Welfare in Transition: Trends in Poverty and Well-being in Central Asia

Jane Falkingham

Contents

i

Centre for Analysis of Social Exclusion

Editorial Note and Acknowledgements

Abstract

This paper examines the impact of the transition from a planned to a market economy on living standards and welfare in the five Republics of former Soviet Central Asia – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, along with the Republic of Azerbaijan. A broad definition of welfare is taken and the indicators of well-being discussed are not limited to standard *economic* measures of poverty based on incomes or expenditures, but also include trends in selected *capability-based* indicators – reflecting the health and education of the population and the extent to which the social sectors are faring under increasing marketisation; *demographic-based* measures – reflecting individual and household expectations and perceptions about the future; and *socio-environmental* indicators – reflecting the social environment within which people live.

The picture that emerges is of a regional population facing severe economic, physical and psycho-social stress. Over half the population is now living in poverty. Real wages have fallen, joblessness has increased, school enrolment has dropped and general health has deteriorated. In addition to exacerbating the disadvantage of the 'old poor' – pensioners, families with large numbers of children and single parent families – the economic dislocation of transition has also given rise to new groups of poor, including the families of workers 'on leave without pay', the long-term unemployed, agricultural workers, young people in search of their first job, and a growing number of refugees, both economic refugees and persons displaced as a result of civil conflict.

However, despite this gloomy picture, households are also proving to be remarkably resilient to the dramatic drop in living standards most have experienced. Poor households throughout the CARs are surviving through a variety of coping mechanisms including the sale of assets, increased home production of food, expanding informal sector activities, borrowing from relatives or friends and, particularly in the case of Tajikistan, humanitarian aid. Many of these strategies are not sustainable in the longer term. A strategy for alleviating poverty and encouraging regeneration therefore needs to be put in place. Such a strategy should be three-pronged and should: increase employment opportunities; improve the social safety net; and protect the region's human capital.

1.   Introduction

1.1   The inheritance

The five Central Asian Republics (CARs) – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan – along with their neighbour Azerbaijan cover 4,041,000 square kilometres, an area roughly equivalent to that of India, Pakistan and Bangladesh combined. In contrast, however, the CARs together have a total population of just 64 million people, compared with the 1.1 billion people living in the countries of South Asia. The republics vary in size, geography and natural resources – ranging from the small mountain states of Kyrgyzstan and Tajikistan, dominated by the Tien Shan and Pamir mountains, through to desert state of Turkmenistan. Uzbekistan is the most populous Republic in the region with 21 million inhabitants, whilst Kazakhstan is the largest, covering an area five times the size of France. However, despite the great heterogeneity amongst the CARs, they share a common Soviet inheritance that sets them apart from other countries in South and West Asia.

Table 1: Human Development Indicators in Central Asia and selected other countries, 1991

	Urban pop. (%) in 1992	Popl. growth (p.a.)	Life expectancy at birth (yrs)	Adult literacy rate (%)	Real GDP per capita (PPP$)	UNDP Human Development Index
Armenia			72.0	98.8	4610	0.801
Azerbaijan	54	1.8	71.0	96.3	3670	0.730
Kazakhstan	58	1.8	69.0	97.5	4490	0.774
Kyrgyzstan	38	2.3	68.0	97.0	3683	0.685
Tajikistan	31	3.1	70.0	96.7	2180	0.629
Turkmenistan	45	2.8	66.0	97.7	3540	0.697
Uzbekistan	40	2.9	69.0	97.2	2790	0.664
Afghanistan	19	1.8	42.9	31.6	700	0.208
Iran	58	3.3	66.6	56.0	4670	0.672
Pakistan	33	2.9	58.3	36.4	1970	0.393
Turkey	64	2.4	66.7	81.9	4840	0.739
Medium HDI	-	-	68.0	80.4	3420	0.649
Low HDI	-	-	55.8	47.4	1170	0.355

Source: Table 1.1 Falkingham *et al* (1997) with additional data for Armenia and Azerbaijan from UNDP *Human Development Report 1994*.

Table 1 shows various indicators of development on the eve of independence for the five Central Asian Republics, Azerbaijan and for several other neighbouring countries. The table demonstrates the legacy of economic and social development during the Soviet period, whilst highlighting the new Republics' Asian dimension.

Despite a relatively low level of real GDP, all the CARs have a Human Development Index of above 0.6 – placing them firmly in the group of countries with a medium level of development. Life expectancy at birth averages around 68 years, which is significantly above that enjoyed in Pakistan and exceeds levels in Iran and Turkey. Literacy is almost universal and well above other countries with comparable levels of per capita income.

In other respects, however, the CARs exhibit characteristics common to other Asian countries; characteristics that are typically associated with a lower level of development. In general levels of urbanisation are low. The urban population exceeds 50% of the total only in Kazakhstan (with a similar level of urbanisation to that in Iran) whereas in Tajikistan over two-thirds of the population continue to live in rural areas (as in neighbouring Pakistan). Conversely, rates of population growth remain high – the result of continuing high fertility combined with low mortality.

> ➢ On the eve of independence most human development indicators for the Central Asian Republics were much higher than for those in bordering countries or with comparable levels of income.
> ➢ However some of the demographic characteristics of the CARs remained more typical of their Asian neighbours than of their former Soviet comrades.

1.2 Developments since 1991

As we have seen, at independence all of the newly formed Central Asian Republics inherited high levels of human capital. Education and health care were free and there were extensive social services and transfers. The CARs also, however, inherited economic structures that were heavily dependent on Soviet supply and trade networks. Russia was the main source of inputs and the main market for outputs. Transport and other infrastructure was designed with the view to meeting these needs and not necessarily those of the local economy. High social spending was supported

by large budgetary transfers from Moscow. It is estimated that in the late 1980s/early 1990s such transfers were worth between 12 percent of GDP (in Kazakhstan) to as much as 40 percent of GDP (in Tajikistan).

The withdrawal of subsidies from Moscow following independence combined with the interruption of inter-republican trade within the former USSR and the impact of tight government stabilisation policies resulted in a dramatic reduction in output across the region. Azerbaijan faced a number of additional external shocks which exacerbated the situation, including the conflict with Armenia and the added disruption to trade due to the Chechen conflict, whilst Tajikistan was hit by prolonged internal civil conflict and several severe natural disasters.

1.2.1 Output

Figure 1 shows the annual change in real GDP over the last seven years[1]. Growth was negative in all countries in the region up to 1995, since when there has been a gradual reversal of fortunes (with the exception of Turkmenistan, which experienced a 25% drop in GDP in 1997 alone). Positive growth is forecast in all Republics for 1998 (EBRD, 1998). However despite recent improvements, as Table 2 shows, real output remains significantly *below* pre-transition levels.

Not only has the decline in real GDP in the CARs been greater than elsewhere, but the *duration* of depression has also been longer. Most of the transition countries in Eastern Europe and the Baltics experienced three to four years negative growth in GDP (Milanovic, 1998), whereas GDP decreased for six successive years in Azerbaijan and Kazakhstan (1989-1995) and *at least* seven in Tajikistan and Turkmenistan. Continuous negative economic growth has a considerable deleterious impact on both *current* living standards and confidence in, and perceptions of, *long-term* well-being.

---

[1]   There are considerable problems in compiling a consistent series of data on economic performance across time, both due to changes in definition and variation in data quality. Absolute numbers should perhaps be treated with caution. However, the overall trends are clear.

Figure 1: Change in real GDP 1991-1998 (1991=100)

Source: UNICEF, 1998
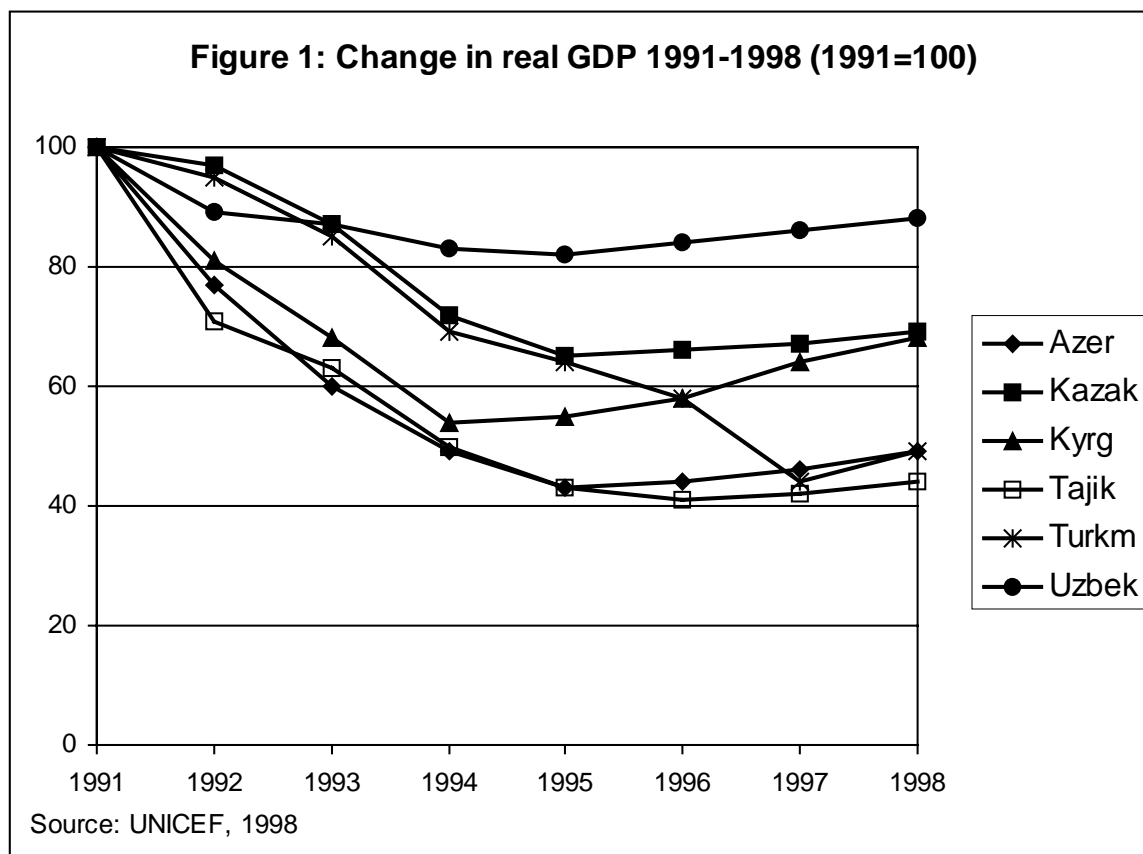
Table 2: Selected Macro-economic Indicators in Central Asia since independence

	Real GDP (Index 1991=100)		Price inflation (% change in end year consumer prices)		Real wages (Index 1991=100)		Registered unemployment	
	1993	**1997**	**1993**	**1997**	**1994**	**1996**	**1993**	**1997**
Azerbaijan	60	46	1294	1	22.1	14.3 [1]	0.7	1.1 [2]
Kazakhstan	87	67	2169	11	32.9	34.4	0.6	4.2
Kyrgyzstan	68	64	1363	15	59.4	44.5	0.2	3.2
Tajikistan	63	42	7344	165		5.0 [3]	1.2	2.9
Turkmenistan	85	44	9750	22				3.0 [1]
Uzbekistan	87	86	885	28			0.3	0.5

Notes: [1] 1995; [2] 1996; [3] estimate in Mills (1998)
Source: EBRD, *Transition Report Update* (1998)

The *pace* of transition has not been consistent across the region and this is reflected in the trends in indicators in Table 2 and Table A1. Azerbaijan, Kyrgyzstan and Kazakhstan all experienced early price liberalisation with subsequent runaway inflation. Inflation peaked in Kyrgyzstan in 1992-3 (at around 800

percent), and in Azerbaijan (at 1,600 percent) and Kazakhstan (at 1,900 percent) in 1994. Uzbekistan, Tajikistan and Turkmenistan have been slower reformers. Prices were liberalised later, and inflation peaked later too.

Liberalisation of prices and wages is only one, albeit a key, dimension of transition. The share of the private sector in GDP is a good indicator of 'progress' in both large and small-scale privatisation. Again the picture is mixed. In 1997, only 20% of GDP was attributable to the private sector in Tajikistan, compared to 25% in Turkmenistan, 40% in Azerbaijan, 45% in Uzbekistan, 55% in Kazakhstan and 60% in Kyrgyzstan (Table 2.1, EBRD, 1997).

There is considerable debate as to whether gradual reformers suffer less economic and social disruption than more rapidly liberalising transition economies (see Griffin, 1998; Pomfret and Anderson, 1997). Is a fast or slow transition 'better' in terms of its impact on welfare? It is difficult to tell in Central Asia context. Tajikistan, a slow reformer, has suffered the greatest drop in output whereas Uzbekistan, another slow reformer, has managed to avoid many of the large shocks associated with transition elsewhere in the region[2]. Tajikistan, along with Azerbaijan has, however, also been affected by civil conflict for much of period, muddying the picture. Whilst not the central theme of this chapter, it may be useful to bear in mind the differential pace of transition in each of the Republics when, in the subsequent sections, we examine the trends in welfare indicators during transition.

1.2.2 Real wages
The most significant factor affecting living standards in the region has been the dramatic reduction in output. However, of almost equal importance has been the decline in the value of real wages. A consistent time series is only available for three of the CARs, but in all cases the drop in real wages has *exceed* the decline in output – illustrating the fact that labour has been the least well protected factor of production during transition.

Unemployment, the experience of which is central to the well-being of those individuals and households affected, has also risen significantly. The labour market was initially slow to adapt and in the early 1990s registered unemployment remained low in

---

[2]   The welfare impact of slow transition in Uzbekistan has been usefully examined by Pomfret and Anderson (1997).

all countries. However since 1994 it has increased considerably despite the return to positive growth in several countries. The figures on registered unemployment represent only a fraction of real unemployment. Open unemployment is estimated to range from as much as 30 percent in Tajikistan (World Bank, 1998a), 20 percent in Azerbaijan and Kyrgyzstan (EBRD, 1998) , 11 percent for men and 6 percent for women in Uzbekistan (Coudouel, 1998), to around 6 percent in Kazakhstan (World Bank, 1998b).

1.2.3 Social spending

The ability of governments to respond to depressed economic activity by simply increasing public expenditure has been severely constrained by the loss of Union budget transfers, the erosion of the tax base associated with declining output and the growth in informal sector economic activity. In fact, the fall in GDP has been accompanied by a growing *incapacity* of governments throughout the region to mobilise resources. Tax collection rates reached a low of about 16% of GDP in Azerbaijan in 1996 (World Bank, 1997a). Other countries have not fared much better with the share of tax revenues to GDP being below 13% in Kazakhstan in 1997 (EBRD, 1997). As a result government expenditures as a share of GDP have fallen sharply.

Table 3: Selected indicators of change in social spending over time

	Govt. expenditure as % GDP		Expenditure on social protection as % GDP		Expenditure on Education as % GDP		Expenditure on Health as % GDP	
	1991	1996	1991	1996	1991	1996	1991	1995
Azerbaijan	46.3 [1]	18.8		5.4	6.5	3.5	3.5	1.4
Kazakhstan	32.9	18.5	11.2 [1]	6.6	7.6	3.2	4.3	2.9
Kyrgyzstan	30.3	23.3	0.9 [1]		8.0 [2]	5.4	3.6	3.3
Tajikistan	49.6	17.9	1.4	1.6	9.1 [3]	1.8	4.5	1.1 [4]
Turkmenistan	38.2	15.7				3.3	3.2	1.5
Uzbekistan	52.7	36.2			10.2 [1]	7.4 [5]	4.6	3.5

Notes: [1] 1992; [2] 1990; [3] 1993; [4] 1996; [5] 1995.
Sources: Chellaraj *et al* (1997); EBRD (1998); UNICEF (1998); World Bank (1996).

Between 1991 and 1996 government expenditures as a share of GDP in Tajikistan fell by nearly two-thirds from 50 percent to

under 18 percent. Elsewhere proportionate declines have ranged from two-fifths in Azerbaijan and Turkmenistan to around a fifth in Kyrgyzstan (Table 3).

The collapse in GDP combined with lower government spending has meant that real allocations to the social sectors have declined precipitously. Table 4 shows that public expenditures on education and health are running at about a *quarter* to a *third* of pre-independence levels in real terms in all Republics except Uzbekistan. Real spending on social protection has also fallen – levels in Azerbaijan in 1996 were only 17 percent of that in 1992, whilst in Kazakhstan they were 40 percent.

Table 4: Trends in real expenditure on education and health care

	Real expenditure on education		Real expenditure on health care		
	1991	1996	1990	1993	1995
Azerbaijan	100 [1]	24	100	67	18
Kazakhstan	100	28	100	58	35
Kyrgyzstan	100 [2]	38	100	40	36
Tajikistan			100	54	
Turkmenistan			100	47	30
Uzbekistan	100 [1]	67 [3]	100	77	72

Notes: [1] 1992; [2] 1990; [3] 1995.
Sources: Chellaraj *et al* (1997); World Bank (1996); UNDP (1997).

What are the consequences of these falls in output, wages and social expenditures for the welfare of the population? Below we go on to look at changes in the level, composition and distribution of incomes and what that has meant in terms of the number of persons and households living in poverty.

> ➢ There has been a dramatic reduction in output across the region.
> ➢ In 1997 real GDP was still below half its pre-transition level in Azerbaijan, Tajikistan and Turkmenistan and a third below In Kyrgyzstan and Kazakhstan.
> ➢ Real wages have declined even further than real output and open unemployment is as high as 30 percent in Tajikistan, and 10-20 percent elsewhere.

> ➢ The fall in GDP has been accompanied by a growing *incapacity* of governments throughout the region to mobilise resources.
> ➢ Real allocations to the social sectors have declined sharply to about a *quarter* to a *third* of pre-independence levels.
> ➢ The pace of transition has been different across the different countries in the region with Kyrgyzstan and Kazakhstan experiencing the fastest reform, Azerbaijan a middle position, and Turkmenistan, Tajikistan and Uzbekistan being much slower.
> ➢ Azerbaijan and Tajikistan have also suffered from the additional shock of civil conflict, with the impact being particularly pronounced in Tajikistan.

2. Income and Inequality during transition

Declines in income have been seen to be the most decisive factor influencing poverty (Milanovic, 1998). This is especially true when the declines are of such a magnitude as those shown in Table 2. Even at the lowest point of the Great Depression of the 1930s, GDP in the USA did not fall to below three-quarters of its pre-depression level[3], whereas in several CARs it has more than halved. Accompanying the decline in output has been a change in the *distribution* of income and this is also an important dimension of welfare.

2.1 The distribution of income pre transition

In the Soviet Union the overall distribution of income was much more egalitarian than in most market economies (Atkinson and Micklewright, 1992; Milanovic, 1998). This was due to both the higher level of social expenditure – social transfers made up 14 percent of total gross income (USSR, 1988 Family Budget Survey) – and lower wage differentials[4]. Over 96 percent of the work-force

---

[3]   In 1933, four years after the Wall Street Crash, real GDP in the USA was around 75% of its 1927 level. This was the low point of the depression and after 1933 positive growth was resumed (Milanovic, 1998).

[4]   It is generally agreed that rates of return to education in the Soviet Union were less than in market economies and consequently the

were employed by state-owned enterprises (including kolkhozes). Thus, virtually all income, either transfers or wages, was received through the intermediation of the State.

Table 5: Summary statistics for individual distribution of monthly *per capita* gross household income for workers and collective farm workers within the Soviet Union by Republic, 1989

	Mean per capita income	Mean relative to RSFSR	P90/P10 [1]	Gini coeff [2]
Russia	178.65	100	3.16	0.278
Lithuania	201.93	113	3.11	0.278
Latvia	198.72	111	3.08	0.274
Estonia	219.18	123	3.31	0.299
Ukraine	153.35	86	2.76	0.235
Belarus	170.29	95	2.73	0.238
Moldova	141.33	79	3.08	0.258
Georgia	150.15	84	3.53	0.292
Armenia	134.85	75	3.14	0.259
Azerbaijan	110.33	62		0.328
Kazakhstan	142.92	80	3.46	0.289
Kyrgyzstan	104.06	58		0.287
Tajikistan	82.94	46		0.308
Turkmenistan	102.26	57		0.307
Uzbekistan	91.29	51		0.304
ALL USSR	158.83	89	3.53	0.289

Notes: [1] P90/P10 is the ratio of the ninetieth percentile in the distribution to the tenth and gives an indication of the level of income enjoyed by the 'better-off' relative to the 'worse-off'. [2] The Gini coefficient is a summary measure of inequality. 0.00 implies perfect equality where every observation has the same income; 1.00 perfect inequality. where the last observation has all the income. Source: Table UI3, Atkinson and Micklewright (1992).

Table 5 gives us some idea of the distribution of income within the different Republics prior to independence. Note that it is based on data from the old Family Budget Survey[5] and limited

---

difference between non-manual and manual workers was lower than in the West (Rutkowski, 1995).

[5] The limitations of the Family Budget Survey have been detailed elsewhere (for example see Falkingham and Micklewright, 1997). The main criticism has been that the surveys were not nationally

to workers and collective farm workers and their families. The distribution of income in the CARs was somewhat *more unequal* that elsewhere in the Union with Gini coefficients of over 0.3 in several Republics. Average per capita income across the region was also considerably *lower* than in Russia – varying from under half in Tajikistan to 80 percent in Kazakhstan. In part, this difference is explained by the higher fertility and larger average household size of the CARs pulling down average household income when measured on a per capita basis (with the exception of the more 'european' Kazakhstan), but there is no doubt that the CARs were also amongst the poorest republics in the Union (Atkinson and Micklewright, 1992).

2.2   *Changes in income and inequality during transition*

What happened to the distribution of income (and expenditure) following independence? Table 6 summarises some of the available data. Columns (1) and (2) are comparable with the same measures in Table 5. Both are for per capita gross income and both rely on the old format family budget surveys, although data for the later period are not limited to workers and agricultural workers.

The Gini coefficient has increased in all four of the Republics for which there are data: from 0.289 to 0.327 in Kazakhstan, 0.287 – 0.353 in Kyrgyzstan; 0.307 – 0.358 in Turkmenistan; and 0.304 – 0.333 in Uzbekistan. This shows a considerable growth in income inequality over just four years. The fastest increase was in Kyrgyzstan, where the coefficient increased by 0.017 per annum – a rate *two and a half times* as fast as that recorded in the fastest inequality-increasing Western countries in the 1980s, one of which was the UK whose income Gini coefficient increased from 0.302 in 1987 to 0.337 in 1991(Atkinson, Rainwater and Smeeding, 1995; Atkinson, 1996).

representative and the sample frame used tended to under-represent both those at the bottom and top of the income distribution.

Table 6: Summary statistics for the distribution of income and expenditure – the 1990s

	(1) Gini coefficient of gross per capita income, 1993 (HBS)	(2) P90/P10 1993	(3) Gini coefficient from LSMS data selected years	
			Per capita income	Per capita expenditure
Azerbaijan	n/a	n/a		0.347 (1995)
Kazakhstan	0.327	4.50		0.350 (1996)
Kyrgyzstan	0.353	5.40	0.678 (1993)	0.548 (1993)
			0.511 (1996)	0.461 (1996)
Tajikistan	n/a	n/a		
Turkmenistan	0.358	4.56		
Uzbekistan	0.333	4.79		

Notes: Columns (1) and (2) are derived from Milanovic, 1998 and are based on data from countries' household budget survey. P90/P10 is interpolated from the cumulative frequency distribution. Column (3) are from World Bank (1995, 1997a, 1998b) and are derived from recent survey data.

There has also been a significant increase in the decile ratio. Whereas in 1989, in Kazakhstan, the ninetieth decile enjoyed a per capita income three and a half times that of the tenth, by 1993 the relative difference had increased to *four and a half* times. Put the other way round, in 1989 the 'poor' had a per capita income around 30 percent of the 'rich'. Four years later, it was just over 20 percent.

Since 1993, *Living Standard Measurement Surveys* have been held in three of the Republics. Fieldwork has just been completed in Turkmenistan and a survey is planned for Tajikistan in Spring 1999. The LSMS are nationally representative multi-purpose surveys which collect detailed information on a range of topics, including income, expenditure and consumption. They allow us to construct a more complete picture of consumption than would otherwise be the case, including consumption derived from home-production and gifts. Column (3) in Table 6 presents the findings from the LSMS held in the region to date. The newly available survey data confirms that the greatest increase in inequality in the early 1990s appears to have taken place in Kyrgyzstan – the fastest reformer in the CAR. In fact the Gini coefficient for per capita income from the LSMS was almost twice as high as that from the HBS (0.678 compared 0.353).

There are problems in collecting information on household incomes at the best of times – with data subject to under-reporting, particularly income from private and informal sector activity. In Autumn 1993, when the first Kyrgyz LSMS was conducted, these problems were exacerbated by the fact that significant sections of the work-force were on leave without pay and others were owed significant amounts in arrears. Per capita expenditure, therefore, may provide a better measure of welfare as it is less prone to under-reporting and fluctuation.

Using expenditure as the 'welfare standard' inequality still appears to have significantly increased in Kyrgyzstan by 1993. Since then there has been a slight reversal with the distribution of expenditure becoming somewhat more equitable as the economy entered into economic recovery. Nevertheless the Gini coefficient of 0.461 in 1996 is still relatively high by international standards, being akin to those experienced by Thailand (0.462) and Costa Rica (0.461) (World Bank, 1997b).

Data for Kazakhstan and Azerbaijan show similar levels of inequality in household expenditure, with a Gini coefficient of around 0.350 – above that of India in 1992 (0.338). A number of factors have contributed to the worsening of the income distribution during transition.

The growth in inequality is directly related to changes in the *composition* of income during transition. In the Soviet Union in the late 1980s, only 14 percent of total gross income was from private sources (including 7 percent from self-employment), whilst social transfers comprised 13 percent, labour incomes 72 percent and income from property was non-existent (Milanovic, 1998). By 1995, in Azerbaijan secondary employment alone accounted for around 13 percent and income from other private sources amounted to around 14 percent (World Bank, 1997a).

Accompanying the growth in income from private sources has been a rise in levels of earnings inequality. The Gini coefficient for the distribution of monthly earnings for Kyrgyzstan has increased by two-thirds between 1989 and 1996, from 0.26 to 0.43 (UNICEF, 1997). Similarly, using data from the 1995 EUI survey in Uzbekistan, Klugman (1988) found that the decile ratio for all earnings had increased from 3.0 in 1986 to 6.50 in 1995, and that decile the ratio for earnings in the *state* sector was 6.0 as compared to a staggering 8.3 in the *private* sector. Earnings are predicted to become even more dispersed as the market system allows rewards

to be more closely associated with risk taking, training, individual talent and effort (EBRD, 1997).

Income inequality has been further exacerbated by the emergence of open unemployment and the increasing inequality of income from sources other than employment. The redistribution of wealth and changes in property incomes that will accompany privatisation is expected to further raise inequality over time.

Income inequality has increased during transition.

This is due to :
➢ Restructuring of economic activity and greater private sector income;
➢ Change in wage distribution;
➢ Growth of open unemployment;
➢ Redistribution of wealth and privatisation of state assets.
➢ The rise in inequality has been most pronounced in Kyrgyzstan – an early reformer, and least pronounced in Uzbekistan – a slow reformer.

---

3. Poverty

There is a close relationship between income inequality and poverty and *a priori* we would expect that as inequality rises so too will poverty.

3.1 Dimensions of poverty
Poverty is a multidimensional phenomena and accordingly there are a wide variety of approaches to its measurement. Poverty can be objective or subjective, absolute or relative, temporary or chronic.

Conventionally poverty has been defined in terms of income or expenditure based on the assumption that a person's material standard of living largely determines their well-being. The poor are then identified as those with a material standard of living below a certain level – the so-called poverty line. Where this level is set determines how many people are poor and how many are non-poor and as such the derivation of the poverty line is almost always a matter for debate and controversy.

There are two main approaches to constructing a poverty line. An *absolute* definition of poverty assumes it is possible to define a minimum standard of living based on a person's physiological needs for water, clothing and shelter – i.e. their basic needs. In contrast, the *relative* approach defines poverty in relation to a generally accepted standard of living in a specific society at a specific time and goes beyond basic physiological needs. It was such a relative approach to poverty that was implicitly in the 'socially acceptable minimum' used to defined under-resourced households in the former Soviet Union.

The absolute and relative approaches to defining poverty each have advantages and disadvantages[6]. An advantage with the absolute approach is that there are reasonably objective norms, while with the relative approach the decisions concerning what is an 'acceptable' minimum become much more subjective, depending on how the norms of the particular society are established. The absolute approach also has the advantage that because it is explicitly linked to a specific welfare level, it allows for comparisons over time or between different groups. The absolute approach is not however without problems and there remains the contentious issue of how the 'basket of basic needs' is defined [7].

Increasingly, however, it is being recognised that material resources, or rather lack thereof, reflect just one, albeit very important, dimension of poverty. Monetary measures fail to capture other important aspects of individual's well-being such as public goods, community resources, social relations, culture, security and the natural environment. Recently McKinley (1997) has proposed a system of complementary poverty measures which focus on *capability* poverty, incorporating access to public services, assets and employment, as well as *income* poverty, covering the ability to 'purchase' food, clothing and shelter.

Capability poverty focuses on an individual's capacity to live a healthy life, free of avoidable morbidity, having adequately nourishment, being informed and knowledgeable, being capable

---

[6]   There is an extensive literature on this. See for example Sen (1977), Atkinson (1987, 1989) and Ravallion (1994).

[7]   See Lanjouw (1997) for a discussion of the poverty line in the Central Asian context and Olsen Lanjouw (1997) for a more general discussion on poverty lines per se.

of reproduction, enjoying personal security, and being able to freely and activity participate in society. Material resources at some level are generally necessary for some of these activities but they alone are not sufficient. Therefore capability poverty goes beyond income poverty in terms of measuring actual well-being. Moreover it is argued that the capability approaches puts the emphasis on people as active agents, with abilities and capacities in contrast to the income, or basic needs approach, which tends to see them in a more passive role, in need of certain goods and services (McKinley, 1997).

Capability poverty can be measured *directly* in terms of capabilities themselves: e.g. the percentage of children who are underweight or the percentage of adults who are illiterate; or indirectly in terms of access to opportunities, or the means of capabilities, such as access to clean water and sanitation, access to trained health personal at birth, and access to other public services.

Below we discuss the available evidence on material poverty – as measured by income and expenditure – before turning in sections 4, 5 and 6 to other dimensions of poverty and well-being.

3.2   Trends in 'material' poverty

3.2.1   Poverty before transition

Poverty did not officially exist under the Soviet system, although there were 'maloobespechenny' (or 'under-provisioned') families. The concept of a subsistence minimum to determine who was under-provisioned was not used. Instead a 'minimum consumption basket' that reflected the *socially acceptable* minimum for a community was applied[8]. In 1989 the national 'social minimum' calculated by Goskomstat was around 81 rubles per month.

Atkinson and Micklewright (1992) chose to take 75 rubles as the national 'poverty threshold'. Taking the Union as a whole, 31 million people, or 11 percent of the population, were estimated on the basis of the Family Budget Survey to be poor by this standard (Table 7). The proportion living in poverty however varied considerably across the Republics, with over half of those living in

---

[8]   This basket allowed for a generous level of consumption of both food and non-food items and contained relatively high proportions of high cost foods such as animal fat and meat .

Tajikistan having a per capita income of less than 75 rubles compared to just 2 percent in Estonia.

Table 7: Summary statistics for poverty within the Soviet Union by Republic, 1989

	Percent of republic population with per capita monthly income below 75 Rbs, 1989	Share of total persons in USSR with per capita monthly income below 75 Rbs, 1989
Russia	5.0	23.3
Lithuania	2.3	
Latvia	2.4	0.6
Estonia	1.9	
Ukraine	6.0	9.8
Belarus	3.3	1.1
Moldova	11.8	1.6
Georgia	13.0	2.2
Armenia	14.3	1.5
Azerbaijan	33.6	7.5
Kazakhstan	15.5	8.1
Kyrgyzstan	32.9	4.5
Tajikistan	51.2	8.4
Turkmenistan	35.0	3.9
Uzbekistan	43.6	27.6
All USSR	11.0	

Source: Table 8.4 and Figure 8.10 in Atkinson and Micklewright (1992).

Together the Central Asian republics contained just over half of all the poor, whilst accounting for only 17 percent of the Soviet population. Since households in Central Asia tend to be bigger than in the European republics, per capita income may tend to exaggerate differences in living standards between the republics. At the same time differences in prices across the republics are ignored by the single cut off measure of 75 roubles and prices were higher, on average, in Central Asia than in many of the other republics which would imply that living standards were overestimated in the region (Atkinson and Micklewright, 1992). Whatever the case, it appears from Table 7 that it would be untrue to say that poverty was unknown in Central Asia *before* the transition.

3.2.2 Poverty during transition

The transition to a market economy may not have originated poverty in the CARs, but it exacerbated the existing problem for the 'old poor' and gave rise to new groups of poor. Figure 2 shows the current distribution of absolute poverty across the region, measured as the share of the population living below a poverty line of US$ 4 PPP per person per day[9].

Figure 2: Population in poverty (under $4ppp per day)

Source: UNDP (1997)
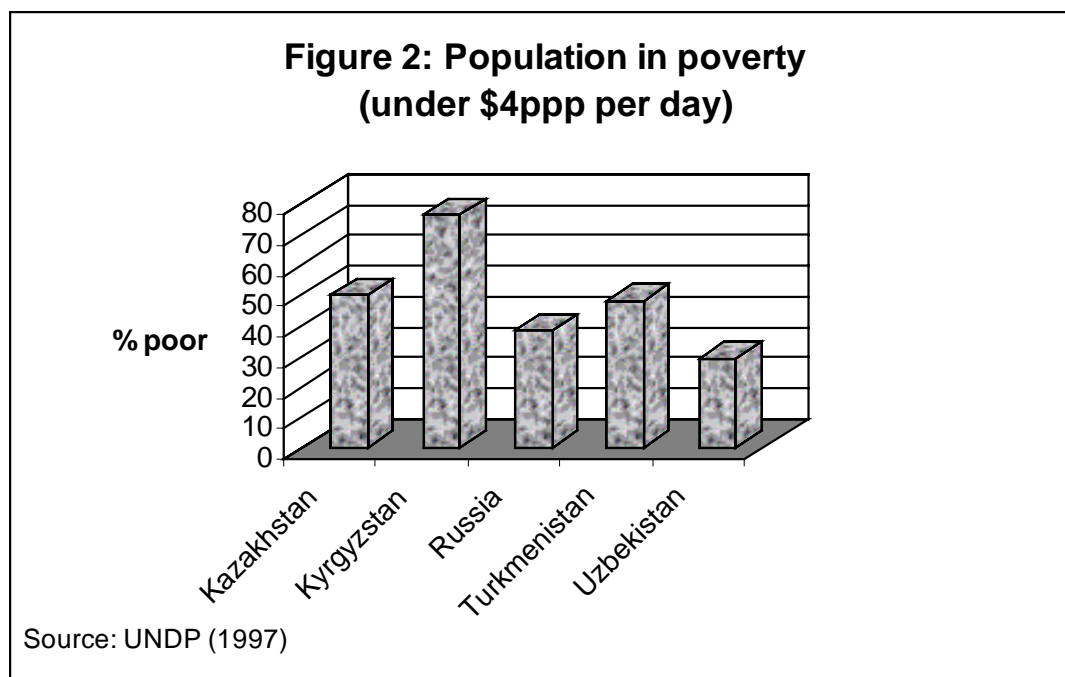
Applying the same poverty line of four international dollars per capita per day at 1990 prices, Milanovic (1998) has used data from the FBS to compare poverty before and after transition. Two things stand out. First, poverty before transition is much lower using this standard than was found to be the case using the Soviet social minimum, as in Table 7. For example pre-independence poverty in Uzbekistan is 44 percent by the Soviet minima and 'only' 24 percent using four international dollars. This is not surprising as Milanovic's poverty line is equivalent to only 54 rubles, over 20 rubles lower than the 75 ruble threshold used by Atkinson and Micklewright. Secondly, Table 8 clearly demonstrates that there have been significant increases in poverty since transition with rates in the CARs around 50 percent, except

---

[9]   The amount of $PPP 4 per capita per day is used by UNDP in the Human Development Report (1997). This is a relatively high poverty line. The World Bank definition of absolute poverty is $1 a day.

in Kyrgyzstan where the headcount measure was 'an unrealistically high' 84 percent (Milanovic, 1998).

Table 8: Estimated proportion poor 1987-88 and 1993-94 (poverty line = $PPP 120 per capita per month at 1990 prices)

	Percentage of population in poverty		Total number of poor (in millions)	
	1987-88	1993-94	1987-88	1993-94
Kazakhstan	5	50	0.8	8.5
Kyrgyzstan	12	84	0.5	3.8
Turkmenistan	12	57	0.4	2.2
Uzbekistan	24	47	4.8	10.0
Russia	2	43	2.2	64.2

Source: Table 5.2, Milanovic (1998).

We have already discussed the difficulties with both the FBS and the dubious accuracy of data concerning income in Section 2 above. These problems take on particular significance with regard to the measurement of poverty and a more reliable picture of the present situation may be provided by analysis of the LSMS. Results from these shown in Table 9 below.

The estimates in Table 9, based on per capita household expenditures, are somewhat lower than those based on the FBS data by Milanovic (shown in Table 8). This may be due to problems in the measurement of income as well as the choice of poverty line. In Azerbaijan, around three out of five households were found to be living in poverty in 1995 (World Bank, 1997a) and in Kazakhstan one in three individuals were poor (World Bank, 1998).

Kyrgyzstan is the only country for which there is currently data over time. The survey evidence clearly shows both an increase in headcount poverty over time, from 40 percent in 1993 to 61 percent in 1996 and a worsening distribution of poverty among the poor. This is somewhat surprising as we saw that inequality, as measured by the Gini coefficient, fell over the same period. Poverty and inequality do not necessarily have to move hand in hand but they usually do. It may be that the quality of data collection improved over time, with a concomitant reduction in the number of extreme observations.

Table 9: Poverty indicators in the Central Asia Republics

	Poverty rate (% poor)	Poverty gap	Poverty indicator	Gini coefficient
Azerbaijan (1995 ASLC) [1]				
households	61.5	24.3[1]	12.6	0.347
individuals	68.1	27.6	14.4	
Kazakhstan (1996 KLSS) [2]				
households				0.35
individuals	34.6	11.4	5.2	
Kyrgyzstan (Spring 1996 KMPS) [3]				
households	60.5	31.4	20.6	0.46
individuals	68.7	36.8	24.5	
(1993 KMPS) [3]				
households	39.7	19.5	12.6	0.58
individuals	45.4	22.7	14.9	

Notes: [1] Welfare indicator: household food expenditures fall below the value of the food poverty line; [2] Welfare indicator: per capita household consumption. Poverty line: Government's subsistence minimum (prozhitochnyi minimum); [3] Using the 'high cost' poverty line and total household expenditure as welfare indicator.
Sources: Coudouel, 1998; World Bank, 1995, 1997a, 1998b; Mimeo: Kyrgyzstan Analysis Report, Spring 1996 LSMS.

Elsewhere in the region poverty is also widespread. Uzbekistan appears to be in the most favourable position with overall incidence of poverty at 'only' 30 percent in 1995, estimated from a household survey conducted by the European University Institute (Coudouel, 1998). The 1996 UNDP Report for Turkmenistan estimates that over half the population are now poor. There is no reliable evidence of the extent and depth of poverty in Tajikistan, although a recent survey carried out by ECHO in August 1997 found one in every six households to be 'food insecure' (Freckleton, 1997). It is estimated that as many as 85 percent of the population of 6 million could be considered poor, and of these 700,000 (12 %) are extremely poor and a further 300,000 (or 5 % of the population) are 'helplessly destitute' (Mills, 1998). The situation in Tajikistan is therefore urgent.

A critical question if poverty is to be reduced is which groups in society are most at risk of being or becoming poor.

> ➢ Prior to independence the CARs were amongst the poorest republics in the Union.
> ➢ Since independence poverty has risen significantly.
> ➢ Poverty rates are around
>   - 30 percent in Uzbekistan
>   - 35 percent in Kazakhstan
>   - 50 percent in Turkmenistan
>   - 60-70 percent in Azerbaijan and Kyrgyzstan
>   - over 80 percent in Tajikistan.

3.3 Who are the poor? Trends in social inequality: vulnerable groups

In the past, 'under-provisioned' families were typically portrayed as pensioners living alone, single parent families or families with large numbers of children (Braithwaite, 1995). Atkinson and Micklewright also found that poverty was higher amongst collective farm households, although this may be the result of understatement of income from private plots.

A detailed socio-economic profile of the poor is available in the three countries for which LSMS data is available. In addition data from the EUI survey can be used to obtain a picture of the poor in Uzbekistan.

3.3.1 Family and Household structure

Poor households are generally larger than non-poor households. In Kazakhstan households in the bottom quintile of the consumption distribution have an average of 4.5 members compared to slightly less than 3 in the top quintile. In Azerbaijan very poor families have an average of 5.7 people, against 4.1 people for the non-poor. Similarly in Kyrgyzstan the average size of poor households was 5.4 compared to 4.7 for all households (World Bank, 1995, 1997a, 1998).

However, the relationship between poverty and household size is not straightforward. It would be expected that an increase in the number of adults would tend to reduce the risk of household poverty since the number of adults should affect the earnings potential of the household. This is indeed found to be the case in Kyrgyzstan with individuals from households with 3-4 adults having lower relative poverty rates than individuals with only two adults, no matter how many children are also present in the household (Ackland and Falkingham, 1997).

Therefore, it is households with *a large number of children* (rather than people) that are most at risk of poverty. In Azerbaijan, very poor households contained twice as many children as non-poor households, whilst in Kazakhstan those households in the bottom quintile had, on average, two-thirds more children than those at the top. Families with young children were disproportionately represented in the lower quintiles, with over 40 percent of bottom quintile households having small children compared to less than a quarter of all households (World Bank, 1998).

Surprisingly, pensioners in general were not found to face a significantly higher risk of poverty. In fact, in Kyrgyzstan in both 1993 and 1996 it was found the pensioner-headed households in urban areas actually faced a lower risk of poverty than other groups. On the face of it therefore it appears that pensions may be acting as a protective factor helping to keep older people out of poverty. However, we should be careful about drawing conclusions from this, as pensioners are not a homogeneous group. Pensioners who live alone and those who have no other source of income other than their pension were found to face a much greater risk of poverty than others (Ackland and Falkingham, 1997).

3.3.2 *Rural or Urban poverty*

Poverty is higher in rural areas in all countries with data. According to the Kazakhstan LSMS 30 percent of the urban population is poor whilst the figure for rural areas in 39 percent. In Kyrgyzstan rural households were over 1.6 times more likely to be living in poverty than urban households.

Residence in urban areas outside the capital was also found to be significant in both Kyrgyzstan and Uzbekistan (Coudouel et al 1997).

While poverty in urban areas is generally lower than in rural areas, one group of urban dwellers are generally believed to be poorer than most. These are residents of *one-company towns* where the entire labour force was dependent on one or a few enterprises during Soviet times and which have since closed. These communities face particular difficulties as local unemployment rates are extremely high, those still working are often subject to short hours or administrative leave and the prospects for alternative work are bleak.

3.3.3 Poverty and Education

In theory one would expect an association between a household's ability to avoid poverty and its asset holdings – including it's human capital. In studies elsewhere, it is common to find a strong correlation between level of education and poverty. The survey data in Kyrgyzstan do point to some association with education. However, it is not linear – with those experiencing the greatest risk of poverty having secondary education relative to higher education or just primary education (Ackland and Falkingham, 1997). This relationship is also found in Uzbekistan (Coudouel, 1998). In Azerbaijan and Kazakhstan education and poverty are inversely correlated but the association is relatively weak. This may reflect both recent economic dislocation with all groups being hit regardless of education, and perverse incentives in the labour market to human capital acquisition. Under the Soviet system many of the best educated (such as teachers and professional workers) had very low paying jobs. It may be that recently acquired university education will result in greater returns than before.

Employment was also found *not* to be a guarantee against poverty, although the results in Kyrgyzstan and Kazakhstan do suggest that having a job is better than being unemployed or not in the labour force at all. The low differentials in poverty rates between workers and the unemployed indicate substantial wage arrears and large numbers on workers on unpaid leave or short time. They may also, however, be indicative of under-reporting of wage income and the growing role of informal sector activities in protecting living standards. Nevertheless, it does appear to be the case that in all countries there is now a substantial group of 'working poor'.

3.3.4 Poverty and Gender

At first glance, the gender of the household head was *not* found to be significantly correlated with poverty in any of the CARs. However, there are a number of compounding factors that may be obscuring the picture. Firstly, female headed households tended to be smaller and older than other households, factors associated with a lower risk of poverty. Also, female-headship may be acting as a proxy for region. In rural areas, which have higher poverty, the head would typically be a man. Once we control for these factors, a difference picture emerges. In Kyrgyzstan female headed

households in urban areas were much more likely to be poor than the average.

Survey data reveal other gender inequalities. Results from the Azerbaijan LSMS show significant gender disparities in wages between men and women. This is not a new phenomenon as gender wage differentials in the Soviet period were around 30 percent (i.e. women earned 70 % of male earnings) (Ofer and Vinokur, 1992). However, it appears that these differentials have not only persisted after independence, but have actually widened. Although the results do not control for the number of hours worked, women earned on average around 40 percent of the wages of men (World Bank, 1997a). In Kazakhstan in 1996, official wages in the female-dominated sectors (education, health care) were about half the official average wage (World Bank, 1998). Women also appear to have suffered a sharper fall in labour force participation than men (Klugman and Scott, 1997). Men, however, have borne the cost of transition in other ways, particularly with regard to mortality, which we discuss below.

The characteristics associated with low household welfare in the CARs are:
➢   large family size, especially those with a high number of children
➢   living in a rural area or outside the capital
➢   one-company towns
➢   secondary level of education (relative to primary or university)
➢   unemployment and periods of unpaid leave.

4.   Other dimensions of well-being – changes in capability-based indicators

It has sometimes been argued that estimates of output in transition economies are unreliable and that the declines in income and rises in poverty are exaggerated (Griffin, 1998). It is useful, from this point alone, to look at other types of evidence concerning other dimensions of poverty to get a fuller picture of the changes in welfare during transition. Examining trends in capability-based indicators relating to the health and education of the population

also allows us to directly assess the consequences of transition for human development.

4.1 Health in Central Asia

4.1.1 Mortality

The negative impact of the transition process on the health of the population of Central Asian is clear across a number of morbidity and mortality indicators. The most fundamental measure of the well-being of a population is how long its members can expect to live on average.

Figure 3: Change in life expectancy at birth (years), 1991-1995

Source: UNICEF (1998)
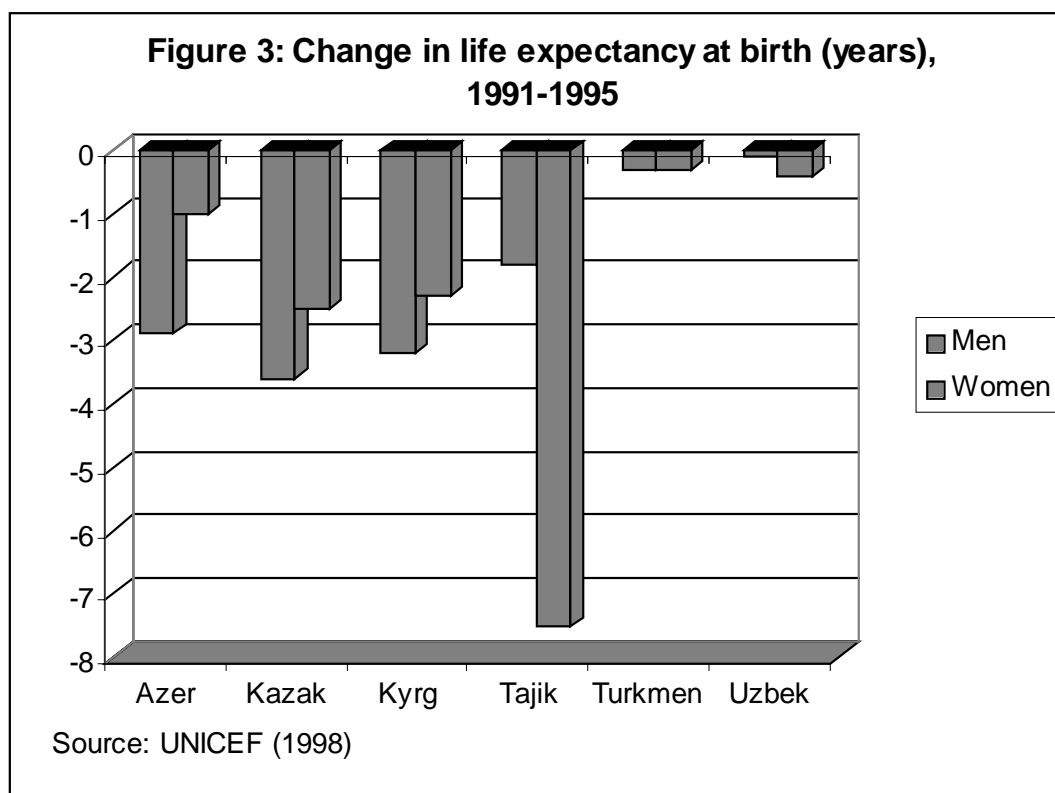
Figure 3 shows that life expectancy at birth fell between 1991 and 1995 in all of the republics. The deterioration in life expectancy was greater amongst the fast reformers and higher among men rather than women, with the exception of Tajikistan where the country has been are affected by armed conflict for much of the period. Over a four year time period, Kazak male life expectancy fell by 3.6 years to 59.7 in 1995. This compares to a fall of 2.5 years for Kazak women, to a life expectancy in 1995 of 70.4 years. Similar patterns are evident for Kyrgyzstan, and there is a large gender differential in Azerbaijan. These patterns are consistent with evidence for Russia and Central and Eastern Europe (McKee,

1998), although the falls in male life expectancy have not been as great as those experienced in Russia.

There is some evidence that life expectancy has now begun to recover in those countries where figures are available. Life expectancy for men in Kyrgyzstan in 1996 was 62.3 compared to 61.4 a year earlier.

Table 10: Trends in infant mortality rate (per 1,000 live births)

	1991	1992	1993	1994	1995	1996
Azerbaijan	25.3	25.5	28.2	25.2	23.3	
Kazakhstan	27.4	26.1	28.4	27.2	27.3	25.4
Kyrgyzstan	29.7	31.5	31.9	29.1	28.1	25.9
Tajikistan	40.6	45.9	47.0	40.6	30.9	31.8
Turkmenistan	47.0	43.6	45.9	46.4	42.2	
Uzbekistan	35.5	37.4	32.0	28.2	26.0	24.2

Source: TransMONEE database 3.0; UNICEF, *The State of the World's Children 1998* (1998)

The negative trends in life expectancy are, in part, related to changes in infant mortality. The trends in infant mortality presented in Table 10 show that nearly all the Central Asian republics, and Azerbaijan, experienced sharp rises between 1991 and 1993, and then improvements between 1993 and 1996. Turkmenistan and Tajikistan have the highest infant mortality rates among the republics, with 42.2 (1995) and 31.8 (1996) respectively[10].

Changes in reporting practices, such as the failure to report births and deaths of infants in the first weeks of life, may mask more dramatic changes. Becker, Hemley and Urzhumova (1996) investigated the trends in Kazakhstan and suggested that infant mortality rates were underestimated in the mid 1990s due to under reporting. This may also be the case elsewhere in the CARs.

---

[10] Recent figures indicate that the infant mortality rate has risen particularly sharply in Tajikistan, reaching a level of 53.4 per 1,000 live births in 1997 (Mills, 1998). These rates reflect the impact of the civil conflict and in particular poor maternal health, poor nutrition, poor sanitary conditions, infectious diseases, a lack of pharmaceuticals, low quality medical care, and fragmented health services regionally.

Uzbekistan experienced a slight worsening between 1991-92, from 35.5 to 37.4, but since then infant mortality rates have improved, reaching 24.2 in 1996. Once more, we see Uzbekistan occupying a better position relative to the other republics on the 'transition welfare hierarchy' of prosperity and disadvantage. This improvement may be associated with the marked rise in contraceptive use; a rise which has resulted in fewer births, longer spacing between births and a lower birth rate among women over thirty-five (UNDP, 1996)[11].

Indices of women's health in the CARs are, on average, significantly worse than in developed countries, although they have followed diverse paths from each other during economic transition. Maternal mortality rates (MMR) are particularly high in Tajikistan, at 74.0 per 100,000 live births (1993), Kazakhstan, 52.9/100,000. (1996), Azerbaijan 44.1/100,000 (1996) and Turkmenistan 44.4/100,000 (1993). This compares to an average MMR of under 10 in most countries of the European Union. Prior to independence, rates in Kyrgyzstan were of a similar magnitude to her neighbours, 55.6/100,000 in 1991, but since then rates have improved to 31.5 in 1996. This is almost certainly a direct result of a new reproductive health programme. Maternal mortality has also fallen significantly in Uzbekistan (from 30.1 in 1992 to 18.9 in 1995), again largely the result of increased contraceptive use and better reproductive health.

4.1.2 Health status

Evidence on morbidity, rather than mortality, is limited and most of the available data relates to the incidence of particular diseases. There is no consistent series across the region on chronic morbidity, self-reported general health status or importantly during the stress of a transition period, psychological well-being (although trends in suicides do give some indication of extreme psychological stress).

The last six years have witnessed a growth in incidence of diseases related to poverty and economic disadvantage. The unusually high incidence of tuberculosis in Azerbaijan, Kyrgyzstan and Kazakhstan in Table 11 and Table A.3(b) reflects the extent of the plight of the poor. TB rates peaked in 1993 in

---

[11]   Contraceptive use increased from 12% of women of child-bearing age in 1990, to 21% in 1991, 33% in 1993, to 38% in 1995 (UNDP, 1996).

Azerbaijan and Kazakhstan, but have continued to rise in Kyrgyzstan reflecting a deepening of poverty. Mortality rates by respiratory diseases for children under five (Table A.3(h)) also rose between 1991 and 1993. Since then child cause-specific death rates have recovered, but standardised death rates from this cause continued to rise (Table A.3(i)).

Table 11: Changes the incidence of Tuberculosis and Syphilis in Central Asia since independence (new cases per 100,000 population)

	Tuberculosis			Syphilis		
	1991	**1996**	**% change 1991-96**	**1991**	**1996**	**% change 1991-96**
Azerbaijan	37.5	49.7	+33%	4.0	7.8 [2]	+ 195% [2]
Kazakhstan	64.4	82.3	+ 28%	2.1	231	+11,000%
Kyrgyzstan	56.9	87.2	+53%	2.1	137	+6,524%
Tajikistan	38.4			1.6	12	+750%
Turkmenistan	61.2	42.1 [1]	-31% [1]	5.4	28	+518%
Uzbekistan	45.8	43.5 [1]	-5% [1]	1.9	24	+1,263%

Notes: [1] 1995; [2] 1993.
Source: Renton and Borisenko (1998).

There has been a spectacular increase in the reported incidence of syphilis and gonorrhoea in a number of countries (Renton and Borisenko, 1998). In Kazakhstan new cases of syphilis have increased 100-fold since 1991. These trends are a stark reflection of the multiplicity of economic and social shocks experienced in the region. The rise of sexually transmitted diseases is particularly worrying as the incidence of HIV/AIDs has been found to follow the trends in STDs in other countries.

4.1.3 Health care services
A number of indicators of the level of health care services such as the number of hospital beds per 1,000 population, have fallen in the Central Asian republics between 1991-1995 This is not, however, necessarily an indicator of declining access to services. Prior to independence, the Soviet style health care system was characterised by widespread access, combined with inefficient use of resources – reflected by long inpatient stays, a high number of hospital beds and, by international standards, a high ratio of

medical staff to patients. Independence has brought about a shift from in-patient care to day care or out-patient activities, which have reduced costs and improved efficiency levels.

However, it is not clear whether the *quality* of the health care received by people themselves has improved or worsened. It is clear that routine child immunisation fell in early years of independence in some of the CARs. For example, in Kazakhstan the proportion of children immunised against measles fell from 93.7% in 1989 to 72.0% in 1994/5 whilst in Uzbekistan they decreased from 80.9% to 71.0% across the same period. In Tajikistan the DPT immunisation rate of children under 2 years (against diphtheria, pertussis and tetanus) fell from 87.9 in 1989 to 82.0 in 1993. However immunisation rates rose elsewhere in the region.

There is some evidence that access to health care is being affected by the increase in private (informal) payments for health care. Abel-Smith and Falkingham (1995) found that one in four persons incurred a charge for a medical consultation in Kyrgyzstan. State-sector facilities charging for supposedly free services is also a common practice in Uzbekistan (Pomfret and Anderson, 1997). By far the most significant item of private medical expenditure is on drugs and medical supplies. Real government expenditure on pharmaceuticals has declined dramatically across the region, leaving low income households vulnerable. Abel-Smith and Falkingham (1995) estimated that, in Autumn 1994 for all households, except those in the top quintile of the income distribution, the average costs associated with an inpatient stay exceeded the average *total* monthly income of the household. Thus one episode of poor health by one member can put a household under severe financial stress. Similarly Lubin (1995) reported that surgery in good clinics in Uzbekistan in 1993 cost over a tenth of average annual salary.

> ➢   Health status has deteriorated in some of the CARs – particularly Tajikistan, Kazakhstan and Kyrgyzstan, whilst elsewhere there have been improvements Uzbekistan.
> ➢   Life expectancy fell between 1991 and 1995 in all countries and the fall has been greater for men than women.
> ➢   Infant mortality also worsened up to 1993. Since then there has been improvement in all countries except Tajikistan where it has continued to rise sharply.

> ➤ Maternal mortality rates are particularly high in Tajikistan, at 74.0 per 1000,000 births (1993), 52.9 (1996) in Kazakhstan, 44.4 (1993) in Turkmenistan, and 44.1 (1996) in Azerbaijan.
>
> ➤ The last six years have witnessed a growth in incidence of diseases related to poverty and economic disadvantage – such as tuberculosis in Azerbaijan, Kazakhstan and Kyrgyzstan (the early reformers).
>
> ➤ There has been a dramatic rise in STDs, with worrying consequences for HIV/AIDs.
>
> ➤ There is evidence of access to health care is being affected by the growth in private (informal) payments for health care. State-sector facilities charging for supposedly free services becoming commonplace and patients are often expected to buy the necessary drugs and medical supplies. The higher the cost of health the greater the barrier to access.

4.2   Education and human capital

As we saw in Table 1, the countries of the FSU, including Central Asia, began the transition with near-universal literacy and the work-force included significant numbers of highly trained scientific, technical, medical and other professional specialists. Although many of the teaching methods and curriculum might have been questionable by today's western standards there is no doubt that the level of human capital was significantly higher than elsewhere in the region.

Tables 3 and 4 in Section One highlighted the drop in government expenditure on both education and health services. These falls in real spending are in turn reflected in the changes in enrolment rates presented below. The trends shown in Table 12 indicate that several of the countries of Central Asia have suffered serious reversals in education between 1991 and 1996.

Table 12: Changes in school enrolment rates (% of the relevant age group) in Central Asia since independence

	Pre-primary enrolment rate			Basic education		
	1991	**1996**	**% change 1991-96**	**1991**	**1996**	**% change 1991-96**
Azerbaijan	20.6	13.8	-33%	91.2	86.7 [1]	-5% [1]
Kazakhstan	52.5	23.5 [1]	-55% [1]	92.7	90.0	-3%
Kyrgyzstan	26.7	8.0	-70%	84.5	76.4	-10%
Tajikistan	14.0	9.4 [2]	-33% [2]	94.2	86.4 [2]	-8% [2]
Turkmenistan	32.8	30.1 [2]	-8% [2]	89.5	89.1 [2]	
Uzbekistan	35.1	24.0	-32%	87.9	88.6 [2]	+1% [2]

	General secondary			Tertiary		
	1991	**1996**	**% change 1991-96**	**1991**	**1996**	**% change 1991-96**
Azerbaijan	34.5	28.1	-19%	9.2	11.0 [1]	+20% [1]
Kazakhstan	32.3	24.8	-23%	13.4	12.9	-4%
Kyrgyzstan	36.7	27.3 [1]	-26% [1]	10.4	12.9	+24%
Tajikistan	37.7	22.3	-41%	9.4	9.4	
Turkmenistan	37.5	35.6 [2]	-5% [2]	7.9	7.3 [1]	-8% [1]
Uzbekistan	36.5	27.0	-26%	9.4	5.0	-47%

Notes: [1] 1995; [2] 1994.
Source: TransMONEE database 3.0; UNICEF (1998), *The State of the World's Children* 1998.

The most worrying negative trend is the marked decline in the proportion of children enrolled in pre-primary school (Figure 4). Prior to independence attendance at kindergarten was widespread. About one half of children in the target age group were enrolled at kindergartens in Kazakhstan, around a third in Uzbekistan and Turkmenistan and a quarter in Kyrgyzstan. Enrolment was lowest in Tajikistan at less than one sixth. Since then rates have fallen dramatically in both Kyrgyzstan (down by 70%) and Kazakhstan (down 55%). This is in part due to the closure of enterprise based (employer-provided) kindergartens. However enrolments have fallen by more than the drop in capacity suggesting a fall in demand for kindergarten places as well as their supply (Klugman et al, 1997).

Figure 4: Kindergarten enrolment rate, 1991-1996

Source: UNICEF (1998)
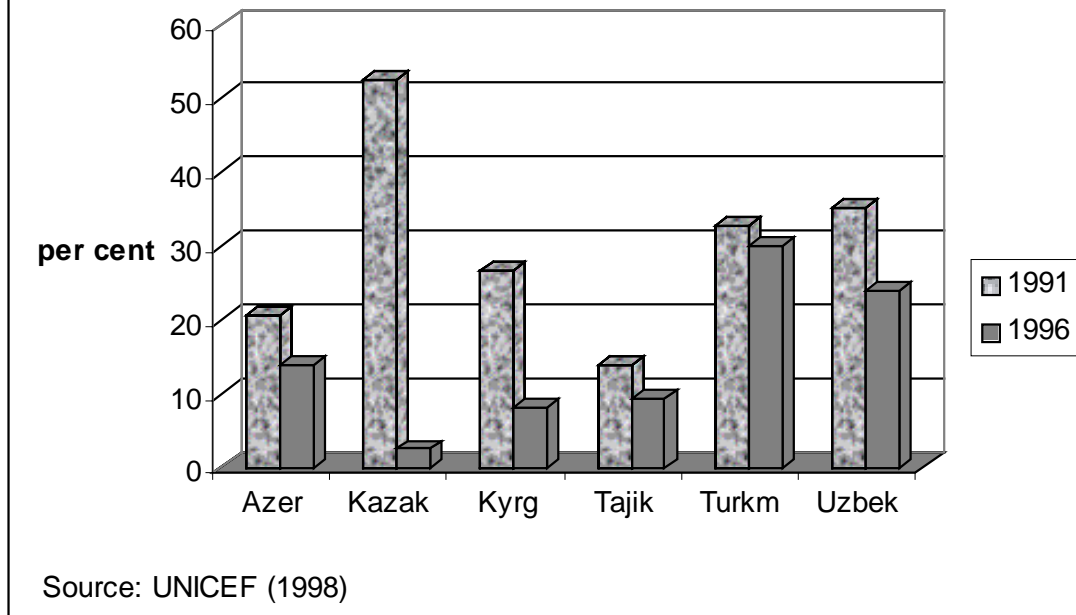
Declining enrolment in kindergartens in Central Asia is of particular concern given the role that kindergartens can play in raising household welfare, both in terms of freeing the parent to participate in other activities, specifically paid employment, and the developmental role of pre-school education and nutritional and health interventions (Klugman *et al*, 1997).

Primary education continues to be compulsory, and enrolment rates have remained high, although they have declined from the near universal levels of the Soviet era. In Kyrgyzstan enrolment in primary schools fell by a worrying 10 percent between 1991 and 1996. Furthermore, enrolment rates tell only part of the story. There is a growing problem of declining school attendance. In the past school children were routinely mobilised to help with the harvest, but evidence from Azerbaijan shows that today's absences are qualitatively different from the past, with some regions reporting more than 40% of children taking extended absences from their studies or staying away from school altogether. In part this is due to increased child labour, particularly in rural areas. However the poverty of families has also become a barrier to school attendance. The meaning of 'free' education has shifted. The real costs of education faced by families have risen as the cost of textbooks, supplies, meals and transportation are increasingly being passed onto the student, with the result that

many poor parents can no longer afford to send their children to school.

The drop in general secondary education enrolment is particularly disquieting. There have been substantial declines across the region with enrolment rates down by 40 percent in Tajikistan and by a quarter to a fifth elsewhere (except in Turkmenistan). In contrast there has been significant growth in higher education in both Azerbaijan and Kyrgyzstan. In Kyrgyzstan, where both primary and secondary enrolment is declining eight new universities and over two dozen colleges have been established. Virtually all of the growth in tertiary education has been in the private sector with a proliferation of private colleges in fields that were under-represented in the past – most notably business studies, economics and law.

With rising costs at both school and college it is difficult to resist the conclusion put forward in a recent UNDP report that the education systems in Central Asia are coming to reflect the increasing social stratification these societies. It is imperative that the growing poverty and stratification outlined in Sections 2 and 3 do not result in the re-emergence of illiteracy and the cycle of deprivation and social exclusion that accompany it.

> ➢ The countries of Central Asia have suffered serious reversals in basic education between 1991 and 1996
> ➢ There has been a marked decline in the proportion of children enrolled in pre- school, primary schools and general secondary schools.
> ➢ The poverty of families is becoming a barrier to school attendance. The real costs of education have risen as the cost of textbooks, supplies, meals and transportation are increasingly being passed onto the student. Many poor parents can no longer afford to send their children to school.

5.   Demographic indicators

Trends in life expectancy and mortality have already been examined in the context of the health of the population. However, trends in the patterns of family formation and dissolution have historically been found to provide a good barometer of the level of psycho-social stress in society. Malthus, writing as early as 1802,

noted that as real wages fell, the level of marriages in society also fell and this in turn was matched by a drop in fertility. Perceptions about current and future changes in welfare can all affect individuals' decisions to marry, divorce and have children – with increasing uncertainty reflected in falling marriage and birth rates.

Table 13: Selected Demographic Indicators in Central Asia since independence

	Crude birth rate			Total fertility rate		
	1991	1996	% change 1991-96	1991	1996	% change 1991-96
Azerbaijan	27.0	20.0	-30%	2.9	2.4	-17%
Kazakhstan	21.1	15.4	-27%	2.7 [1]	2.4	-11%
Kyrgyzstan	29.3	23.7	-19%	3.7	3.0	-19%
Tajikistan	38.9	22.0	-43%	5.0	4.0	-20%
Turkmenistan	33.6	24.0	-29%	4.1	3.7	-10%
Uzbekistan	34.5	27.3	-21%	4.2 [1]	3.6	-14%

	Crude marriage rate			General divorce rate		
	1991	1996	% change 1991-96	1991	1996	% change 1991-96
Azerbaijan	10.4	5.2	-50%	14.4	14.5	+1%
Kazakhstan	9.9	6.2	-37%	29.5	39.5	+34%
Kyrgyzstan	10.6	5.7	-46%	19.0	25.1	+32%
Tajikistan	10.3			13.4	13.5 [2]	+1%
Turkmenistan	10.8	7.4 [2]	-31%	14.4	18.0 [2]	+25%
Uzbekistan	12.9	7.4	-40%	12.3	12.4 [2]	+1%

Notes: [1] 1990; [2] 1995.
Source: TransMONEE database 3.0; UNICEF (1998), *The State of the World's Children* 1998.

Table 13 and Figure 5 show trends over the last five years in key indicators of family formation. In every country in the region marriages have fallen dramatically, with the marriage rate halving in Azerbaijan and falling by at least a third elsewhere. The fall in births has been equally startling, with birth rates down by between 20 – 40% and the total period fertility rate (which take into account changes in the size of the population of reproductive age) down by between 10 – 20%.

Figure 5: Change in crude marriage and divorce rates, 1991-1996
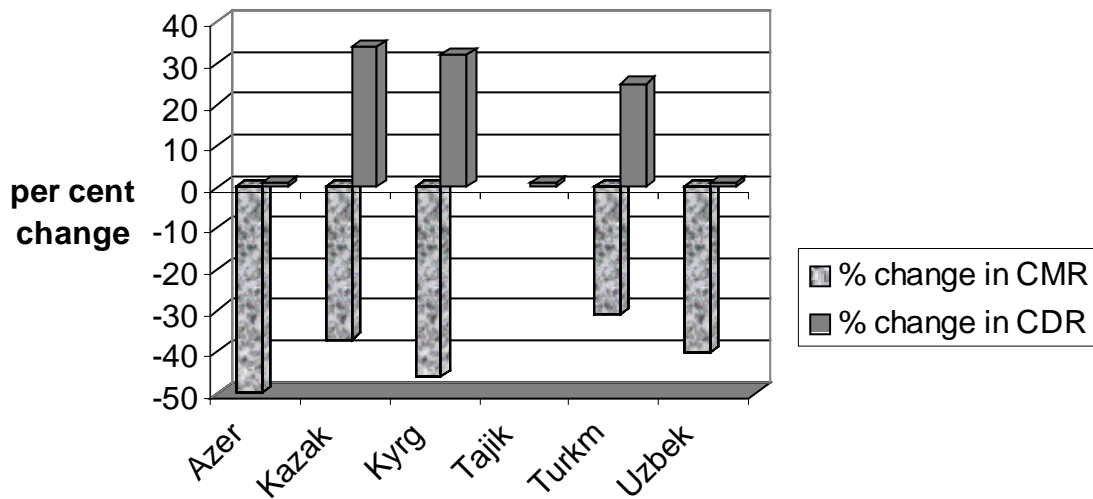
Source: UNICEF (1998)

A number of explanations for this trends have been put forward. The most straightforward is that the contraction in the number of marriages and births shown in Table 13 is simply a continuation of trends that were well underway *before* independence. Certainly fertility in all countries in the region had been decreasing steadily from the mid 1970s, with the total fertility rate falling from 6.3 in Tajikistan in 1975/6 to 5.5 in 1985 and 5.0 in 1991, and from 5.7 to 4.6 and then to 4.4 in both Uzbekistan and Turkmenistan (Haub, 1994). However, the falls in births since independence have been much sharper, over a shorter time period. Moreover marriage in Central Asia was, until recently, virtually universal. In 1990 of women aged 30-34 living in Kazakhstan only 7% were never married, and respective figures were even lower elsewhere in the region – being 4% in Kyrgyzstan and 3% in Tajikistan, Turkmenistan and Uzbekistan (Haub, 1994). Trends in the crude marriage rate during the 1980s were, if anything, upwards rather than downwards. Therefore it is fair to say that recent trends *do* reflect a significant shift in demographic behaviour. In fact, such changes in demographic indicators are historically unprecedented outside areas affected by famine or war.

Alternative explanations for the fall in fertility include the rapid diffusion of 'individualistic' western values and reproductive behaviour following the opening up of Central Asia

to the West, combined with the erosion of pro-natalist measures that were implicit in the Soviet system such as generous maternity leave, extensive child care and child benefits. Certainly reductions in, if not the complete elimination of, the latter has significantly increased the private costs of childcare. However, Cornia and Paniccia (1995, 1996) argue persuasively that recent trends in the Eastern Europe and the European republics of the Former Soviet Union are too marked to be explained by such theories and that the dramatic demographic adjustment being experienced in those countries is the direct response to economic shock.

Similarly, Haub argues that *'the recent birth dearth ... is a direct result of the collapse of the economy and a general lack of confidence in the future'* (p.14, 1994). A detailed econometric investigation of the type carried out for the European republics has yet to be conducted for Central Asia but evidence from qualitative studies offers supporting evidence for the view that the fall in the birth rate is due to uncertainty and a lack of confidence in the future.

The rise in divorce rate is more difficult to explain. The growth in divorce has been very modest in Azerbaijan, Tajikistan and Uzbekistan and most pronounced in the rapid reformers of Kazakhstan and Kyrgyzstan. On the one hand it could be argued that higher marital breakdown is a sign of increased stress on familial relations, which in turn is related to the struggle to get by on lower incomes, rising unemployment and the general economic uncertainty . However in many instances it has been observed that family breakdown rates actually *fall* during economic recession as the family unit pulls together for survival (Fajth and Harwin, 1997). This makes the trends observed in Central Asia all the more surprising. Higher divorce could also be associated with the greater economic independence of women as market-created opportunities increase.

Although macro-economic indicators show that the economies of Central Asia have bottomed out and that positive economic growth is forecast for all Republics in 1998, *demographic indicators* highlight that the population *still* feels a high level of uncertainty about the future.

➢   Birth rates fell by 20 – 40% between 1991-96
➢   The total fertility rate fell by 10 – 20%.

Marriage rates have decreased whilst divorce rates have risen.

6.   Trends in socio-environmental indicators

Finally, the social environment under which people conduct their everyday life is also central to the physical and mental well-being. Changes in the incidence of crime and increased threats to personal security are a key dimension of this.

Crime rates in the FSU were historically low as strict controls over the movement and activities of the population greatly inhibited criminal behaviour (Fajth and Harwin, 1997). The lifting of these restrictions along with the rapidly deteriorating economic situation has lead to a rapid growth in criminal activity. Table 14 shows the trends in the reported crime and murder rate across the CARs. Official data greatly under-estimate the true extent of crime as only a fraction of crimes are actually reported.

Table 14: Crime and personal security indicators in Central Asia during transition

(a) Reported crime rate (reported crimes per 100,000 pop.)

	1991	1992	1993	1994	1995	1996
Azerbaijan	217.7	309.0	247.5	251.0	268.1	234.1
Kazakhstan	1034.5	1188.4	1219.5	1205.6	1112.0	1117.0
Kyrgyzstan	725.3	985.2	955.0	926.9	915.0	869.2
Tajikistan	338.1	454.0	436.3	248.6	249.0	226.2
Turkmenistan	512.2	444.3	364.4	336.5	328.7	323.6
Uzbekistan	422.9	436.4	410.2	328.7	294.2	284.1

(b) Reported murder rate (reported murders per 100,000 pop.)

	1991	1992	1993	1994	1995	1996
Azerbaijan	5.6	9.0	7.5	7.6	6.2	5.7
Kazakhstan	10.3	12.3	15.3	15.2	14.8	15.9
Kyrgyzstan	8.3	10.5	12.3	12.3	11.9	11.4
Tajikistan	2.7	10.9	23.1	11.1	7.5	
Turkmenistan	8.1	7.3	7.7	7.0	6.0	
Uzbekistan	5.1	5.3	5.2	5.4	5.1	

Source: TransMONEE database 3.0; UNICEF (1998).

Despite the difficulties in data and data collection, reported crime rates have increased in virtually all the Republics, with the

exception of Turkmenistan. Violent crime, has also increased. The reported murder rate which acts as a proxy for violent crime, has risen significantly in both Kazakhstan and Kyrgyzstan but has been stable in Uzbekistan and actually fell in Turkmenistan. Note that the low level of crime reported in Tajikistan should be treated with scepticism[12]. It appears that in countries where reform has proceeded fastest, crime has also risen fastest.

7. Protecting the poor: the way forward?

The preceding sections have painted a bleak picture of falling real incomes, growing poverty, declining life expectancy, deteriorating educational status, greater family break-up and rising crime.

7.1 Current coping strategies amongst the poor

Poor households throughout the CARs are surviving through a variety of coping mechanisms including increased home production of food, expanding informal sector activities and, particularly in the case of Tajikistan, humanitarian aid, as well as payments from the formal safety net.

Howell (1994) classified these strategies into four main groups:

(a)   Reductive strategies – including reduced consumption, not just of luxuries but also of basic items such as meat, sugar and coal.

(b)   Depleting strategies – through the sale of assets, particularly livestock in rural areas but also household goods

(c)   Maintaining strategies – by borrowing from relatives or friends and raising credit from suppliers or producers

(d)   Regenerative strategies – including trade and home production of food and clothing for sale.

---

[12]   The problem of security, or rather insecurity is particularly acute in Tajikistan. The years of conflict have witnessed the emergence of armed gangs and paramilitary groups with power bases built on illegal trafficking and the systematic harassment of the civilian population – inhibiting the ability of the poor to take advantage of new income generating activities. In some areas people claim not to take produce to market due to the bribes they will have to pay out at a series of so-called check-points (Freckleton, 1997).

Evidence on how households across the CARs are actually living with poverty is sparse but what evidence exists points to increasing use of reductive, depleting and maintaining strategies.

In Tajikistan, Freckleton (1997) found that two-thirds of respondents claimed to have made changes to their diets over the last few months, with 26 percent switching to cheaper foods, 12 percent smaller meals, 6 percent fewer meals and 19 percent making a mix of changes. Information on the number of meals eaten per day from the same survey reveals that 14 percent claim to have reduced the number of meals they eat to fewer than three during the last year and a worrying 7 percent have been eating fewer than three meals for over 12 months. Looking forward for the next 6 months, half of all households reported that they would have to shift to cheaper foods to make end meet, a quarter would sell household assets, and a fifth borrow money from others.

Abel-Smith and Falkingham (1995) as part of a study on private payments for health care in Kyrgyzstan, found that 45 percent of rural households who had at least one member experience an inpatient stay in hospital during the previous year had sold livestock to raise the money to pay for that health care (depletive) , 30 percent had borrowed money (reductive) while only 15 percent sold produce (regenerative). Amongst urban households, the most common strategy was to borrow money (40%) and 15 percent had sold valuables.

All of these strategies, (a) – (c), are not sustainable in the longer term. We are already seeing the impact of reductive strategies reflected in worsening indicators of health status and growing malnutrition. Urgent steps need to be taken to put in place a strategy for alleviating poverty and encouraging regeneration.

7.2 Towards a poverty reduction strategy

During the Soviet period there was a comprehensive welfare state, based on the principles of social solidarity. Education and health and other social services care were provided free and, with a guarantee of full employment, unemployment was unknown. For those unable to work there was an extensive system of invalidity and old age benefits, and for families with young children there were generous child benefits. Coverage of benefits was universal and almost every household was eligible for at least one. In addition to cash benefits there were numerous 'benefits-in-kind'

including free pre-school and child care, free or heavily subsidised holiday camps, subsidised housing and utilities, free cultural and sport facilities and generous maternity leaves. Many of these social welfare benefits were delivered via the enterprise.

The economic and social dislocation associated with transition has given rise to new groups of poor in need of social cash transfers. However as we saw in Table 3 and 4 the ability of governments to fund social protection has been severely curtailed. Spending on health and education also adversely affected. Although education and health care in principle remain free (indeed free health care is enshrined in the constitution of several of the CARs) delays in paying doctors, nurses and teachers have given rise to widespread informal charges. Shortages of supplies has meant that payments for drugs and textbooks have put even these basic services beyond the means of the most impoverished families.

Existing systems of assistance to the most vulnerable have come under increasing pressure due to rising numbers of people in need coinciding with tightening fiscal constraints. A new strategy is needed.

7.2.1 Increasing employment opportunities

Just as the drop in output is the main engine behind the growth in poverty, the key to reducing poverty is economic growth. Broad-based growth will both increase wages for those in work and create new employment opportunities. The prospects for growth in Central Asia now look better than at any time this decade. In 1998 positive growth is predicted in all the CARs (EBRD, 1998) [13].

Some types of growth may be better at alleviating poverty than others. Land reform and farm restructuring is needed to stimulate employment-intensive economic growth and increase the incomes of the rural poor. Labour-intensive public works programme could raise the incomes of both urban and rural poor. The establishment of credit unions and microfinance schemes that encourage microenterprises would also do much to alleviate poverty whilst accelerating growth, as could the promotion of small and medium-sized enterprises (SMEs).

---

[13]   See also appendix table A.1 which incorporates the latest EBRD predictions on GDP growth and changes in consumer prices.

Although economic growth and the concomitant increase in employment is a necessary condition for reducing poverty, it is not sufficient. For those who are unable to work, either through health, disability or old age, or because sufficient jobs are not available, a social safety net which provides an *adequate* level of income will be critical.

7.2.2 Improving targeting

In Central Asia, it is not possible to maintain universal welfare benefits at levels that can have a significant effect on poverty alleviation. It is essential, therefore, to rationalise the existing system of benefits and to establish an efficient and administratively feasible strategy to identify and target the poor.

So far much of the debate in Central Asia has centred around the means-testing what were formerly universal cash benefits. Little attention has been paid to other forms of targeting or other forms of benefit (although see Falkingham, 1997). There are, however, a number of problems involved in introducing a means test based upon income and/or wealth. Not least is the problem of verification (Grosh, 1994). As privatisation continues, and the informal sector grows in size, in the absence of taxation records it will increasingly difficult to check wage income. Non wage income is even more problematic in Central Asia with the additional mystery of the private plot. Decisions have to be made on how to value home produced goods, bartered food between neighbours and gifts from friends and relatives.

Proxy means testing constitutes an attractive alternative to the straight income test, particularly where income irregularities, in-kind earnings or misrepresentation create major computational problems – as is the case in Central Asia. Proxy means tests use a set of characteristics which prove to be good predictors of poverty in order to establish eligibility for a social program. Characteristics might include whether land is available for cultivation, whether the individual (or family) is physically able to cultivate the land, the supply of water in the home as well as family structure, gender of head of household, ownership of durable goods, occupation and education. The availability of survey data makes such proxy means-testing a realistic possibility. However, much more work is needed on identifying the components of an index and the weights to attach to each of these social indicators if we are to avoid problems of exclusion and leakage.

The high administrative costs associated with means-testing has meant governments have often chosen to reduce the size of benefits rather than limit the number of people eligible for them, with the result that benefits are being paid at a level insufficient to lift the most vulnerable out of poverty. In Uzbekistan an innovative approach to targeting social assistance has been introduced which is organised by the 'Mahallah' (local level committees of dignitaries). Families in need of assistance submit an application to their local Mahallah who after reviewing their financial situation determine the amount of assistance received. The review includes both an income and asset test, but the tests are conducted with marked flexibility within well defined national guidelines (Coudouel, 1998). An experiment along similar lines is now being implemented in Sissian in Armenia. Another option which deserves greater attention in the Central Asian context is the promotion of targeting through *self-targeting* mechanisms such as public works, for the able bodied, or soup kitchens.

Whatever the final choice of targeting mechanism it is important that it is simple, administratively feasible and low cost. Care must be taken to minimise work disincentives whilst ensuring that benefits are paid at a level adequate to maintain a minimum standard of living.

7.2.3 Protecting human capital

Finally, it is important that measures are put in place to protect the human capital of society. Many of the trends discussed above have indicated that transition has had negative consequences for human development as countries begin to consume their human capital.

There is no doubt that both the education and health systems are in need of structural reform. The health care system of the FSU placed too high a reliance on curative rather than preventative medicine and hospital rather than primary care. The education system, in turn, produced too many narrow specialists, their number determined by central planning and inertia rather than demand. Both systems were inefficient.

During reform, however, it is essential to protect universal access to basic social services for the poor. If fiscal expediency makes it necessary to introduce charges for any of these services, including tertiary education, then it is fundamental that these charges are explicit rather than informal, and that they are accompanied by targeted exemptions for low income families. This

is important from a human development perspective and a human rights. The long term development prospects of the country rest on its human, intellectual and social capital

---

Towards a poverty reduction strategy

➢ Increasing employment opportunities through:
  - Growth
  - Land reform and farm restructuring
  - Labour-intensive public works
  - Credit unions and microfinance schemes
  - Promotion of (SMEs).

➢ Improving the social safety net through:
  - Rationalising existing systems of benefits
  - Making better use of resources through targeting
    Means-testing
    Proxy means-testing
    Self targeted programs
    Community targeted programmes (such as the Mahallah)

➢ Protecting human capital
  - Reforming health and education
  - Removing barriers to access among the poor.

References

Abel-Smith, B. and Falkingham, J. (1995) *Financing Health Services in Kyrgyzstan: The extent of private payments*, LSE Health Working Paper. London: London School of Economics.

Ackland, R. and Falkingham, J. (1997) 'A profile of poverty in Kyrgyzstan', in Falkingham, J. *et al* (eds) *Household Welfare in Central Asia*. Basingstoke: Macmillan Press.

Atkinson, A.B. (1987) 'On the measurement of poverty', *Econometrica*, 55

Atkinson, A.B. (1989) *Poverty and Social Security*. Hemel Hempstead: Harvester Wheatsheaf.

Atkinson, A.B. (1996) 'Seeking to explain the distribution of income', in J. Hills (ed) *New Inequalities: The changing distribution of income and wealth in the United Kingdom.* Cambridge: Cambridge University Press.

Atkinson, A.B. and Micklewright, J. (1992) *Economic Transformation in Eastern Europe and the Distribution of Income.* Cambridge: Cambridge University Press.

Atkinson, A.B., Rainwater, L. and Smeeding, T. (1995) *Income Distribution in OECD Countries: The evidence from the Luxembourg Income Study (LIS).* Paris: Organisation for Economic Co-operation and Development.

Becker, C.D., Hemley, D., and Urzhumova, D. (1996) *Demographic change in a period of social and economic crisis: standardized mortality trends in Kazakhstan, 1975-1995*, The Economics Institute, Boulder CO, Working Paper.

Braithwaite, J. (1995) 'The Old and New Poor in Russia: Trends in poverty' in *Poverty in Russia: An Assessment, Vol. II.* (Report no. 14110-RU). Washington D.C.

Chellaraj, G. Heleniak, T. and Staines, V. (1997) *Health Financing, Status and services in the Former Soviet Union: A Statistic Compendium.* Washington D.C.: The World Bank.

Coudouel, A. (1998) *Living Standards in Uzbekistan.* PhD Dissertation, European University Institute, Florence.

Coudouel, A. *et al* (1997) 'Regional differences in living standards in Uzbekistan', in Falkingham, J. *et al* (eds) *Household Welfare in Central Asia*. Basingstoke: Macmillan Press.

EBRD (European Bank for Reconstruction and Development) (1997*) Transition Report 1997*. London: EBRD.

EBRD (1998*) Transition Report Update*. London: EBRD.

Fajth, G. and Harwin, J. (1997) *Children at Risk in Central and Eastern Europe: Perils and Promises*. UNICEF Economies in Transition Regional Monitoring Report No. 4. Florence: UNICEF-ICDC.

Falkingham, J., Klugman, J., Marnie, S. and Micklewright, J. (eds) (1997) *Household Welfare in Central Asia*. Basingstoke: Macmillan Press.

Falkingham, J. (1997) 'Public transfers and targeting in Kyrgyzstan', in Falkingham, J. *et al* (eds) *Household Welfare in Central Asia*. Basingstoke: Macmillan Press.

Freckleton, A. (1997) *Who's Needy: An assessment of household food insecurity in Tajikistan*. Dushanbe: ECHO.

Griffen, K. (1998) 'Economic Policy During the Transition to a Market Oriented Economy', mimeo, Department of Economics, University of California Riverside.

Grosh, M. (1994) *Targeted Social Programs in Latin America: From Platitudes to Practice*. Washington D.C.: World Bank.

Haub, C. (1994) *Population Change in the Former Soviet Republics*. Population Bulletin Vol. 49 No. 4. Washington D.C.: Population Reference Bureau.

Howell, J. (1994) *Coping with the Transition: Household Coping Strategies in Kyrgyzstan*. London: Save the Children.

Klugman, J. (1998) 'Who gets paid in transition? The extent and incidence of wage arrears in Uzbekistan', mimeo.

Klugman, J. *et al* (1997) 'The Impact of Kindergarten Divestiture on Household Welfare', in Falkingham, J. *et al* (eds) *Household Welfare in Central Asia*. Basingstoke: Macmillan Press.

Lanjouw, J. Olsen (1997) *Behind the line: de-mystifying poverty lines*. UNDP Technical Support Document Number 3.

Lanjouw, P. (1997) 'How important is a poverty line in the Central Asian context', in Falkingham, J. *et al* (eds) *Household Welfare in Central Asia*. Basingstoke: Macmillan Press.

Lubin, N (1995) 'Central Asians take stock: reform, corruption and identity', *Peaceworks No. 2*, United States Institute for Peace, Washington DC

McKinley, T. (1997) *Beyond the Line: Implementing Complementary Methods of Poverty Measurement*. UNDP Technical Support Document Number 3.

Milanovic, B. (1998) *Income, Inequality and Poverty in Transition*. World Bank Regional and Sectoral Study. Washington D.C.

Ofer and Vinokur (1992) *The Soviet Household Under the Old Regime*. Cambridge: Cambridge University Press [initials?]

Pomfret, R. and Anderson, K. (1997) *The welfare impact of slow transition in Uzbekistan*, WIDER Working Paper No. 135. Helsinki.

Ravallion, M. (1994) *Poverty Comparisons: A Guide to Concepts and Methods*. Living Standards Measurement Study Working Paper No.88. Washington D.C.

Renton, A.M. and Borisenko, K. (1998) 'Epidemic syphilis in the newly independent states of the former Soviet Union', *Current Opinion in Infectious Diseases*, 11: 53-56.

Rutkowski, M. (1995) *Workers in Transition*. Policy Research Working paper 1556. Washington D.C.: The World Bank.

Sen, A.K. (1977) 'On weights and measures' *Econometrica*, 45: 1539-1572.

UNDP (1998) *Poverty in Transition?*. New York: UNDP.

UNICEF (1998) *The State of the World's Children 1998*. Oxford: Oxford University Press.

World Bank (1995) *The Kyrgyz Republic Poverty Assessment and Strategy* (Report No. 14380-KG). Washington D.C.

World Bank (1996) *Republic of Kazakhstan: Transition of the State* (Report no. 15353-KZ). Washington D.C.

World Bank (1997a) *Azerbaijan Poverty Assessment* (Report No. 15601-AZ). Washington D.C.

World Bank (1997b) *World Development Report,* 1997. Washington D.C.

World Bank (1998a) 'Tajikistan: A Poverty Note', mimeo.

World Bank (1998b) *Kazakhstan Living Standards During the Transition* (Report No. 17520-KZ). Washington D.C.

Appendix Tables

Table A.1 Macro-economic indicators during transition

(a) Growth rate of GDP (constant prices, %)

	1991	1992	1993	1994	1995	1996	1997	1998 [1]
Azerbaijan	-1	-23	-23	-18	-11	1	5	7
Kazakhstan	-13	-3	-10	-18	-9	1	2	3
Kyrgyzstan	-5	-19	-16	-20	1	6	10	6
Tajikistan	-7	-29	-11	-22	-13	-4	2	4
Turkmenistan	-5	-5	-10	-19	-8	-8	-25	12
Uzbekistan	-1	-11	-2	-4	-1	-1	2	2

(b) Real GDP (1991=100)

	1991	1992	1993	1994	1995	1996	1997	1998 [1]
Azerbaijan	100	77	60	49	43	44	46	49
Kazakhstan	100	97	87	72	65	66	67	69
Kyrgyzstan	100	81	68	54	55	58	64	68
Tajikistan	100	71	63	50	43	41	42	44
Turkmenistan	100	95	85	69	64	58	44	49
Uzbekistan	100	89	87	83	82	84	86	88

(c) Percentage change in consumer prices (end year)

	1991	1992	1993	1994	1995	1996	1997	1998 [1]
Azerbaijan	126	1395	1294	1788	85	7	1	5
Kazakhstan	137	2984	2169	1160	60	29	11	9
Kyrgyzstan	170	1259	1363	96	32	35	15	12
Tajikistan	204	1364	7344		2133	41	165	19
Turkmenistan	155	644	9750	1328	1262	446	22	50
Uzbekistan	169	910	885	1281	117	64	28	35

(d) Real wage index (1991=100)

	1991	1992	1993	1994	1995	1996
Azerbaijan	100.0	83.8	55.2	22.1	14.3	
Kazakhstan	100.0	64.8	49.1	32.9	33.4	34.4
Kyrgyzstan	100.0	84.0	70.1	59.4	61.5	62.3

(e) Registered unemployment rate

	1991	1992	1993	1994	1995	1996	1997	1998 [1]
Azerbaijan	0.1	0.2	0.7	0.8	1.0	1.1		
Kazakhstan	0.0	0.5	0.6	0.8	1.7	3.6	4.2	
Kyrgyzstan	0.0	0.1	0.2	0.7	3.0	4.5	3.2	
Tajikistan		0.3	1.2	1.7	2.0	2.6	2.9	
Turkmenistan	2.0				3.0			
Uzbekistan	0.0	0.1	0.3	0.4	0.4	0.4	0.5	

Notes: [1] 1988 figures are projections, 1997 figures are estimates.
Source: (1998) EBRD Transition report update.

Table A.2 Demographic indicators in Central Asia during transition

(a) Crude birth rate (per 1,000 pop.)

	1991	1992	1993	1994	1995	1996
Azerbaijan	27.0	25.2	24.2	21.4	19.4	20.0
Kazakhstan	21.1	20.0	18.7	18.3	16.7	15.4
Kyrgyzstan	29.3	28.8	26.2	24.8	26.2	23.7
Tajikistan	38.9	32.2	33.1	28.2	28.6	22.0
Turkmenistan	33.6	34.0	33.1	32.1	28.1	24.0
Uzbekistan	34.5	33.1	31.5	29.4	29.8	27.3

(b) Crude death rate (per 1,000 pop.)

	1991	1992	1993	1994	1995	1996
Azerbaijan	6.3	7.1	7.3	7.4	6.8	7.0
Kazakhstan	8.0	8.2	9.3	9.6	10.2	10.1
Kyrgyzstan	7.0	7.2	7.8	8.4	8.2	7.6
Tajikistan	6.1	6.6	8.8	7.0	5.9	5.1
Turkmenistan	7.3	7.1	7.9	6.9	7.0	8.0
Uzbekistan	6.2	6.5	6.6	6.6	6.4	6.2

(c) Life expectancy at birth for men and women (years)

	1991	1992	1993	1994	1995	1996	1997
Azerbaijan	70.1	68.8	68.4	68.35	68.2		71.0
Kazakhstan	68.4	68.5	66.4	65.9	65.7		68.0
Kyrgyzstan	68.7	68.2					68.0
Tajikistan							
Turkmenistan							
Uzbekistan	69.0	68.6					67.0

Source: (Chellaraj et al, 1997; 1997 figures are from WHO 1998 World Health Report, 1998)

(d) Male life expectancy at birth (years)

	1991	1992	1993	1994	1995	1996
Azerbaijan	66.3	65.4	65.2	65.2	63.4	
Kazakhstan	63.3	63.0	61.8	60.6	59.7	
Kyrgyzstan	64.6	64.2	62.9	61.6	61.4	62.3
Tajikistan	67.6	65.4			65.8	
Turkmenistan	62.3				62.0	
Uzbekistan [1]		66.1			66.0	

Note: [1] life expectancy at birth for both men and women fell from 69.0 in 1991 to 68.6 in 1992, and even further to 67.0 in 1997 (Chellaraj et al, 1997; WHO World Health Report, 1998)

(e) Female life expectancy at birth (years)

	1991	1992	1993	1994	1995	1996
Azerbaijan	74.5	73.9	73.9	73.9	73.5	
Kazakhstan	72.9	72.7	71.9	71.0	70.4	
Kyrgyzstan	72.7	72.2	71.7	70.7	70.4	71.0
Tajikistan	73.2	71.1			65.7	
Turkmenistan	69.3				69.0	
Uzbekistan [1]		72.4			72.0	

(f) Infant mortality rate (per 1,000 live births)

	1991	1992	1993	1994	1995	1996
Azerbaijan	25.3	25.5	28.2	25.2	23.3	
Kazakhstan	27.4	26.1	28.4	27.2	27.3	25.4
Kyrgyzstan	29.7	31.5	31.9	29.1	28.1	25.9
Tajikistan	40.6	45.9	47.0	40.6	30.9	31.8
Turkmenistan	47.0	43.6	45.9	46.4	42.2	
Uzbekistan	35.5	37.4	32.0	28.2	26.0	24.2

(g) Total fertility rate

	1991	1992	1993	1994	1995	1996
Azerbaijan	2.9	2.7	2.7	2.5	2.3	2.4
Kazakhstan	2. 7 [1]	2.5	2.3		2.3	2.4
Kyrgyzstan	3.7	3.6	3.3	3.1	3.3	3.0
Tajikistan	5.0	4.1	4.3		4.2	4.0
Turkmenistan	4.1		4.0		3.8	3.7
Uzbekistan	4.2 [1]		3.8		3.7	3.6

Note: [1] fertility rate for 1990.
Source: TransMONEE database 3.0; UNICEF, *The State of the World's Children 1998* (1998)

Table A.3 Health indicators in Central Asia during transition

(a) Maternal mortality rate (per 100,000 live births)

	1991	1992	1993	1994	1995	1996
Azerbaijan	10.5	17.6	34.4	43.8	37.0	44.1
Kazakhstan	48.0	57.0	49.6	48.3	57.4	52.9
Kyrgyzstan	55.6	49.9	44.5	42.7	44.3	31.5
Tajikistan		69.6	74.0			
Turkmenistan		58.8	44.4			
Uzbekistan		30.1	24.1	17.3	18.9	

(b) Tuberculosis incidence: (number of new TB cases per 100,000 pop.)

	1991	1992	1993	1994	1995	1996
Azerbaijan	37.5	37.5	40.3	38.2	40.1	49.7
Kazakhstan	64.4	64.6	61.7	59.7	67.1	82.3
Kyrgyzstan	56.9	57.9	54.5	59.7	72.9	87.2
Tajikistan	38.4	30.5	31.9	34.8	29.1	
Turkmenistan	61.2	47.1	48.8	43.1	42.1	
Uzbekistan	45.8	43.8	44.7	43.4	43.5	

(c) Percentage of children under 2 years immunised against diphtheria, pertussis and tetanus

	1991	1992	1993	1994	1995	1996
Azerbaijan	92.2	82.0	89.5	94.0	95.9	95.8
Kazakhstan	82.7	85.3	81.6	84.4	92.9	95.0
Kyrgyzstan	86.9	74.5	62.7	78.5	93.0	93.1
Tajikistan						
Turkmenistan					80.0	
Uzbekistan	84.1	83.2	49.2	65.2	86.1	95.0

(d) Rates of notification of new cases of Syphilis (per 100,000 pop.)

	1991	1992	1993	1994	1995	1996
Azerbaijan	4.0	6.0	7.8			
Kazakhstan	2.1	3.5	8.2	33	123	231
Kyrgyzstan	2.1	2.5	4.4	22	33	137
Tajikistan	1.6	2.9	5.8	8.3	20	12
Turkmenistan	5.4	6.3	8.3	15	23	28
Uzbekistan	1.9	2.5	4.4	11	25	24

Source: Data for Table (e) from WHO Regional Office for Europe in Renton and Borisenko (1998).

(e) Mortality rate for children under 5 years (rates per 1,000 live births)

	1991	1992	1993	1994	1995	1996 [1]	1997 [2]
Azerbaijan	40.1	41.7	44.4	45.2	43.2	39.3	39.0
Kazakhstan	35.6	34.2	38.1	36.2	38.4	35.2	39.0
Kyrgyzstan	38.6	42.2	44.6	41.9	41.3	36.4	46.0
Tajikistan			81.7			76.0	
Turkmenistan			68.2			78.0	
Uzbekistan			48.1			60.0	57.0

Note: [1] Tajik, Turkmen and Uzbek figure for 1996 are from UNICEF, 1998; [2] figures for 1997 are from WHO World Health Report 1998.
Source: TransMONEE

(f) Hospital beds per 1,000 population

	1991	1992	1993	1994	1995	1996
Azerbaijan	10.00	10.50	10.50	10.10	10.20	
Kazakhstan	13.33	13.15	13.37	12.38	11.69	
Kyrgyzstan	12.10	11.90	10.70	9.60		
Tajikistan						
Turkmenistan	11.60	11.40	11.70	11.50		
Uzbekistan	10.90	10.80	9.40	8.80		

Source: Table (j) Chellaraj, Heleniak and Staines (1997).

(g) Average length of hospital stay (number of days)

	1991	1992	1993	1994	1995	1996
Azerbaijan	17.6	18.0	17.9	17.9	17.7	
Kazakhstan	16.0	16.3	16.3	16.8		
Kyrgyzstan	14.9	15.3	15.3	15.4		
Tajikistan						
Turkmenistan	15.2	14.7	14.9	15.1		
Uzbekistan	14.8	15.0	14.5	14.3		

Source: Table (l) Chellaraj, Heleniak and Staines (1997).

(h) Real government pharmaceutical expenditures in Central Asia (index where 1990=100)

	1990	1991	1992	1993	1994	1995
Azerbaijan	100	118.40	59.52	68.62	41.84	34.60
Kazakhstan	100	114.86	55.86	79.40	72.95	60.23
Kyrgyzstan	100	57.56	75.83	52.96	31.68	26.65
Tajikistan						
Turkmenistan		100	33.94	45.92	17.35	73.30
Uzbekistan	100	78.53	41.72	39.06	40.46	74.65

Source: Table (m) Chellaraj, Heleniak and Staines (1997).

Source: Data in above tables are from the TransMONEE database 3.0, unless otherwise stated.

Table A.4 Education in Central Asia during transition

(a) Pre-primary enrolment rate (% of relevant age group)

	1991	1992	1993	1994	1995	1996
Azerbaijan	20.6	18.8	18.7	16.6	15.1	13.8
Kazakhstan	52.5	45.3	39.8	29.3	23.5	
Kyrgyzstan	26.7	23.3	13.4	8.8	7.7	8.0
Tajikistan	14.0	11.0	10.4	9.4		
Turkmenistan	32.8	32.0	39.6	30.1		
Uzbekistan	35.1	30.7	29.0	26.1	24.5	24.0

(b) Basic education enrolment rate (% of relevant age group)

	1991	1992	1993	1994	1995	1996
Azerbaijan	91.2	92.8	92.9	90.6	86.7	
Kazakhstan	92.7	91.7	91.5	90.9	90.5	90.0
Kyrgyzstan	84.5	83.9	83.6	83.0	82.5	76.4
Tajikistan	94.2	89.6	85.1	86.4		
Turkmenistan	89.5	88.5	88.5	89.1		
Uzbekistan	87.9	87.5	87.9	88.6		

(c) General secondary enrolment rate (% of relevant age group)

	1991	1992	1993	1994	1995	1996
Azerbaijan	34.5	32.8	28.9	27.0	25.8	28.1
Kazakhstan	32.3	31.0	28.4	27.0	25.5	24.8
Kyrgyzstan	36.7	36.0	32.5	28.6	27.3	
Tajikistan	37.7	29.7	26.8	25.3	23.6	22.3
Turkmenistan	37.5	34.9	35.2	35.6		
Uzbekistan	36.5	31.0	28.0	28.0	27.8	27.0

(d) Tertiary enrolment rate (% of relevant age group)

	1991	1992	1993	1994	1995	1996
Azerbaijan	9.2	8.6	8.5	8.7	11.0	
Kazakhstan	13.4	13.1	12.7	12.6	12.5	12.9
Kyrgyzstan	10.4	9.7	9.7	10.8	11.8	12.9
Tajikistan	9.4	9.3	8.6	9.2		9.4
Turkmenistan	7.9	7.4	7.4		7.3	
Uzbekistan	9.4	8.7	7.4	6.3	5.4	5.0

Source: Data in above tables are from the TransMONEE database 3.0, unless otherwise stated.