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Kazakhstan and Uzbekistan

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ABSTRACT

The IMF model of the economic transition stresses the role of macro policy reform. It concludes that rapid reform to a market economy is preferable to slow reform because late reformers experience very steep transition recessions and severe contractions in government revenues. However, the predictive power of the IMF model has weakened through the late-1990s. This is because it under-estimates the role of initial conditions that include the natural resource endowment as well as institutional capital and the legacy of produced capital. This paper demonstrates how the predictive power of the IMF model can be improved by taking account of the impact of natural resource abundance for the transition. Resource abundance can feed corruption and diminish the urgency of reform, thereby intensifying the adverse effect of a retarded transition. It can also amplify the contraction of the non-booming tradeable sector due to Dutch disease effects. These adverse features are likely to be more severe where the resource endowment creates point source socio-economic linkages, as in mining, as opposed to the diffuse linkages associated with crop production by yeoman farmers. The detrimental effects of resource abundance are also likely to be more severe where institutional capital is deficient. Consistent with such a resource-constrained variant of the IMF model; resource-abundant Kazakhstan and Uzbekistan both delayed their reforms and both exhibit high levels of corruption relative to the transition economies as a whole. Also, economic recovery in Kazakhstan is slower than the original IMF model predicts because investment in minerals strengthened the exchange rate and retarded economic diversification. In the case of Uzbekistan, a natural resource endowment that yielded especially buoyant crop revenues (that eased the foreign exchange constraint) helps to explain why the growth collapse is less than the unadjusted IMF model predicts for such a slow reformer. This explanation is still too simple, however. Uzbekistan also benefits from robust social capital and limited obsolete industry, both of which retard the decline in government revenue. Finally, the resource-constrained IMF model suggests that the Uzbek policy of gradual reform represses exports and intensifies economic distortions. This will lock the economy into a staple trap and lead to a growth collapse, as the experience of many resource-abundant developing market economies testifies.

1. INTRODUCTION

In the mid-1990s, comparative studies of the economies in transition strongly suggested that macro policy reform determined successful adjustment (De Melo et al. 1996, Fischer et al. 1996, and Aslund et al. 1996). More specifically, faster reform of macro policy appeared to be preferable to gradual reform because the faster reformers tended to experience less loss of output and government revenue than the slower reformers did, and to resume economic growth earlier. The model of rapid reform was championed by the international financial institutions and it is termed here the IMF model. However, more recent data have cast doubt upon the ability of the IMF model to explain the differences among countries in their transition outcomes. For example, the intermediate reformer Kazakhstan has not achieved the economic rebound predicted by the model whereas Uzbekistan, a very slow reformer, has not experienced the accelerating growth collapse that was expected. A key omission from the macro policy model is the impact of the initial conditions on the transition, notably the natural resource endowment, institutional capital and the economic distortions that have left obsolete produced capital as a legacy of central planning (De Melo et al. 1997, Havrylyshyn et al. 1998, Kenny 1999).

This paper analyses the impact of one important set of initial conditions, the natural resource endowment. The literature suggests that there are two important reasons for expecting resource abundance to *heighten* the problems of the transition. First, the natural resource rents may postpone reform by appearing to reduce its urgency and/or by diverting effort into rent-seeking activity (Frye and Shleifer 1997, Lane and Tornell 1996, Leite and Weidmann 1999). Second, resource abundance may amplify the Dutch disease effects and exacerbate the contraction of the non-resource tradeables that is such a marked characteristic of the transition (Rosenberg and Saavalainen 1998, Sachs and Warner 1995). The Dutch disease effects further depress investment in the competitive diversification of the economy. They also retard long-term economic growth if there are important positive spillover effects from manufacturing and intensive agriculture.

The UNU/WIDER project suggests that these potentially adverse features of resource-abundance for the transition may be stronger in the case of resources such as minerals that generate 'point' socio-economic linkages than in the case of the 'diffuse' socio-economic linkages associated with

crop-driven economies. There are two main reasons for this. First, the principal stimulus to the economy from a highly capital-intensive sector like mining tends to be through profits and taxation and this is associated with skewed access to assets and stunted final demand linkage. In addition, the government is required to play a greater role in maximizing the *domestic* deployment of mineral rents compared with crop rents. This increases the risk both of government failure and of the dissipation of the rents in grandiose projects and corruption. This is especially so for transition economies because their governments lack the institutional capacity to ensure public accountability. The second reason for the greater vulnerability of mineral economies in transition arises out of the very large investments that are required to expand the productive capacity of mines and oilfields. Such investment may cause the post-transition appreciation of the real exchange rate to commence earlier than would otherwise be the case, and also to prove particularly strong. This will accelerate the decline of the non-mining tradeables sector and, because that sector is more labour-intensive than mining, this will further heighten income inequality and exacerbate social tensions.

This paper examines the impact of the natural resource endowment on the economic transition with reference to two resource-abundant transition economies, mineral-rich Kazakhstan and cropland-rich Uzbekistan. The structure of the paper is as follows. The next section, section two, reviews the literature on transitional restructuring and the IMF model. It then refines the IMF model to take account of the initial conditions, focusing on the role of the natural resource endowment. Section three briefly describes the pace of reform in the two case study countries and compares their transition trajectories with the predictions of the IMF model. It shows that until about 1998, Kazakhstan largely conformed to the growth trajectory expected of a late reformer, whereas Uzbekistan did not. Section four analyses whether a large mineral endowment explains the subsequent hesitant recovery of Kazakhstan. Section five, evaluates alternative theories for the relatively shallow transition recession of Uzbekistan. Section six summarizes the conclusions and draws the policy implications.

2. THE MACRO POLICY MODEL PREDICTIONS AND DEFICIENCIES

2.1 The stylized facts of the IMF model of transition reform

The IMF model rests upon three central premises. First, rapid stabilization and tight inflation control are necessary. Second, stabilization requires prompt realignment of internal and external prices, and also low fiscal deficits. Moreover, such price reform requires privatization and improved financial regulation. Third, and finally, the pace of economic recovery is linked to the comprehensiveness of reform rather than to a recovery in the level of investment. Swift and comprehensive reform, a 'big bang', will limit the absolute decline in GDP and government revenue. Gradual reform is not a practical option for economies that have been severely distorted by long association with central planning.

The IMF model of transition reform is based on comparisons of more than twenty-five countries. By the mid-1990s, their growth trajectories suggested a strong positive relationship between the speed and depth of reform and economic recovery. This can be observed in Table 1 that plots the transition trajectory against an index of liberalization devised by De Melo et al. (1996). The index is based upon progress in three dimensions: internal market liberalization (which accounts for 30% of the index), foreign trade liberalization (30% of the index) and private firm expansion and banking reform (40% of the index). The index ranges from 0 where reform has not begun to 1, where it has virtually ended. A second index is derived for cumulative reform by summing the annual indices to indicate the depth and duration of reform.

The cumulative index is deployed in Table 1 to classify the transition economies into four categories of reformers (advanced, high-intermediate, low-intermediate and slow) and a residual group of six countries affected by 'regional tensions'. The performance of the five categories of reformers over the period 1989-94 is summarized in Table 1 (columns 4 to 6). Table 1 reveals significant differences in economic performance between the different categories of reformers. It also shows the performances of Kazakhstan and Uzbekistan for comparison. Kazakhstan is classed by De Melo et al. (1996) as a low-intermediate reformer, whereas Uzbekistan is classed as a slow reformer.

Table 1 Liberalization, growth and inflation in transition economies 1989-94

Reform stage/ country	Per capita cropland (ha)	Liberalization index (A)	(B)[a]	Average inflation 1993-94 (%)	Average GDP growth 1993-94 (%)	Ratio of 1994 GDP to 1989 GDP (%)	GDP trough (as of % 1989)
Advanced[b]	0.33	3.90	.85	23	1.7	83	80
High-intermediate[c]	0.52	2.55	0.72	124	0.03	67	65
Low-intermediate[d]	0.95	1.67	0.55	933	-15.6	57	51
Slow[e]	0.46	0.90	0.27	1968	-13.2	72	66
Other[f]	0.23	2.11	0.50	3102	-14.5	45	34
Kazakhstan	2.08	1.31	0.37	1870	-18.5	57	49
Uzbekistan	0.20[g]	1.11	0.37	640	-2.5	89	88

Notes:

a. A = Cumulative reform index 1989-94; B = Average liberalization 1993-94
b. Slovenia, Hungary, Poland, Czech Republic and Slovak Republic
c. Baltic States, Bulgaria, Albania, Romania and Mongolia
d. Russian Federation, Kyrgyz Republic, Moldova, Kazakhstan
e. Uzbekistan, Belarus, Ukraine, Turkmenistan
f. Countries affected by regional tensions (Croatia, Macedonia, Armenia, Georgia, Azerbaijan, Tajikistan)
g. Since 1970, rapid population growth halved this figure, which is also sensitive to increased irrigation capacity. Additional renewable and mineral resources place Uzbekistan within the resource-abundant category.

Source: De Melo et al. (1996), 405, except WRI (1998), 286-7 for per capita cropland.

De Melo et al. (1996) find little evidence that gradualism has worked in the transition economies of the Former Soviet Union (FSU) and Eastern Europe. Rather, tardy reformers initially slow the decline in output prior to reform even as their economies disintegrate. But their output then contracts at an accelerating rate and after three years their output is lower than that of the advanced reformers and still falling while inflation becomes far more severe. In contrast, the advanced reformers undergo a rapid contraction in output during the first year of reform but resume positive economic growth by the fourth year of reform. Aslund et al. (1996), Fischer et al. (1996), Havrylyshyn et al. (1998) and Berg et al. (forthcoming) all confirm the advantage of early and vigorous reform that was initially demonstrated by De Melo et al. (1996). Moreover, the basic relationship between the pace of reform and recovery holds, even though subsequent revisions to the national accounts suggest that pre-transition production was over-estimated so that the scale of the output collapse was initially overstated. For example, the decline in net material product (NMP) for Kazakhstan appears to have been closer to one-third than the one-half that was originally estimated (De Broeck and Kostial 1998).

The critical initial reform requirement within the IMF model is swift stabilization. The advanced reformers control inflation most successfully whereas the slow reformers experience the worst episodes of inflation. There was some initial controversy about the role of inflation in the reform process. Some researchers argued that stabilization must be achieved first, with the maximum tolerable annual inflation rate variously estimated to lie between 25% and 50%. But others asserted that monthly inflation rates of 10% might have to be tolerated in order to maintain the flow of credit to state-owned enterprises (SOEs). However, more recent econometric analysis covering the longer period 1990-97 strongly suggests that bringing inflation down and keeping it there is critical (Christofferson and Doyle 1998, Havrylyshyn et al. 1998). 'While the early success of bringing inflation down to low double digits may have been enough to permit the first shoots of economic growth to sprout, as the transition progresses, the threshold at which inflation hurts growth will fall to levels found for market economies which is well below 10%.' (Havrylyshyn et al. 1998, 34).

Maintaining a fixed exchange rate helps the initial reduction of inflation. But the initial reform will be accompanied by a large real devaluation whether it is associated with a fixed or a floating currency. The exchange rate depreciation re-balances the external gap but initially stokes inflation. The second key determinant of inflation, along with the exchange rate, is the fiscal deficit. The IMF model predicts that the fiscal deficit will be smaller for faster reformers. It also predicts that prompt closure of the fiscal gap is associated with a minimal decline in the share of government revenue in GDP (Table 2).

Table 2 Revenue, expenditure and fiscal gap, by country reform group 1989-94

Reform group	Cumulative liberalization index	Change 1989-94 (% GDP)			Revenue 1994 (% GDP)
		Revenue	Expenditure	Balance	
Advanced	3.91	-3.6	-3.9	0.3	49.7
High-intermediate	2.55	-17.3	-13.5	-3.8	33.0
Low-intermediate	1.66	-14.6	-7.9	-5.9	24.2
Slow	0.90	-1.0	3.6	-3.4	32.0
Other	-1.20	7.1	15.3	-6.2	32.2

Source: De Melo et al. (1996).

The transition entails a massive restructuring that shifts resources away from state-run agriculture and scale-sensitive heavy and chemical industry (HCI), which were both heavily subsidized under central planning, towards private firms in the formerly repressed sectors, especially services. Slow reform incurs large quasi-fiscal deficits, i.e. losses accumulated by the

central bank through debt write-offs, subsidies to guarantee foreign exchange and credit provision to state-owned enterprizes (SOEs) and banks at negative real rates of interest. De Melo et al. (1996) find that quasi-fiscal deficits are a key cause of the sharp decline in the share of government revenue in GDP among late reformers. The transfers sustain SOEs that either generate no revenue or absorb revenue. Moreover, they reduce the resources for poverty-focused public spending and/or for the construction of modern infrastructure in support of structural change. The transfers are also a major cause of persistent inflation so that these economies fail to stabilize. Such subsidies to SOEs prolong inflation as they outstrip public revenues and hamper the emergence of private enterprises in response to liberalized prices and trade. They drain scarce government resources to support fossilized production and although may reduce adjustment stress over the medium-term, they jeopardize long-term prospects by crippling public finances.

The IMF model also holds that the speed of recovery from reform is strongly affected by the comprehensiveness and cumulative impact of the reform package (De Melo et al. 1997). In support of this finding, Havrylyshyn et al. (1998, 30) use a regression model of the determinants of growth that splits the transition period into two time periods, 1990-93 and 1994-97. The explanatory power of the model is modest during the initial reform period but it strengthens significantly thereafter. When regressions are run for growth over the period 1990-97, the rate of inflation and the degree of reform explain 70% of the variation. Breaking down the individual components of reform does not reveal evidence that some elements are more critical than others are. What it does show is that trade and exchange rate reform appear to have immediate and positive effects on the rate of growth, but both price liberalization and privatization are initially associated with some deterioration in performance. However, the lagged values for price liberalization and privatization have a positive effect on economic performance.

The IMF model assumes that the speed of recovery is not strongly correlated with the rate of fixed investment. Havrylyshyn et al. (1998) report that the resumption of economic growth has tended to *precede* the recovery in investment levels, which levels typically slumped from 30% of GDP under central planning to 20%, or even less in some cases. This is because the recovery reflects the degree of supply-side reallocation of existing factors to more productive uses, notably to the erstwhile-repressed economic sectors (Table 3). Certainly, structural change has been far less

pronounced among the low-intermediate and slow reformers. Private sector activity had reached 50% of GDP in the case of the advanced reformers by 1994, while the slower reformers lagged.

Table 3 Sectoral shifts in production, by country reform group 1989-94

Reform group	Cumulative liberalization index	Change in share of GDP (%)		
		Industry	Agriculture	Services
Advanced	3.91	-11.2	-3.7	14.9
High-intermediate	2.55	-11.0	0.7	10.4
Low-intermediate	1.66	-1.9	-4.9	6.8
Slow	0.90	2.9	-1.4	-1.5
Other	2.11	-7.9	15.3	-7.4

Source: De Melo et al. (1996).

Fischer et al. (1996) add some nuances to the IMF model. They acknowledge that the transition to a market economy calls for more extensive reforms than the macro policy package that would be deployed in the case of the resuscitation of, say, a distorted market economy following a growth collapse. They note that in addition to macro stabilization, price liberalization and trade liberalization and current account convertibility, the transition economies require reform in three other areas. The other areas are: enterprise reform, the creation of a social safety net, and the provision of an institutional and legal framework for a market economy (including an appropriate financial system). For the transition economies, a 'big bang' reform strategy can therefore only apply to stabilization and to trade and price liberalization because the other reforms tackle social and institutional capital so that, of necessity, they take longer to put in place.

2.2 Adding the initial conditions to the IMF model

Despite efforts like those of Havrylyshyn et al. (1998), the IMF model has become harder to defend since the pioneering studies from the mid-1990s of De Melo et al. (1996) and Fischer et al. (1996). This is because the economies of many reforming countries outside of Northeast Europe have failed to revive. This has directed research towards the role of initial conditions. De Melo et al. (1997) compare the relative importance of policy and initial conditions. They use principal components analysis to identify two key dimensions for twenty-eight countries in transition that include Mongolia, China and Vietnam. The first dimension is the level of macroeconomic distortion and it is based upon high levels of trade dependence, high black market premia and repressed inflation, along with

little contact with market economies and limited experience as nation states. The second dimension is defined as over-industrialization (vis-à-vis the Syrquin and Chenery norms) and it is associated with high levels of per capita income and high urbanization, along with low levels of natural resource dependence and low rates of pre-reform economic growth. Countries ranking high on this index tend to be higher-income countries that over-industrialized and experienced diminishing returns to investment and growth collapses before the transition reforms began.

When the twenty-eight countries are plotted against these two dimensions, four broad clusters emerge. The first cluster comprises the Baltic states, Russia and most of the Caucasus. It exhibits both high economic distortion and also high over-industrialization. The second cluster comprises East European countries that also have a high degree of over-industrialization, but relatively modest macroeconomic distortion. Most countries in the third cluster, the Central Asian states, also exhibit high levels of macroeconomic distortion but they have relatively low over-industrialization. Finally, the fourth cluster of China, Vietnam and Albania is characterized by both low over-industrialization and low distortions.

De Melo et al. (1997) identify this fourth cluster, which is dominated by China and Vietnam, as having the most propitious conditions for market reform namely, relatively low industrialization and limited macroeconomic distortion. The minimal legacy of economic distortion of the two East Asian countries within the cluster allowed them to sustain rapid economic growth while pursuing a reform programme: so they could follow a gradual reform strategy. De Melo et al. (1997) go on to speculate that the Central Asian states may also be tempted to opt for gradual reform because in addition to their generally modest legacy of industrial capital, their abundant natural resources afford a cushion against rapid change. This is consistent with one of the impacts of natural resources on the transition set out earlier. However, De Melo et al. (1997) do not consider gradual reform to be viable for the Central Asian economies because, unlike the two low-income East Asian economies whose experience with central planning was briefer and shallower, they are constrained by high levels of policy distortion.

The East European countries are the sub-group that faces the second most favourable reform prospects after the East Asian countries. This is because their economies are *relatively undistorted*, so that the benefits of rapid reform quickly offset a sharp initial decline in output that is associated with

the scrapping of obsolete capacity from the over-industrialization. Nor did these countries have much opportunity to deploy resource rents to retard reform because they are largely resource-constrained. In contrast, the final cluster of countries, the former Soviet Union (FSU) states of Eastern Europe, faces the most daunting combination of initial conditions. Not surprisingly, reform is fiercely resisted by vested interests at first. However, a large legacy of obsolete industrial capital is not a reason for postponing reform, according to De Melo et al. (1997). It may be recalled that such a legacy requires subsidies that threaten the public finances and it thereby rules out the gradual reform option. De Melo et al. (1997) provide some indication of the relative importance of macro policy and initial conditions. They find that macro policy is indeed the most important variable, explaining some 35-40% of the variation in growth, but initial conditions explain 19-30%, with the policy distortion component more important than the over-industrialization component.

2.3 Resource abundance and deficient social capital

Recapping, the two sets of successful transition reformers are either resource-poor (East Asia) or relatively resource-deficient (Northeast Europe) countries. They also enthusiastically espouse the use of markets to improve the efficiency of input allocation in sectors of emerging comparative advantage. They exhibit less policy distortion than the less successful groups. Finally, they span the range in legacy of obsolete capital. In contrast, the two sets of less successful reformers (the Baltic states, Russia and part of the Caucasus along with Central Asia) exhibit three features whose impact the IMF model under-values. The three features are:

- natural resource abundance (cropland per hectare in excess of 0.55 compared with a mean of 0.30 for the other two clusters [WRI 1998]),
- deficient institutional capital (4.2 on an index of legal safeguards compared with 7.7 for eastern Europe [Johnson et al. 1997]) and
- a highly distorted economy (unofficial economy estimated at 32.4% of official GDP compared with 19% for eastern Europe [Johnson et al. 1997]).

The UNU/WIDER project suggests that among the developing *market economies* all three of these characteristics are strongly associated with the misallocation of resources, a weakened economy and a growth collapse (Auty 1998). This section now explores more fully the implications of this combination of resource abundance and deficient institutions for the transition economies.

Leite and Weidmann (1999) confirm that corruption is associated with resource abundance and that it depresses economic growth. They also report that this phenomenon tends to be most detrimental where, first, state institutions are weakly developed, as is the case in most transition economies, and, second, the natural resource is produced by capital-intensive means. The latter is termed a point source resource to differentiate it from a diffuse resource, where the socio-economic linkages are less concentrated. This implies that the more distorted transition economies will experience most corruption and especially the capital-intensive mineral economies However, given that capital-intensive methods of production have also been associated with agriculture under central planning and that state ownership can transform diffuse socio-economic linkages into point source ones, crop-driven economies may also be prone to corruption.

Corruption functions as a form of illicit tax, lowering the real rate of return on projects and thereby reducing the level of investment. Corruption can have adverse budgetary consequences where it leads to tax evasion or raises the cost of public expenditure in relation to what it would be if it were rent-free. In addition, by inflating public investment contracts and also directing such contracts to firms without effective competitive bidding, the efficiency of public investment is likely to be reduced. Moreover, public investment may be skewed away from a social welfare maximizing trajectory if officials have an interest in diverting it to investment, especially large capital-intensive investments that are prone to cost overruns (Murphy 1983). The *composition* of public expenditure is also affected because outlays on education, welfare payments and social insurance tend to decline with increasing corruption (Mauro 1995, Johnson et al. 1997, 165).

Estimates of the size of the negative impact of corruption on economic growth are confined to a few studies (Mauro 1995, Poirson 1998 and Leite and Weidmann 1999). Mauro (1995) shows that public sector corruption discourages investment and also limits economic growth. Mauro (1997) takes a corruption index based on country risk studies that ranged from 0 most corrupt to 10 least corrupt. He reports that a movement of two points up the scale would increase investment by 4% and the annual per capita GDP growth rate by 0.5%. Elsewhere, Leite and Weidmann (1999) show that the average GDP growth rate is raised by 1.4% with a one-standard deviation improvement in the corruption index. This is equivalent to Venezuela reducing its level of corruption to that of Chile, or of Chile reducing its own corruption level to that of the USA. They also show that

corruption is higher if institutions are weak (a low score on the index of the rule of law), if political instability is high and if the trade policy is closed (a feature of the staple trap model associated with disappointing resource-abundant development).

Mauro (1995) confirms that corruption is more prevalent in resource-abundant countries than in resource-poor ones. He attributes this to the fact that the natural resource rents and the sale of the natural capital assets that generate them are usually subject to state regulation. Leite and Weidmann (1999) also show that corruption is linked to the presence of natural resources. It depresses economic growth, albeit by somewhat less than the 1% for each one-standard deviation in dependence on natural resource exports estimated by Sachs and Warner (1995). Point source resources depress growth by 0.6% per year for one-standard deviation rise in dependence on fuel and oil, entirely on account of corruption (rather than Dutch disease effects). This compares with a positive effect on growth for the more beneficial diffuse linkages of agriculture, although somewhat puzzling, food production loads strongly negative.

Johnson et al. (1997) identify a contest within transition economies between the official and unofficial sectors in the provision of public 'services' that has two basic outcomes, linked to the resource endowment. One set of countries tends towards resource deficiency and also has low tax burdens, regulation and corruption; relatively high tax revenues; large quantities of public goods provided by the government; small unofficial sectors and, if the government is reasonably efficient, faster economic growth. The other set of countries tends to be resource abundant and to exhibit high tax burdens, regulation and corruption; low tax collection rates; small quantities of public goods provided by the government; large unofficial sectors and low rates of economic growth. Consistent with this thesis, Havrylyshyn et al. (1998, 29) estimate from a regression model of transition recovery 1990-97 that each percentage point reduction in government share of GDP adds 0.1 to 0.25% to the rate of economic growth. They attribute this to excessive expenditure on unproductive sectors, red tape and the adverse effects of a high tax burden, both legitimate and illicit.

2.4 Institutional capital and the political state

It is not the aim of this paper to extend the IMF model to incorporate differences in institutional capital. However, it is useful for the exposition that follows to identify variations in such capital that are linked to the political state. Frye and Shleifer (1997) usefully identify three sub-sets of institutional capital that they associate with three basic modes of government behaviour during the economic transition. The first mode is termed the 'invisible-hand' in which the government provides an enabling environment that includes sustaining law and order, regulation and contract enforcement, and leaving most allocation decisions to the private sector. This mode of government is associated with the more successful reformers of northeastern Europe. In effect, the IMF model assumes the 'invisible hand' mode already exists and that the government is well organized, relatively uncorrupted and likely to seek to improve long-term social welfare.

In the second mode, the 'helping-hand' transition government supports some sectors and some firms, and it may also have economic or kinship links with entrepreneurs. The legal system in these circumstances is less important because bureaucrats arbitrate among the rival claims. Although the bureaucrats may be corrupt, they control and constrain the resulting adverse effects. Finally, the third mode, the 'grabbing-hand', is an extreme version of the predatory bureaucratic state. It has a far from cohesive bureaucracy within which individuals pursue their own interests, as in the case of Azerbaijan, for example (Auty 1999a). Such governments may lose coherence and be unable to sustain law and order so that it is then maintained by private means, as in the case of Russia. The grabbing hand government is associated with slow economic and political reform. The latter nourishes corrupt rent-seeking by ex-communist officials that corrodes social and institutional capital.

Johnson et al. (1997, 171) recognize an additional possibility within the grabbing hand category, namely a monopolistic state that gathers sizeable tax revenues but provides very few services. Significantly for this study, they identify Uzbekistan and Belarus as examples of this more monopolistic grabbing hand government. Kazakhstan belongs to the first type, the 'atomistic' grabbing hand, of which Russia provides an extreme example. Aslund et al. (1996) estimate that in 1992 import subsidies, subsidized credit and export controls in Russia created rents equivalent to between 55 and 75% of GNP. The redistributed assets were, for the most

part, secured by former leading communist politicians and officials. Other means of capturing rents include subsidies for SOEs and also closed-bid privatization that can in the case of the resource-extracting industries, transfer large sums in terms of the mineral assets to the new owners. Such abuses led Stiglitz (1999) to make the case for bottom-up reforms that adapt existing institutions.

3. PREDICTED AND ACTUAL TRANSITION TRAJECTORIES: KAZAKHSTAN AND UZBEKISTAN

The IMF model predicts that late reformers will experience a steep decline in GDP and government revenues before economic growth resumes. If the natural resource endowment is factored in, then in the case of Kazakhstan, foreign investment in mining will accelerate the post-transition rebound of the real exchange rate. This, in turn, will intensify the demise of the non-mining tradeable sector, raise income inequality and strengthen pressure to maintain public sector employment. In addition, point source resources like minerals will feed corruption and this will depress the rate of economic growth. In contrast, crop-driven Uzbekistan should experience a more broad-based economic recovery, but only after a deeper and more prolonged recession due to its tardier espousal of reform. Deviation from these predictions will imply that the IMF model is still too narrowly calibrated, even after factoring in the natural resource endowment.

3.1 Differences in the speed of reform

Uzbekistan and Kazakhstan were both late reformers, but after initially lagging Uzbekistan, Kazakhstan accelerated the pace of reform from 1994 whereas Uzbekistan continued at a slow speed and subsequently reversed some of its reforms. By 1995, the level of reform on the De Melo liberalization index averaged 0.63 for the Baltic countries, Russia and other FSU countries (BRO) as a group compared with 0.60 for Kazakhstan while Uzbekistan trailed with an index of 0.50 (Table 1).

The initial delay in economic reform within Kazakhstan is reflected in the slow establishment of production units for a market economy. Privatization began in 1991 and by 1996 around 70% of the small service and retail firms had been sold, 80% of the land was privatized and 60% of the 1,700 medium and large firms had been placed in the private sector. Yet only five of the 180

very large SOEs (each employing over 5000 workers) had been privatized so that, overall, the private sector still accounted for only 40% of GDP in 1996. Price liberalization proceeded faster than privatization in Kazakhstan and was completed in 1994, although utility prices still lagged cost-recovery levels. In 1995, barter trade was abolished and all export and import licensing schemes were removed. Financial reform began in that year with a reduction in interest rates and confirmation of central bank independence while investment banks were separated from deposit-taking banks. However, an effective capital market has been slow to emerge and this has been detrimental to agriculture where production is depressed by obsolete machinery and acute shortages of capital and inputs (*Almaty Herald* 1997).

Compared with Kazakhstan, the reform policy of Uzbekistan has been much more cautious. Pomfret and Anderson (1997, 20) characterize it as 'inconsistent gradualism'. Price liberalization began in 1992 and accelerated when the national currency was adopted in July 1994. An IMF-backed stabilization programme commenced in November 1994. All subsidies were removed on consumer goods and only a few basic commodities were subject to rationing (Fischer et al. 1996). Full cost recovery was adopted for SOEs in 1996 along with the removal of controls on profit margins. Yet the reform was partial: half or more of wheat and cotton production was purchased at official prices that were set well below world levels. In addition, both the interest rate and the exchange rate continued to be artificially set and the black market premium on the national currency rose to exceed 100% by the mid-1990s (Pomfret and Anderson 1997). Finally, some of the reforms were reversed after the IMF agreement broke down in 1997: for example, average tariffs rose from 12% to 17% in 1997.

Privatization has also been partial in Uzbekistan. The government attempted to follow the Chinese model of agricultural reform by allowing private land use rights while retaining formal state ownership of land and operating a dual price system. The state farms were collectivized by 1994 and the land allotted to private plots rose six-fold to 630,000 hectares by 1994. There were also 9,000 private farms of 10 hectares average size. Most co-operatives adopted the Chinese household responsibility system whereby individual farmers contracted to produce a given volume at a fixed price and were free to sell any surplus and retain the revenues. Outside of agriculture, small and medium-sized firms were privatized but they were subject to tight regulation and heavy taxation. Meanwhile, the remaining SOEs (mostly large and medium-sized factories) were not privatized. They

benefit from monopolistic markets, subsidized energy and preferential access to foreign exchange and to credit on favourable terms.

The Uzbek policy transfers resources from agriculture and the non-farm private sector to protected industry and to social entitlements that are sustained at more generous levels than elsewhere in the FSU. Pension payments are maintained while schooling remains free to all and medical services have been only minimally affected by the collapse of the FSU (Pomfret and Anderson 1997). Meanwhile, the extended family and the retention of the historical system of local headmen also cushion against the economic disruption of the transition and help to sustain a relatively equitable distribution of income (Akhad et al. 1995), if not of wealth. Although this *sustains* social capital by easing medium-term hardship, it impedes its *enhancement* to the extent that it forestalls the need to create new businesses in the informal sector.

3.2 Differences in the transition trajectories

Table 1 shows that Kazakhstan output conformed to the pattern associated with relatively slow reformers up to the mid-1990s, whereas Uzbekistan had a much better performance than would be expected of a slow reformer. More specifically, revised figures show that the decline in Kazakhstan's output between 1991 and 1998 bottomed out at a level one-third below its 1991 level. But the decline for Uzbekistan was only 16% before the growth rate turned mildly positive, a fall that is smaller than for any other transition economy (Taube and Zettelmeyer 1998, 4). In addition, whereas government revenues collapsed to barely 16% of GDP in the case of Kazakhstan, they stabilized at twice that level in Uzbekistan.

One possible explanation for the more buoyant performance of Uzbekistan is inaccurate data because the statistics do show a systematic overstatement of its economic output. Furthermore, the contribution of this factor towards giving the *appearance* of a milder contraction may be amplified by the much smaller share of the informal sector in the GDP of Uzbekistan. Johnson et al. (1997, 182) estimate from adjusted electricity consumption that the level of activity in the unofficial sector halved in the case of Uzbekistan to around 6% of total GDP over the years 1989-95, whereas that for Kazakhstan tripled to almost one-third of total GDP. The figure for Kazakhstan is very close to the mid-1990s average for the Baltic Republics, Russia and CIS (Taube and Zettelmeyer 1998). The low Uzbek figure

results from the subsidization of large SOEs and consequent maintenance of employment, and from more repressive state control.

The use of data for electricity consumption as a proxy for output does narrow the gap in output decline between the comparator countries and Uzbekistan, compared to the GDP measure. Nevertheless, the fact remains that slow-reforming Uzbekistan still had the smallest decline in electricity consumption and the lowest cumulative deterioration in economic activity so that some of the difference in performance must be explained by factors other than statistical inaccuracy. There are five prospective explanations for the anomalous behaviour of Uzbekistan, of which the first two are explored more fully in section 5. First, a favourable resource endowment reduced the urgency for reform (Taube and Zettelmeyer 1998). Second, Uzbek policy promotes economic diversification by protecting manufacturing from import competition (the explanation favoured by the government of Uzbekistan). Third, the relative backwardness of the economy of Uzbekistan results in a minimal stock of obsolete heavy industry and thereby reduces the burden of transfers from the potentially resilient rural sector compared with more industrialized transition economies like Kazakhstan (Cao et al. 1997). Fourth, gradual reform permits a less disruptive transfer of resources from the obsolete public sector to the emerging private sector and this confers net benefits compared with rapid reform (Blanchard 1997). Fifth, political and institutional continuity reduce the urgency of reform (De Melo et al. 1997, Pomfret 1999). The actual transition trajectories of Kazakhstan and Uzbekistan are now compared with the predictions of the adapted IMF model that incorporates the natural resource endowment.

4. TRANSITION WITH POINT SOURCE RESOURCES IN KAZAKHSTAN

4.1 The severe transition recession and entrenchment of corruption

Within the FSU, Kazakhstan was easily the most prosperous republic in the otherwise lagging Central Asian region (De Melo et al. 1997, Table 1). To that extent Kazakhstan has more in common with the FSU countries to the north and west. The industrial sector was already considerably larger than the agricultural sector by the early-1990s. However, Table 4 shows that although Kazakhstan sustained high levels of investment from the early-

1990s this did not offset a long-term accelerating deterioration in capital efficiency and labour productivity.

Table 4 Trends in economic growth, Kazakhstan 1971-94 (%/Year)

Period	NMP growth	TFP growth	Labour growth	Capital growth	Investment/ NMP	Capital/ NMP
1971-80	0.05	-0.01	0.02	0.12	0.43	3.39
1981-90	0.01	-0.02	0.02	0.05	0.44	5.82
1991-94	-0.10	-0.08	-0.03	0.01	0.15	9.81
1991-94	0.00	-0.03	0.01	0.07	0.38	5.69

Source: De Broeck and Kostial 1998, 16.

Both the key tradeable sectors, agriculture and industry, contracted faster than the economy as a whole between 1990 and 1995, so that the share of industry in GDP fell by more than half and that of agriculture by two-fifths (De Broeck and Kostial 1998, 19). These relative declines are much sharper than those experienced by Uzbekistan, Moreover, when subsidies were withdrawn in the mid-1990s, the output of agriculture declined slightly faster than that of industry. By 1997, agriculture generated only 11% of GDP in Kazakhstan (but absorbed two-fifths of the workforce) compared with 26% for Uzbekistan (compare Tables 5 and 8).

Table 5 Sectoral composition of GDP, Kazakhstan 1993-97 (% GDP)

	1993	1994	1995	1996	1997
Agriculture	16.4	14.9	12.3	12.0	10.9
Industry	28.7	29.1	23.5	21.2	20.4
Construction	8.3	9.6	6.5	4.4	4.1
Transport and communications	10.0	11.2	10.7	11.3	10.5
Trade and catering	10.4	12.1	17.2	17.3	17.0
Other (mainly services)	26.2	23.1	29.8	33.8	37.1

Source: IMF (1998), 29.

The collapse in government revenues in Kazakhstan (to a meagre 16% of GDP by 1997) was even sharper than the collapse in its output of tradeables. Even then, the low figure of 16% of GDP understates the collapse because it includes privatization receipts equivalent to 3.4% of GDP. Meanwhile, despite the privatization windfall, the budget deficit in 1997 was 3.8% of GDP, of which almost two-thirds was funded by foreign borrowing. Consequently, given the role played by privatization receipts, the underlying structural deficit was closer to 7% of GDP, or one-third of public expenditure. This creates acute problems in maintaining social entitlements. Income inequality has risen sharply (Becker and Urzhumova 1998). However, a further rise in tax rates is precluded because the tax reform set relatively high levels and compliance is already a problem (EBRD 1996).

Table 6 compares the energy resources of the Caspian Basin countries. It shows why, under these conditions, ministers in Kazakhstan may be tempted to defer hard political decisions. It also shows the opportunities that ministers face to enrich themselves and their associates. In contrast to the modest hydrocarbon endowment of Uzbekistan, Kazakhstan may have sufficient resources to become one of the ten largest global producers. Three scenarios for Kazakhstan oil rents are presented in Table 7, based on estimates of production costs by Planecon (1997) and oil prices by the World Bank (1998). The Table shows that under the most optimistic price/ output combination, the oil revenues could reach $4.75 billion, equivalent of 23.8% of Kazakhstan GDP. Such a windfall is more than double that which, relative to its GDP, Venezuela received during the 1974-78 and 1979-81 oil booms, and slightly higher than the windfalls which Indonesia and Nigeria received at that time (Gelb and Associates 1988).

Table 6 Estimated recoverable oil and gas, Caspian Sea region

Country	Oil (billion bls)			Natural gas (trillion m^3)		
	Proven	Possible	Total	Proven	Possible	Total
Azerbaijan	3.6	27.0	31.0	0.3	1.0	1.3
Kazakhstan	10.0	85.0	95.0	1.5	2.5	4.0
Turkmenistan	1.5	32.0	33.5	4.4	4.5	8.9
Uzbekistan	0.2	1.0	1.2	2.1	1.0	3.2

Source: State Department (1997), 4.

However, the 'middle' scenario in Table 7 is more consistent with the long-term forecasts of the World Bank (1998). It yields a much more modest rent stream that is equivalent to only 3.2% of GDP. The large difference between the two scenarios is due to the fact that the Caspian region is a relatively high cost oil producer on account of high overhead costs, including transportation. The rent is reduced disproportionately by lower oil prices because it is a residual after meeting all costs, including the risk-related return on capital (Auty 1999b). Even so, the medium price scenario would still boost public revenues by one-fifth, if the level of public expenditure is assumed to stabilize at 16% of GDP. Yet there is also the prospect of no rents through the medium-term if the third scenario proves more accurate. This scenario reflects the increasing downward pressure on oil prices exerted by global oil reserves that exceed 1 trillion barrels (BP 1998). The low price scenario raises the unpalatable prospect that Kazakhstan will see its real exchange rate recover due to heavy investment in the oil sector so that non-oil tradeable activity is depressed without any appreciable offsetting improvement in government finances.

Table 7 Projected Kazakhstan oil rent stream, three scenarios

	Low	Medium	High
North Sea oil price ($/bl)	12.00	16.00	20.00
Caspian oil price ($/bl)[a]	10.00	14.00	18.00
Netback/rent ($/bl)	0.00	1.15	5.15
Total rent ($ billion)			
0.5 million bpd	-	0.210	0.940
1.5 million bpd	-	0.630	2.820
2.5 million bpd	-	1.049	4.699
Total rent (% GDP)[b]			
0.5 million bpd	-	1.1	4.7
1.5 million bpd	-	3.2	14.1
2.5 million bpd	-	5.2	23.5

Notes: a. Discounted by $2 per barrel from North Sea Price.
b. GDP = $20b at 1997 prices (assumes 5%/yr growth to 2020).

There is anecdotal evidence that ministers have held back on politically difficult decisions because they expect an oil boom to resolve fiscal problems. There is also speculation that large sums of public money (from contract signature bonuses, for example) have been siphoned into private accounts, consistent with the exploitation of point source resources under inadequate public sector accountability. Additional evidence of corruption and deficient institutional capital emerges from the scale of the collapse in government revenue that is consistent with the sharp expansion of the unofficial economy, which Johnson et al. (1997) estimate at one-third of official GDP. Finally, Kazakhstan languishes with Azerbaijan, Georgia and Uzbekistan at a low level on indices of tax fairness, a measure of corruption, and legal safeguards (Johnson et al. 1997).

Even if the postponement of the oil windfall lowers the opportunity for corruption, the latter may still adversely impact the economy. This is because a continued squeeze on state revenues will result in low public sector salaries that encourage government officials to impose illicit imposts on private firms that depress investment, as Azerbaijan shows (Auty 1999a). In order to discourage public sector workers from the abuse of their positions, the civil service must be cut in size and its remuneration improved. But this also requires an expansion of labour-intensive employment in the private sector (Becker and Urzhumova 1998) to provide alternative opportunities for displaced government workers. This is proving especially hard to achieve in mineral-rich Kazakhstan, as discussed below.

4.2 The real exchange rate rebound and the faltering Kazakh recovery

Investment in the Kazakh oil sector may be partially responsible for the faltering economic recovery. Capital inflows into Kazakhstan, as well as into oil-rich Azerbaijan and gas-rich Turkmenistan, are large compared to other transition economies within the CIS. For Kazakhstan, the inflow in the mid-1990s was equivalent to 5.6% of GDP annually; a level that exceeds by two orders of magnitude the capital inflows into then-booming East Asian economies like Singapore and Indonesia (Rosenberg and Saavalainen 1998, 22). This foreign investment has been associated with a faster rebound in the real exchange rate of Kazakhstan than in the resource-deficient economies in transition. The real exchange rate of Kazakhstan rose by 20% over the three years from 1995 to 1997 against a combined index of the Russian rouble and US dollar. A recession commenced in 1998 when economic growth faltered after having turned positive in 1996 and reaching 2% in 1997 (IMF 1998).

Although Kazakhstan's real exchange rate has recovered much closer to its equilibrium level than in the less resource-abundant CIS countries, Kornelia and Zettelmeyer (1997) argue that the real exchange rate does not appear to have overshot its post-transition equilibrium rate. Consistent with this conclusion, Kazakhstan exporters succeeded in expanding sales to the rest of the world in the face of the collapse of traditional export markets in the former Soviet Union, an outcome that does not suggest any lack of competitiveness. The economic slow-down in Kazakhstan in 1998 therefore appears to have more to do with unexpected external shocks (falling oil prices and collapsing CIS markets) than with any systematic deterioration in external competitiveness. However, this conclusion ignores the urgent need to diversify into more labour-intensive exports not only to strengthen the economy, but also for social reasons.

4.3 Social costs of uneven structural change in the Kazakh economy

The steep decline in tradeable output during the transition had created a two-sector economy in Kazakhstan by 1998. The economy comprised, a well-funded, largely foreign-owned export sector and a capital-starved domestic sector that withheld wages, pensions and utility payments in order to sustain its cash flow (*Financial Times* 1998). The fragile economic recovery of 1996-98 reflects the rebound of HCI as a result of successful privatizations that included the 6 million tonne Ispat-owned integrated steel plant and the 250,000 tonne Samsung-owned copper refinery. The fuel sector

and metallurgy sector each generated about 25% of industrial output. Oil and gas also provided one-third of exports and non-fuel minerals two-fifths. Sharp recoveries are also expected in alumina and gold.

However, both HCI and mining are highly capital-intensive so that other sectors will be need to expand direct and indirect employment. The experience of oil-rich countries like Saudi Arabia suggests that such employment should occur in the private sector and not the public sector. The additional employment that is required seems initially likely to come from services rather than from either non-mineral manufacturing or agriculture. Although diversification into manufacturing should eventually occur, there is likely to be a lag that, in the case of Chile, was one decade (UNIDO 1998). For example, a vigorous expansion of food processing in Kazakhstan (IMF 1998, 30), where the country's comparative advantage might be expected to lie, was offset by continued sharp contractions in other sub-sectors that are the unviable legacy from central planning. The latter include chemicals, fabrics, farm machinery, white goods and electrical goods. In such sectors output declined from FSU levels by from two-thirds (machinery and metalworking) to seven-eighths (light industry), compared with one-third for minerals and metallurgy.

Trade reform will initially realign the economy towards primary production and away from manufacturing. Unfortunately, the medium-term employment prospects are poor in agriculture as well as in mining. Although Kazakhstan has one of the highest endowments of cropland per capita among the developing countries (Table 1), only 6% of the cropland is irrigated. Moreover, cropland was over-extended under central planning, especially in the grain-growing northern region so that it required sizeable subsidies, estimated at 10-12% of GDP (De Broeck and Kostial 1998, 40). The withdrawal of those subsidies due to the reforms made some contraction in output inevitable, albeit not as great as the 40% fall from 1990 levels that occurred. The sharp decline in production is due to the failure of private rural credit to emerge and an associated reduction in the supply of farm inputs. For example, inputs per hectare of grain fell by almost two-thirds and yields dropped to 0.7 tonnes per hectare. Losses in the farm sector are estimated to exceed 2% of GDP by the mid-1990s. Yet, although grain output should recover to 20 million tonnes (because 16 million hectares are suited to grain production and yields of 1.3 tonnes per hectare are possible), agriculture will not employ more than a fraction of those now dependent on it.

Agriculture functioned as a labour reservoir during the transition recession because it shed workers at a slower rate than other sectors. But although subsistence farming may have alleviated rural poverty, the 40% of the population presently dependent on farming require rapid growth in non-farm jobs. Given the surplus labour in the non-farm public sector, private services will initially have to provide most employment in Kazakhstan. This will have two adverse consequences. First, it will maintain the relative specialization of the tradeable sector in mining (and enhance the vulnerability of the economy to external shocks and corruption). Second, it will heighten income inequality due to the capital-intensive nature of mining and HCI. The mining sector therefore acts as a double-edged sword in the transition of Kazakhstan: it drives the relatively rapid appreciation of the real exchange rate and when this is combined with diminished expectations of mineral rents, the prospect for economic recovery through the medium-term is disappointing. This outcome does not invalidate the IMF policy model, but it does suggest that the policy prescriptions from the IMF model can be improved by considering the natural resource endowment more explicitly.

5. RESOURCE ABUNDANCE, MACRO POLICY AND THE UZBEKISTAN TRANSITION ANOMALY

5.1 The misguided development strategy of Uzbekistan

The Uzbek government attributes the greater resilience of the Uzbekistan economy compared with that of Kazakhstan to subsidizing manufacturing within a policy of gradual reform. De Melo et al. (1997) acknowledge that low-income economies like those of *East* Asia may be able to sustain a gradual reform process with rapid economic growth. Moreover, Uzbekistan was certainly one of the poorest states in the FSU with a per capita income barely half that of Kazakhstan on the eve of the transition. Cotton and gold together provided 30% of GDP and 60% of exports in the early-1990s (Taube and Zettelmeyer 1998). However, De Melo et al. (1997) attribute the East Asian success to relatively low levels of economic distortion along with a cultural institutional edge (that can be attributed to a virtuous constraint on policy arising from resource deficiency, see Auty [1997]). Uzbekistan, however, lacks both these advantages for successful slow reform.

Table 8 Sectoral composition of GDP, Uzbekistan 1993-97 (% GDP)

	1993	1994	1995	1996	1997
Agriculture	27.9	34.5	28.1	22.4	25.8
Industry	22.4	17.0	17.1	17.8	16.5
Transport and communications	5.5	5.8	7.3	6.7	6.3
Construction	9.0	7.2	7.1	8.2	8.1
Trade	6.2	7.5	5.2	7.0	8.2
Other services (plus government)	19.6	19.8	22.1	23.4	23.6
Indirect taxes minus subsidies	9.4	8.2	13.1	14.4	11.5

Source: Taube and Zettelmeyer (1998), 19.

Zettelmeyer (1998) uses a regression model in order to assess the relative importance of the policy factor and resource endowment factor, respectively, in explaining the mild transition recession in Uzbekistan. He finds that agricultural production (and cotton exports in particular) is strongly and positively associated with the modest nature of the GDP decline in Uzbekistan (Table 8). The country is the world's third largest exporter of cotton. Buoyant revenues from cotton (along with those from gold) helped to sustain government finances after independence in the face of a loss of transfers from the Soviet Union, estimated at 12% of GDP. The agriculture sector also helped to cushion the adjustment to the transition by increasing its share of employment as a result of a net migration to rural areas. The share in total population of the rural population rose slightly to 61%, even as rural wages dropped from 15% *above* the national average to one-third *below* the national average (Pomfret and Anderson 1997).

The policy of assisting industry may sustain output over the short- and medium-term, but it has two adverse consequences for long-term economic growth, as the staple trap model based on the experience of the resource-abundant developing market economies shows (Auty 1998). First, it misallocates resources by transferring revenue in excess of the resource rents from the potentially efficient primary sector to less efficient activities. Second, the transfer of a sizeable fraction of the resource rents to the government voids the potential advantage for growth that crop-led developing countries possess over mineral-led ones. That advantage arises from a wider dispersal of rents through the economy and consequent reduced vulnerability to predatory government behaviour.

5.2 Repressing the buoyant primary sector

Uzbekistan attempted to emulate the Chinese model of agricultural reform, but in contrast to the dynamism that such reform unleashed in China, agricultural production contracted in Uzbekistan. This is because the local

elite retains more control in Uzbekistan than it did in China and the central government also came to depend heavily on farm revenue. The continued regulation of the exchange rate and the manipulation of major commodity prices by the central government severely distort primary commodity prices for domestic producers (Pomfret 1998). The net effect of the government's price adjustments and subsidies may have been to transfer 10% of GDP from cotton producers alone in the mid-1990s. In the late-1990s the government secured almost one-third of its revenue from excise duties (possibly one-half of this from cotton). One result of the government policy has been to depress rural incomes by more than the overall decline in economic output, thereby severely reducing incentives to producers. A second consequence of government policy is that the share of trade in Uzbek GDP almost halved to 26% between 1994 and 1997, whereas in Kazakhstan it remained stable at around 31% of GDP (EBRD 1998).

The transfers from primary product exports were not just directed into protected industry, however, they were also targeted at boosting food self-sufficiency. Yet it is far from clear that this is in line with the comparative advantage of the Uzbek economy. Some 360,000 hectares of land were transferred from cotton to grain (predominantly wheat). This is equivalent to cotton exports worth $127 million, assuming a cotton yield of 2 tonnes per hectare (compared with 2.7 in 1995) and the relatively low cotton price of $177 per tonne in 1996 (World Bank 1998). Grain production was also expanded onto marginal land, including 490,000 hectares (30% of the land under grain) that was not irrigated and subject to drought. Yet, despite the extra resources, grain output in 1996 was barely three-fifths the target and met only half the country's requirement. Grain was therefore imported from Russia (EIU 1996) and total food imports accounted for one-third of all imports in 1995, or some 6% of GDP. The expansion of grain production is a clear misallocation of resources.

Self-sufficiency is not undesirable per se: Uzbekistan did benefit from self-sufficiency in energy production when oil output was increased. The expansion of oil and gas production is at least in a sector in which the country might expect to hold some comparative advantage. Moreover, by maintaining energy self-sufficiency, Uzbekistan minimized the disruption that other countries experienced that remained dependent on energy imports from the FSU. Increased energy production freed Uzbekistan from its dependence on Russian imports and in 1995 energy accounted for 15% of exports, just under one-quarter the size of cotton exports. Zettelmeyer (1998) confirms that energy self-sufficiency had a significant positive

effect on economic growth, although he finds the *export* of energy is negatively correlated with economic growth because of undesirable barter deals and non-payment by importers. He concludes that the combination of buoyant cotton revenues and energy self-sufficiency relieved the import compression that other transition economies experienced and that these two factors are more important causes of the mild transition recession than is government policy. Zettelmeyer (1998) finds that investment in industry is particularly weak as an explanatory variable in his growth model, whereas those modest macro reforms that were achieved had a beneficial impact on the recovery. In other words, the recovery of the Uzbek economy occurred *despite* the industrial policy that the government espoused.

5.3 Cosseting the manufacturing sector risks a growth collapse

Although manufacturing attracted some foreign direct investment, notably from Daewoo and BAT, most investment came from the state and was directed at large SOEs. The scale of government promotion of industry is substantial, amounting to three-fifths of national investment in 1996. Only one-fifth of the large and medium SOES had been privatized by 1996. In fact, most large SOEs were captured by their managers who secured access to low-interest loans. The managers also enjoyed soft budgetary constraints and little competition. Yet despite the huge transfer of resources to the manufacturing subsector (and the expansion in energy production), Table 8 shows that a significant decline in the share of industry in the GDP of Uzbekistan still occurred.

The industrial policy had some success in expanding the production of autos, television sets and video recorders with foreign investment (Table 9). Elsewhere, the production in bulky HCI products such as fertilizer, ferrous metals and cement was sustained by subsidies. Most other sectors recorded declines, however, despite state assistance. The products made by the SOEs were often of low quality and proved difficult to sell (EIU 1996). Resources will continue to be misallocated in the absence of hard budget constraints and price signals that reflect scarcity value. Meanwhile, the SOE factories tend to be capital-intensive and to provide little employment. Yet a rise in employment is required in order to absorb a workforce that is set to grow rapidly given that the rate of population growth is 2.6% and the working age population is only 48% of the total.

In fact, Uzbekistan manufacturing should not require subsidies. It has the potential to serve the Central Asian market for manufactured goods. This is

because it offers investors the region's largest national market and the rebound in its real exchange rate will lag those of its mineral-rich neighbours like Kazakhstan. For example, estimates of the US dollar wage level for Uzbekistan suggest that it remains at barely one-third of its equilibrium level, whereas that of Kazakhstan is already close to parity. However, by postponing reform and diverting resources from sectors with competitive advantage to protected sectors that have little incentive to become efficient, current policy is likely to result in a growth collapse and a further decline in real wages. It will require a more vigorous expansion of the private sector if the economic potential of Uzbekistan is to be realized and rapid employment-intensive growth is to be sustained.

Table 9 Production of selected manufactured goods, Uzbekistan 1991-97

	Unit	1991	1994	1997
Cement	000 t	6,191	4,780	3,286
Ferrous metals	000 t	749	337	850
Fertilizers	000 t	1,660	811	954
Compressors	Units	11,106	1,264	284
Transformers	000 kWh	6,771	1,106	398
Cotton harvesters	Units	5,800	651	1,049
Cotton sowers	Units	1,800	970	411
Steel	000 t	860	364	379
Window glass	000 m^3	2,537	1,122	5,123
Cotton fibres	000 t	1,532	1,385	1,125
Refrigerators	Units	211,900	19,750	35,000
Automobiles	Units	0	800	64,900
Televisions sets	Units	1,100	51,800	268,450
Video recorders	Units	2,100	23,900	140,600
Cotton cloth	000 t	392	480	425
Socks	m. pairs	103	107	62
Shoes	m. pairs	45	28	5
Vegetable oil	000 t	400	360	237
Oil	000 t	2,831	5,517	7,891
Electricity	Bn. KWh	54	48	46

Source: Taube and Zettelmeyer (1998), 20.

Summarizing, the relatively favourable growth in Uzbekistan occurred *in spite of* its development policy and can be better understood if account is taken of the natural resource endowment. Buoyant commodity prices initially sustained the Uzbek economy. The revival of growth in 1996 was initially driven in large measure by a boom in trade and services as small-scale privatization and trade liberalization offset a fall in cotton production. Although manufacturing also contributed to the modest growth that year, the continuation of growth in 1997 was due mainly to the recovery in agriculture. However, the transfers from the dynamic natural resource sector mask the cumulative effect of a misguided government policy that

compounds economic distortions and weakens the economy. Yet, even when it is extended to incorporate differences in the natural resource endowment, the IMF model is still deficient. Differences in institutional capital must also be factored into the IMF model. Johnson et al. (1997, 208-9) conclude that stabilization alone is unlikely to secure growth without strong institution building and the depoliticization of economic transactions.

6. CONCLUSIONS AND POLICY IMPLICATIONS

The IMF model of transition reform stresses macro policy and neglects differences among the transition economies in their endowments of natural resources, obsolete produced capital and institutional capital. The incorporation of the natural resource endowment into the IMF model improves its explanatory power. Resource abundance may be expected to delay the transition and misallocate resources because it feeds corruption and diminishes the urgency of reform. In addition, Dutch disease effects amplify the post-transition rebound of the real exchange rate and distort the structure of the economy towards non-tradeables. These adverse features are more severe where the resource endowment creates point source socio-economic linkages, as in mining, as opposed to the diffuse linkages associated with crop production by yeoman farmers. The detrimental effects of resource abundance are also likely to be more severe where institutional capital is deficient.

Consistent with the extended IMF model, both Kazakhstan and Uzbekistan delayed reform compared with the more resource-constrained countries of Eastern Europe and the two governments exhibit higher levels of rent-seeking behaviour and corruption. Also, investment in minerals in Kazakhstan has strengthened the exchange rate and retarded economic diversification in Kazakhstan so that economic recovery is slower than the original IMF model predicts. More specifically, Kazakhstan experienced heavy foreign investment in mining and HCI that pushed the economy much closer to its equilibrium wage than other transition economies. Kazakhstan has also endured a sharp contraction in output, while diversification into more employment-intensive activity is constrained. The result is a dual economy in which the potentially employment-intensive sectors lack investment. In these circumstances, if oil rents prove disappointing the government of Kazakhstan may experience the

unpalatable combination of a relatively high real exchange rate, weak economic growth and rising income inequality without compensation from higher mineral revenues.

In the case of Uzbekistan, a natural resource endowment that yielded especially buoyant crop revenues (that eased the foreign exchange constraint) helps to explain why the growth collapse and loss of government revenue are less than the unadjusted IMF model predicts for such a slow reformer. To that extent, the transition has indeed proved easier in a lower-income crop-driven resource-rich country than in a mineral-driven one like Kazakhstan or Azerbaijan (Auty 1997). This explanation for the Uzbek anomaly is still too simple, however, because Uzbekistan also benefits from robust social capital and limited obsolete industry that retard the decline in government revenue.

However, the experience of Uzbekistan does confirm that a favourable natural resource endowment may be used to postpone difficult reforms when the stock of obsolete capital is low. Yet unlike the resource-deficient gradual reformers of East Asia, Uzbekistan is not likely to evade major reform. The extended IMF model suggests that the Uzbek policy of gradual reform, unlike that in East Asia, represses exports and intensifies economic distortions. This locks the economy into a staple trap that leads to a growth collapse, as experienced by many resource-abundant developing market economies. Ironically, manufacturers in Uzbekistan should not require state assistance because the real exchange rate will appreciate less than those of its mineral-rich neighbours will. Uzbekistan should also attract scale-sensitive manufacturing that is directed at the Central Asian market because it has the largest domestic market in the region. Government policy should use this competitive edge to export non-mining tradeables like manufactures and farm products to its neighbours.

Finally, turning to policy prescriptions for Kazakhstan, the appreciation of the real exchange rate need not retard growth through the medium-term and long-term because any unwelcome appreciation can be curbed by increasing the rate of domestic saving, thereby lowering the demand for foreign capital inflows. This policy has the added benefit of making funds more readily available to a wider range of domestic investors than is the case with foreign savings. Such a pattern of investment will not only boost production, but it will also slow the rise of income inequality because it will be directed towards more labour-intensive activity. Another reason why higher saving is required is because even with the inflow of foreign

capital for mining, investment slumped during the transition to a level of only 11% of GDP by 1996-97 (IMF 1998). This reflects the withdrawal of transfers worth around 10% of GDP after the collapse of the FSU (De Broeck and Kostial 1998). The investment figure of 11% compares with an expected rate of investment for a country of the size and per capita income of Kazakhstan in the mid-1990s of 20% of GDP, according to the Syrquin and Chenery (1989) norms.

Table 10 Genuine saving rates, selected resource-rich countries 1997 (% GDP)

	Gross domestic saving	Education	Fixed capital depletion	Natural capital depletion	CO_2 damage	Genuine saving
Argentina	18.4	2.4	10.5	0.5	0.2	9.6
Bolivia	10.1	2.6	8.1	2.0	0.7	1.8
Costa Rica	25.0	4.6	2.5	0.0	0.3	26.8
Finland	24.6	7.2	16.7	0.0	0.2	14.8
Ghana	9.8	2.4	4.3	2.5	0.4	5.0
Kazakhstan	13.5	0.0	7.4	18.5	5.5	-17.9
Malaysia	44.4	4.8	9.3	6.3	0.7	32.9
Mexico	26.4	3.7	10.4	5.0	0.5	14.2
Norway	n.a.	6.7	16.4	5.9	0.2	n.a.
Russia	24.7	4.1	19.3	9.3	1.8	-1.6
Saudi Arabia	34.6	5.8	10.0	43.6	1.0	-14.2
South Africa	17.0	6.6	13.8	4.1	1.4	4.4
Uzbekistan	18.6	7.7	4.4	8.2	2.4	11.4

Source: Hamilton (1999).

Table 10 shows that the genuine saving rate of Kazakhstan is negative, in part because of the very low rate of domestic saving noted above and in part because of a heavy reliance on oil extraction (compare Saudi Arabia). It is therefore desirable to remove the disincentives to domestic saving and investment that arise out of inadequate financial markets and continuing uncertainties about the utility of legal guarantees against private and public sector predatory behaviour. Households can be encouraged to save by a move from income tax to value added tax, by incentives to accumulate individual pension funds and by improved reliability of the banking system. Business saving can be raised through institutional improvements plus lower profits taxes and wage rises that are moderated in line with productivity. However, these deficiencies serve to strengthen the case made in this paper of the need to go further and incorporate institutional capital more explicitly into the *extended* IMF model presented here.

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