different characteristics of individuals belonging to different age groups, the analysis has been repeated for young teenagers, young adults and the oldest age group. However, the findings confirm the importance of family background, especially the educational level of parents.

engage their children in family run businesses, especially in the livestock sector, rather than satisfying their aspirations for higher education.

The choice between studying and working is made harder by the poor supply of education in rural areas, forcing many young people to move to *soum* or *aimag* centres to continue their studies. In fact, most types of high secondary education (not to mention colleges) are only available in *aimag* centres, sometimes in bigger *soum* centres or just in Ulaanbaatar. This implies costs that cannot be borne by many poor households and can only be alleviated by the establishment of more high secondary schools in rural areas.

Any attempt to increase the level of education in rural areas and avoid the brain drain in favour of urban areas should in addition target the demand side. In other words, the government should promote the modernisation of production methods in rural areas. Currently, rural areas provide mainly jobs of poor quality. Therefore, those who succeed in achieving higher education tend to migrate to urban centres. In fact, they know very well these centres, since it is there where they were educated (they just do not move back to the rural areas after completing their education).

The scarcity of vocational education and the mismatch between what is offered by the educational system and the requirements of employers in local labour markets are other important constraints. They reduce the chances of employment for those young people with poor family backgrounds, in terms of education or incomes, and, therefore, reduce their commitment to completing their studies.¹⁰

Evidence from the SWTS suggests that the constraints on the educational system frustrate young people's aspirations to higher education and decent jobs. Noteworthy, considering the agricultural structure of the production system, is that about 60 per cent of those still at school aspire to university education and 25 per cent would like to attain a master degree. These figures decrease only slightly with age.

3. Education as a determinant of school-to-work transitions

An important strand of the literature on transition from plan to market has asked whether success in the labour market and also wage determination obey productivity considerations in new market economies. Moreover, assuming that in mature market economies human capital is the main determinant of labour productivity, what is its role in transition economies? Previous studies have also asked what the role is, in the context of transition economies, of other typical factors affecting wages in mature market economies, such as gender, civil status, sector of industry, location. Empirical studies have documented an increase in the returns to education and work experience, especially in the early stages of economic transition to the market (for comparative studies on returns to education during transition from plan to market, see, among others, Newell and Reilly, 1999; Trostel et al., 2002; and Flabbi et al., 2007). This would tend to prove that market forces come into play and that the emphasis of former socialist countries on equality of outcomes is being abandoned. Indeed, in a market economy, wages are supposedly paid on merit, which depends, usually, on human capital endowment, whatever the theoretical assumptions of the analysis. In fact, profit-

¹⁰ The Mongolian Government has pointed out the existence of a problem with vocational training and education in several official documents already from the mid-nineties. Together with international organizations, it has also suggested as a remedy: a) the establishment of close collaboration between public institutions, unions and employers' organizations to correct the skills mismatch; b) improving the quality of vocational training and link it to the needs of the local production system.

seeking firms would be interested in paying higher wages to those employees that contribute more to production.

3.1. Impact on labour market outcomes

Econometric analysis of determinants of participation in different labour market statuses shows that educational attainment is an important determinant of success in the labour market. Education increases the chances to find a job, but there seems to be an inverted u-shaped relationship between the educational level and the unemployment rate and a u-shaped relationship for the employment and activity rates. In other words, there is evidence that those with intermediate educational levels experience particular hardship. They have higher unemployment and lower employment rates than those with low levels of education. This is related, in part, to young people with low educational levels being absorbed into the primary sector and, also, to the difficulties experienced by those with vocational school diplomas. This finding suggests that job quality matters when looking at the labour market behaviour of young people.

3.2. Impact on earnings

Standard Mincerian earnings equations provide a tool to measure returns to education and returns to different qualification levels (Psacharopoulos, 1994). Table 3 presents the results of OLS earnings equations for all young people in the SWTS. Separate estimates are presented for different age groups, as well as for men and women. The equations study the determinants of net monthly wages, while the log of the number of hours worked per week is used as an independent variable. Log of monthly wages is preferred as dependent variables to using log of hourly wages to test for the statistical significance of the number of hours actually worked. In fact, as noted earlier, there is a high degree of variability of hours worked individually based also on the type of activity. The equations are augmented to consider not only human capital variables, but also a number of other individual and environmental characteristics, namely gender, civil status, formal / informal employment, the status of migrant, union membership, past experiences of training, type of search method adopted to get the job, the industrial sector of activity, the location and whether one is living in a rural / urban area.

The table provides the coefficients for the entire specification. Since the Mincerian earnings equation is a log-linear transformation of an exponential function, coefficients have a semi-elasticity interpretation. They measure the percentage increase of the dependent variable, which is the log of monthly net earnings, for any unit increase of the independent variable. If the independent variable is expressed in log terms, the coefficient measures the elasticity, i.e. the percentage change of the independent variable for any percentage change of the independent variable.¹¹

¹¹ When the regressor is a continuous variable, such as years of work experience, the elasticity at the mean of the covariates, namely the percentage change in the regressand for a percentage change in the regressor, can be computed multiplying the coefficient by the mean of the regressor:

βX . In the case of independent dummy variables, like levels of education attainment, the semi-elasticity interpretation is flawed and, following Halvorsen and Palmquist (1980), it should be computed as:

$(e^{\beta} - 1) * 100$. This formula measures the percentage change in the median wage, which is less affected

Table 3. Augmented earnings equations by gender and age group

Variable	All	Young teenagers (15-19)	Young Adults (20-24)	Oldest segment (25-29)	Men	Women
Log of weekly hours	0.0959	0.2413	-0.1245	0.1752*	0.0999	0.1334
Work experience from 1 to 4 years	0.0767	0.1971	-0.0570	0.2502***	0.1199	0.0519
Work experience more than 5 years	0.2210***	0.1196	0.0286	0.3950***	0.1942*	0.2359*
Women	-0.2226***	-0.0466	-0.1961*	-0.2110***	-	-
Secondary education	0.1412*	0.2004	0.1998	0.0772	0.1107	0.2068*
Vocational technical secondary education	0.1627*	0.1092	0.2179	0.1270	0.0162	0.3290**
Specialised secondary education	0.4941**	0.5191	0.6052**	0.3642	0.4228*	0.5577**
Tertiary education	0.6164***	-	0.7041***	0.4738***	0.6325***	0.5603***
Master degree	0.6836***	-	0.6382	0.6329***	0.5060*	0.5191
Study and work	-0.0752	0.2461	-0.0421	-0.0774	-0.0730	-0.0625
Fixed-term contract	0.2648***	0.2787*	0.2251*	0.2393**	0.3268***	0.2210**
Permanent contract	0.1720**	0.4724**	0.1176	0.1516	0.1931	0.2166**
Married	0.1272**	0.3797	0.0192	0.1309*	0.1772**	0.0160
Live together with partner	0.3452**	0.0000	0.7496**	0.2105	0.3874*	0.1999
Divorced, separated or widowed	0.0028	0.0000	-0.6728*	0.0827	0.2986	-0.1125
Lone parent	0.0235	-0.2032	-0.2127	0.1204	-0.0613	-0.0003
Immigrant for family reasons	-0.0917	0.0199	-0.1999	-0.0736	-0.2046**	0.1421
Immigrant for educational reasons	-0.1012	0.1794	-0.2977	0.1331	-0.5491	0.4294*
Immigrant to find a job	-0.0107	0.1139	-0.1509	0.0334	-0.0342	0.0040
Immigrant looking for a job	0.0468	-2.4586***	0.1742	0.0605	0.1692	-0.1483
Union member	-0.0689	0.3985	-0.1579	-0.0511	-0.1010	-0.1062
Training programme for less than one week	-0.0673	-0.7542	-0.0862	-0.0447	-0.1447	-0.0027
Training programme for 1-4 weeks	-0.0262	0.1615	-0.0307	-0.0108	0.0929	0.0157
Training programme for 5-8 weeks	-0.1845*	0.0000	-0.1817	-0.1747*	-0.2903*	-0.2608
Training for more than 8 weeks	-0.1406	-1.1949*	-0.3972	-0.0782	-0.2559	-0.1406
Informal network	-0.1134*	0.0102	-0.1004	-0.1706*	-0.1989*	-0.0510
Employment direct	-0.0389	0.0371	0.0406	-0.1316	-0.0019	-0.0540
Constant	3.3281***	2.4550***	4.3739***	2.8195***	3.2812***	2.9800***
Number of observations	1852	165	717	970	1042	810
R2	0.38	0.60	0.41	0.38	0.40	0.46

Note: Dependent variable is the natural log of declared monthly wages.

The coefficients of regional and sectoral dummies have been removed

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: own elaboration on SWTS of Mongolia, ILO.

It is interesting to start from observing that the hours worked do not affect monthly wages, except for the case of people belonging to the oldest segment, which confirms the low quality of jobs held by individuals in the sample.

In a previous study relative to Mongolia, Darii and Suruga (2006) estimated similar earnings equations relative to individuals of working age using the Urban Poverty

by outliers. Nonetheless, many authors interpret also the estimated coefficients of dummy variables directly as semi-elasticity. This is acceptable when the estimated coefficient is sufficiently close to zero.

and In-Migration Survey elicited in the capital city of Ulanbaataar in 2004. They found a rate of returns to a year of schooling of 7.2%, which is higher than in most of transition countries. The rate of return to university degree and the returns to other educational qualifications in Mongolia are comparable with those previously found relative to CEE and FSU countries.

Education, especially tertiary, appears to be an important determinant of earnings. The annual rate of return to education is estimated from the SWTS to be between 4.2 and 10 per cent of the salary per year of education nationwide and at least 7.6 per cent for Ulanbaatar. Having a university degree, for instance, means 85 per cent higher wages and a master's degree about 100 per cent higher than the median wage of those with only compulsory education. This means an annual rate of return to education of 9.5 per cent for the specific group of young people with a university degree.

Returns to secondary high school are not homogeneous. Holding a specialized secondary school diploma increases wages by 64 per cent compared to the median wage of those with only compulsory education or below. However, those with post-compulsory vocational education are not better off. This is another indication of the problems young people with vocational education have in the labour market. Therefore, young people with only vocational education have fewer job opportunities and lower wages, suggesting a negative shift in labour demand for this qualification in post-transition Mongolia and the need to upgrade curricula to the new technical and productive needs of a market economy.

The estimate, corrected for parents' educational level used as an instrumental variable to control for endogeneity of education, provides returns to education that are more than double those without these controls, a value higher than that previously found in the case of mature market economies applying the same methodology (Table 4). This indicates that children's education is a function of their family backgrounds and confirms, therefore, the previous conclusion that the educational system does not appear to be able to offer equal educational opportunities to those with unfavourable family backgrounds.

Table 4. OLS and IV estimates of the annual rate of return to education by gender and age

Variable	All	Young teen (15-19)	Young adults (20-24)	Aged 25-29	Men	Women
Years of education (OLS)	0.0420***	0.0087	0.0394***	0.0409***	0.0398***	0.0410***
Years of education (Instrumental variables)	0.1085***	-0.1912	0.1366**	0.1092***	0.1090***	0.0757*
N	1900	138	548	691	771	606

Note: The estimates include controls for the typical variables in augmented Mincerian earnings equations, such as education, work experience, civil status, having children, formal/informal work, method of job search, industry, and location.

Instruments are the years of education of father and of mother.

Source: own elaboration on SWTS of Mongolia, ILO.

Five years of work experience or more, as compared to one year or less, imply 25 per cent higher earnings, which is a yearly rate of return to work experience of about

5 per cent, assuming an average work experience of about five years. The wage effect of work experience goes up to 50 per cent for those aged 25-29 years. This finding confirms the importance of providing skills to young people in addition to education, and that such skills can only be accumulated by working for long periods. There is, in fact, no wage premium for those with less than five years' of work experience. Therefore, short employment spells, for instance fixed-term contracts, are unable to provide the necessary skills for young people to increase their productivity and earnings. This upholds the well-known argument of the human capital theory whereby employers and employees accumulate specific work experience only when the contract of work is sufficiently long, otherwise the employer fears that employees will use the experience gained in competing firms.

On average, female wages are not lower than those of men. However, this may potentially hide a discriminating behaviour against women, inasmuch as they have better productivity characteristics than men. In particular, women have on average a much higher level of education than men and, therefore, in principle, should have higher wages. In reality, the conditional gender pay gap is quite sizeable since, *ceteris paribus*, the median wage of women is about 25 per cent lower than men with the same characteristics.

The Juhn, Murphy and Pierce (1993, JMP) decomposition analysis provides a method to test whether women have better or worse characteristics than men and whether they are paid differently from men for the same characteristics. Decomposing the gender wage differential confirms that women have better productivity characteristics than men, but are paid less. If wages were paid equally, women should have 11.7 per cent more, even if only their higher educational attainment is considered. Taking into account the different characteristics of men and women, it appears that women should have, on average, 22 per cent more, a substantial gap, considering the low earnings of Mongolians.

Training means lower, not higher, wages. Employers' dissatisfaction at the level of skills forces about 70 per cent of them to provide on-the-job training. Generally, this training is paid by the firm and is for a short duration only. It is, therefore, not surprising that training incurs a wage penalty rather than a wage premium: in fact, employers consider training a sign of a lack of skills rather than a factor leading to increased skill levels. The wage loss is possibly the employer's way of transferring the cost of training to employees.

In addition, penalties for training on the job are understandable in the Mongolian context as the Mongolian job market is very fluid. Mongolians change jobs very easily. They only need to get a slightly higher salary from another company or other advantages and they are gone without even giving notice. Therefore it is understandable that companies have their people "pay" for training on the job (as chances for the company increase enormously that the people concerned will go to another company).¹²

Informal work entails a wage loss of about 30 per cent as compared to holding a fixed-term contract and 19 per cent as compared to holding a permanent contract. Migration, union membership and the civil status are not, on average, statistically significant factors of earnings.

Informal networks as a job seeking method cause a reduction in wage level (see, for comparison, Ioannides and Datcher Loury, 2004). There is a mismatch between job

¹² I am grateful to one anonymous referee for raising this point.

search methods preferred by employers and young people. A majority of employers uses advertising to fill their vacancies with a very small share relying on informal networks of family and friends to find their employees. This is in sharp contrast to the large share of young employees who use informal networks to find their jobs. This difference implies that employers perceive informal networks as a constraint, rather than as a selection device to choose the best among available candidates and, therefore, being hired through them often incurs a wage penalty. This contrast between labour demand and supply in the use of job seeking methods suggests that the government, and private and public employment agencies, should do more to improve the dissemination of information on vacancies.

Finally, there is evidence of large industry and regional wage differentials. Working in the livestock sector means that the wage is between 40 and 140 per cent lower than that in the reference sector. Those in rural areas have a 40 per cent lower wage than the rest of the population. All other factors being equal, living in the capital city of Ulaanbaatar implies generally higher wages than elsewhere, and especially higher than some specific regions such as Bayankhongor (-70 per cent), Govialtai (-66 per cent), Sunkhbaatar (-70 per cent), Selenge (-76 per cent), Khovd (-66 per cent), Khuvusgul (-85 per cent).

4. Transition stages between school and decent work

Analysis of the level and determinants of traditional ILO indicators of the labour market is unsatisfactory to study the specific nature of school-to-work transitions. Indeed, young people differ from adults in the labour market because they lack work experience; their search for a good match continues until the experience gap is filled. Some young people still at school are already looking for work; many “inactive” young people are also looking, although not actively, because they are discouraged. Those employed may consider their current job only as a mean to fill their work experience gap in the hope of accessing better jobs later; they are thus classified as “employed”, but are actually looking for another job or planning to return to education (for an overview of these issues, see, for instance, Caroleo and Pastore, 2007).

The ILO (2004) developed a specific classification, which overlaps the traditional categories of employment, unemployment and inactivity with three new categories aimed at capturing the specific stage of the school-to-work transition process, namely: a) transition completed; b) in transition; c) transition not yet started. These categories are defined as follows: 1) *transition not yet started*, namely: a) youth in school, not seeking work; b) inactive youth, not seeking work; 2) *in transition*, namely: a) youth in school, but seeking work; b) inactive youth, but seeking work; c) unemployed youth; d) employed youth, but: (i) considering themselves unemployed; (ii) wishing to change job; e) employed youth not wishing to change their job, but: (i) working more than 50 hours per week; (ii) or working with no contract; (iii) or working with a fixed-term contract; (iv) or working, but not paying taxes for their work; 3) *Transition completed*: includes all youth who have been able to access decent work; in this study, decent work is obtained as a residual, including all those employed not falling into any of the previous categories.

The first striking feature, as shown in Table 5, is the very small segment of those who have completed their transition to decent work: about 1 per cent of the youth sampled. Unreported estimates indicate that it is more or less stable across gender, but changes dramatically across age groups: it is lowest among teenagers (0.04 per cent) and increases to 2.4 per cent for those aged 25-29 years. The size of the group with the

transition completed is higher in urban than in rural areas where very few respondents had completed their transition.

About 56.5 per cent of the youth in the sample are still in transition. The share of employed youth who are in transition is about 32.6 per cent of the sample population. Among them, 47.8 per cent would like to change job and 49.6 per cent experience a decent work deficit. Four types of work deficits could be identified on the basis of the survey's results:

- a) about 60 per cent of employed youth work informally;
- b) about 74 per cent of employed youth holding a contract have a fixed-term contract;
- c) 12 per cent of employed youth holding a contract do not pay taxes on their earnings;
- d) about 40 per cent of employed youth work more than 50 hours per week.

Youth who have not yet started their transition represent 42 per cent of the sample. More women are at this stage, while young teenagers are more frequently in the pre-transition stage than the oldest age segments. In addition, the transition not yet started status is more frequent in urban than rural areas. This finding is related both to the higher share of young people at school in urban areas and to the greater availability of job opportunities, albeit of unsatisfactory quality, in rural areas.

Table 5. Traditional labour market indicators and school-to-work transition indicators for Mongolia, 2006, aged 15-29

Traditional labour market indicators		School-to-work transition indicators			
Inactivity rates	52.5	Transition not yet started	42.6	In school	40.0
				Inactive	2.6
				Discouraged workers	1.7
				In-school, but job searching	8.1
				Unemployed	14.0
Unemployment ratio	14.0	In transition	56.5	Workers considering themselves unemployed	0.0
				Workers wishing to change	16.0
				Workers with decent work deficit	16.6
Employment ratio	33.5	Transition completed	0.9	Employed in decent work	0.9
Total	100.0	Total	100.0	Total	99.9

Source: SWTS, NSO, 2006.

Unreported analysis of the school-to-work transition indicators highlights the existence of important gender, age and geographical differences. Women are less frequent in the "in transition" group, the explanation being that they often stay at school rather than looking for work and are less willing to accept informal work, especially in the more common herding and other agricultural activities. Many young men leave school before reaching the compulsory age to enter low productivity jobs in the livestock sector, where they remain trapped. Young women experience greater

difficulties in looking for work, resorting to the mass media rather than applying directly for jobs or using informal networks.

Important differences exist between teenagers, young adults and those aged 25 to 29 years. The first group is more often at school, while the latter two groups are already “in transition”. In the oldest age segment, the number of those who have completed their school-to-work transition is very small (2.4 per cent), a sign that not only are the jobs of very low quality, but due to the extreme poverty of many households, young people are obliged to keep them to contribute even a small amount to the family’s income.

The urban/rural divide is also crucial. While in urban areas most young people are still at school or unemployed, in rural areas they are already in the “in transition” group, although often employed in jobs with important deficits in terms of the quality of work.

5. Concluding remarks and policy recommendations

Policy measures should be introduced to improve the employment prospects of young people and the findings of the SWTS indicate a number of groups to be targeted.

First, teenagers in urban areas are the most difficult to employ, therefore, training and supply-side measures should be offered to them.

Second, there are important disadvantages for young women in the labour market, despite their higher educational attainment. They find employment at the same rate as men, but when they are unemployed, it is for longer periods and when a job is found, it is for lower wages. This is clearly in opposition to their aspirations and could have dramatic consequences for the stability of households and society if not resolved.

Third, formal employment (defined as “holding a contract”) as opposed to informal employment offers a wage premium to the youth. But the data collected in the SWTS also point to a selectivity bias: employers give contracts only to the most productive workers/employees and hire the others without a contract. Hence, the mere formalisation of the low productivity workers would not translate in a wage gain if wages are based on productivity levels. As a consequence, promoting decent working conditions for informal workers, including social security coverage, should be the policy priority.

Fourth, unemployed youth in rural areas, and especially women, experience very long unemployment spells.

Fifth, several findings highlight the difficulties experienced by young people with vocational diplomas. They had trouble finding a job and, even when they did, their wages were sometimes lower than those with compulsory education or below, despite employers expressions of need for a workforce endowed with technical skills. This is an important issue to be addressed by policy-makers at all levels. Vocational education and training are important ingredients for the development of new and more efficient production systems and are an important alternative for those young people who do not intend to pursue higher education. Policy-makers should make it a priority to improve the quality of vocational training and, together with firms and unions, link it more to the needs of the local production system.

An important issue in Mongolia, deserving special attention for its long-term implications, is the number of young people not attending school, clearly a problem of child labour and poverty. Poor households in rural areas are faced with a trade-off between short-term gains and long-term losses. In the short term, they need the help of

their children in family-run businesses or in providing basic support to other dependent children and the elderly in the household. In the long term, however, children dropping out of school have low productivity jobs for the rest of their lives, perpetuating the poverty trap for generations. Income support schemes for children from poor families who drop out of school should be strengthened. A better organization of the agricultural sector, perhaps through the promotion of cooperation between small plots farming and cattle breeding, might help alleviate poverty and workload, thereby allowing children to attend school. For young girls, the provision of kindergartens for their younger siblings or social assistance for the elderly would also help. However, it is also necessary to build schools in rural areas and to drastically reduce the costs of education for drop-out students, including school fees, in-kind payments to schools, transportation and housing costs.

Poverty and related measures, such as household income, number of children, number of siblings, family educational background, income and occupation, and marital status, are the strongest determinants of educational attainment and school drop outs. The educational system needs to equalize educational opportunities, across incomes, geographical locations and gender. For these objectives to be met, it is necessary to consider not only direct costs, but also the indirect and opportunity-cost of education for poor families. Progressive school and university fees could be an option, together with the provision of special allowances for students, including subsidized housing and transportation costs and the implementation of income support schemes for the poorest.

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Appendix. The Mongolian educational system

The Mongolian educational system has changed substantially as compared to the time of socialism.¹³ The formal school system comprises primary, secondary, and higher education; pre-school education is also provided.

Although a 10 years of schooling general education system was inherited from the previous regime, and is still in place, the composition of primary, incomplete secondary and complete secondary education (3+5+2 structure) has changed several times during the period of transition from plan to market. For example, the structure was changed into a 6+2+2 model in 1990. In 1992, it was changed back to the 3+5+2 structure. However, since 1993, the system has adhered to the present 4+4+2 structure: a) primary education (4 years, from age 7-11 years); b) basic or incomplete secondary school (4 years, from the age 11-15 years); c) complete secondary school (final 2 years, from age 15-17 years). Despite these reforms, though, the curriculum did not change.

Compulsory education ends at the age of 15, when it is time to attain a diploma of non-complete secondary education. Primary and lower secondary education together comprise the basic compulsory educational level that the State provides for free, as stated in the country's Constitution. General education includes a combination of basic education and high school (Law on Education, 2002). Also, the last two years of general education are free.

At the end of the first two stages, primary and lower secondary, graduates have two possibilities for high secondary school:

- (a) general secondary school;
- (b) technical and vocational school, and training, TVET.

Both graduates from incomplete and complete secondary education can join TVET, which further requires 2.5 and at least one year to complete, respectively. TVET comprises specialized complete secondary schools, as well as post secondary diploma programmes housed in higher educational institutions. Correspondingly, graduates from the former are given a complete secondary education diploma and those from the latter a technical specification diploma. TVET graduates have the possibility to access higher educational institutions.

Tertiary education comprises higher education diplomas and bachelor degrees. Institutions involved in higher education are of the following types: colleges, institutions and universities. The length of higher education is three years for the diploma programme (diploma of higher education) and four years for graduate programme (diploma of bachelor degree). However, for some professional courses, the length can vary (e.g. medicine). Graduates from universities and the 16 other higher educational institutions can obtain a diploma, a bachelor degree or a master degree. Some higher educational institutions are approved by the Ministry of Education to provide magistrate (two years) and doctoral programme (three or four years). Pre-doctoral and doctoral courses are offered in some universities. Non-formal and distance educational activities span over the entire system.

¹³ For a more detailed analysis of the Mongolian educational system and legal framework, see Gerelmaa (2005) and del Rosario (2005).