Growth and Competitiveness in Kazakhstan: Issues and Priorities in the Areas of Macroeconomic, Industrial, Trade and Institutional Development Policies

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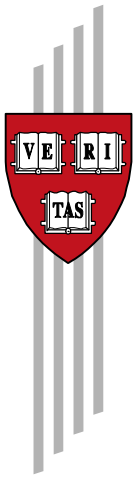

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Kazakhstan's Macro Challenges Ahead: A Summary of the Views

Ricardo Hausmann

Kazakhstan has achieved many of its goals and faces enormous opportunities. It has been able to transform itself into a market economy, thus unleashing the productive capacity of its citizens and creating the conditions for the country to benefit from international trade and investment. In addition, it has discovered large quantities of oil reserves that will allow it to sustain a tripling of oil production in the next two decades.

Under these conditions, the recent performance of the economy has been characterized by rapid growth with declining unemployment. The economy has been propped up by increased fiscal spending and by private investment. Macroeconomic management has been prudent in the sense that inflation has been kept low, the government has accumulated significant fiscal savings in the National Fund and the Central Bank has built up a significant stock of international reserves. The question is how to make this situation last over the medium and long term and how to make the economy resilient to the shocks that may come.

This report is a collection of policy memos that deal with the choices the government faces going forward in the broad area of macroeconomic policies, including fiscal policy and institutions, monetary and exchange rate arrangements and policies, financial policies, industrial policy, trade policy and broad issues in institutional development.

The international experience suggests that oil wealth is notoriously difficult to manage. Several elements come in to complicate matters:

a) Over-heating: *In the initial phases of an oil expansion, domestic demand risks growing too fast.* First, both the public and the private sector may want to bring forward part of the future wealth through foreign borrowing. This would be further facilitated by openness of the capital account of the balance of payments and by the country's increased access to international finance. Second, this additional spending will affect both tradables and non-tradables, but *oil and foreign borrowing only allows to increase the supply of tradables* through the use of the foreign exchange they generate to finance imports. Non-tradables will need to be produced with existing labor and installed capacity in the country. This will tend to generate excess demand for non-tradables, which will cause an increase in their relative price and profitability. Third, the fiscal accounts may give the impression that the government's spending capacity has been increased but the capacity of the economy to supply more non-tradables has not. This is aggravated by the fact that *public expenditure*, whether in education, health care or infrastructure *tends to be more intensive in non-tradables than in tradables*. If the government expands spending on non-tradables at a rate faster than the growth in non-tradable GDP, it will crowd out the private sector from accessing non-tradables and will crowd out the tradable sector from access to labor and skills. Fourth, investment for the production of non-tradables will tend to rise, given its

increased profitability. But this investment will also require additional non-tradables, further amplifying the excess demand for non-tradables. Fifth, the supply of non-tradables depends on how much installed capacity there is in the sector, and this capacity takes time to build up. In the longer term, non-tradables can be more elastically supplied through increased installed capacity, but in the short-run it tends to be more inelastic as it needs to be generated with the inherited installed capacity. This will cause the strains in the non-tradable sector to be larger in the short term than in the long term. A slower growth of demand in the early years may allow for a longer and larger growth process while protecting the tradable sector in the process.

b) Dutch disease: the increased demand for non-tradables forces the non-oil tradable sector to contract. It finds itself unable to retain workers, as their wages are bid up in the non-tradable sector, but the price of tradables is pinned down by the availability of imported goods, often at declining prices, given exchange rate appreciation. In addition, the tradable sector will face increased prices on its non-tradable inputs. As a consequence, a loss of competitiveness will ensue and the sector will tend to lag behind or contract. If there are specific assets to the sector, such as know-how, built up through years of learning by doing, these may be lost.

c) Volatility: oil prices have a standard deviation close to 30 percent per year, which means that they are very volatile. In addition, shocks to prices tend to be very persistent, thus creating great uncertainty over the long run level of wealth of the economy. This will make the overall macro environment riskier. However, this increased risk will be greater for the tradable sector as its profits tend to be more sensitive to movements in the real exchange rate. The more specialized the economy in the production of oil, the larger the volatility of the real exchange rate and the higher the risks faced by other tradables. This may become a vicious circle working against diversification.

d) Rent-seeking: government oil revenues need to be allocated to the different sectors of society. Since this is an open process in which many individuals may participate, there are incentives to get involved in the political process in order to affect the allocation of resources. Agents may be encouraged to engage in socially unproductive activities in order to affect the allocation of the oil wealth instead of focusing on activities that create wealth.

e) Resource curse: any and all of the previous channels may be behind the fact that many resource rich countries have found it very difficult to translate oil wealth into sustained prosperity.

The Government of Kazakhstan has stated that one of its priorities is the diversification of its economy. This represents a major challenge in light of the dynamics that oil wealth tends to create, as discussed above. An economic policy that is able to achieve diversification will have to use many of its limited degrees of freedom to achieve it. Hence, all policy instruments should be used with this goal in mind. Fiscal policy should limit overheating and cushion the economy from shocks. Monetary and exchange rate policy should take account of the risks that an anti-

inflation strategy based on a tight monetary policy may pose for competitiveness and the diversification goals of the country. The system adopted should share the effort of containing inflation with fiscal and financial policy. Financial policy, including capital adequacy rules and the use of reserve requirements on bank deposits and foreign borrowing may assist in limiting over-heating while at the same time making the system safer from a prudential point of view. Finally, the liberalization of the capital account should not be seen as a priority as it may complicate the management of the economic boom that the country is experiencing by adding more fuel to the fire.

But in addition, each of these policy areas needs to take other more specific considerations into account.

1) Fiscal policy needs to be particularly prudent as it is a potentially powerful source of over-heating, Dutch disease, volatility and rent-seeking. In fact, even if recent policy has been consistent with significant savings at the National Fund, *actual fiscal policy has been too expansionary from the point of view of the government's stated objectives*. This can be shown by the fact that inflation has been above the target, in spite of the fact that the exchange rate has been stronger than the authorities would have wanted, prompting significant sterilized intervention by the central bank. To achieve a lower inflation in the context of a more competitive exchange rate, fiscal policy would have to be less expansionary than it has been in the very recent past. However, recent policy announcements suggest an even more expansionary fiscal stance.

2) Fiscal policy also needs to be able to stabilize spending so as not to transmit to the domestic economy the shocks to oil income. Moreover, it needs to do so in a credible manner, a characteristic that is enhanced if it is bounded by some principles and rules. We will discuss below a framework that achieves this.

3) Monetary policy is constrained by the limited development of the financial system. This implies that movements in interest rates have a limited effect on aggregate demand. Moreover, the Central Bank has a limited capacity to influence the level on interest rates in the market. This means that relative to more advanced countries, the effect of monetary policy on inflation comes more from its effect on the exchange rate than from interest rates. This implies that there will be a greater contradiction between the anti-inflation policy and the diversification policies. If fiscal policy is too lax, monetary policy will be forced to appreciate the exchange rate in order to achieve any given inflation target and will have to do so in a more drastic manner, given the limited reaction of aggregate demand to movements in the policy interest rates. But this is exactly the opposite of what would be required by a policy to support diversification.

4) Exchange rate regime: In the short run, continued real appreciation of the tenge, due largely to the oil boom, is likely but limiting it should be one of the goals of macroeconomic policy. For the longer run, the design of a monetary regime should also take into account that shocks could as easily be in the other direction. Regardless, a policy of fixing the exchange rate to a major currency such as the dollar, euro, or ruble is not recommended. It would be too vulnerable to fluctuations on world markets of

exchange rates among these major currencies and of the price of oil. Nor, at the other extreme, is a policy of pure floating, with inflation targeting, recommended.

Two more plausible alternatives for Kazakhstan are:

(1) an intermediate exchange rate regime, such as a target zone of width plus-or-minus 10%, defined around a four-currency basket peg, or

(2) inflation targeting with managed floating.

Either of these regimes presents challenges. An intermediate regime with bands will invite speculation when the exchange rate hits the band. Inflation targeting requires a deep and liquid short term market in which the central bank can operate, and a relatively sensitive aggregate demand to moves in the interest rate.

A better system may be to move towards an inflation targeting scheme with an announced central parity and no bands on the exchange rate: the exchange rate would be free to fluctuate but the market should expect intervention and other policy measures to lean against the wind when the deviations of the exchange rate from the announced central parity are substantial.

To move in this direction it would be important for the central bank and the fiscal authorities to develop a market for short term paper that is deep and liquid.

Jeffrey Frankel recommends a particular feature for the Kazakh monetary regime: that the price of oil be included as a component of the basket that is targeted. This feature could be applied under either of two alternatives:

(1) Including oil in the basket used to determine the exchange rate target that constitutes the announced central parity

(2) Modifying the standard version of inflation targeting, the central bank could target a price index that allocates a substantial weight to oil, such as a production price index or an index of export prices, in place of the CPI.

The point of including oil is to make the nominal target more robust with respect to terms-of-trade shocks. The cost of doing this is that the volatility in the price of oil will be transmitted to non-oil tradables though helping to insulate the non-tradable sector.

5) Financial policy needs to make long-term financial development compatible with prudential risk management and with the dangers of over-heating. At present, the risks are biased towards an excessively rapid expansion of the banking system in the context of limited development of prudential regulation and capital markets. Our proposed strategy involves exploiting the synergies between prudential regulation and supervision and the macroeconomic policy goal of fighting over-heating. Financial policy should be used to tighten capital adequacy requirements during the current boom. In addition, it should limit external borrowing by banks by imposing an

unremunerated reserve requirement (URR) and by requiring a strict management of currency mismatches in the balance sheet of the banks. We also suggest measures to develop the non-bank financial sector through the creation of a market for collateralized debt obligations (CDO) and a more expanded use of mortgage-backed securities.

6) Industrial policies can help Kazakhstan better identify and exploit growth opportunities. However, this policy needs to be aware that the identification of opportunities involves not just the government but mainly the domestic and international private sector. It must create the incentives for private agents to explore opportunities in Kazakhstan and must resolve coordination failures and adapt rules and regulations so that they may be recognizant of the needs created by new activities. A policy to promote diversification needs to be as transversal as possible (i.e. open to all sectors) while being as sectorial as necessary. It need not choose specific sectors unless it is trying to address sector-specific public goods and institutions. But many of the challenges of diversification imply informational and coordination externalities that affect all sectors and that can be addressed in a transversal manner. In this process, selectivity is inevitable and mistakes will be made: not all initiatives will turn out well. However, success will be determined not by how well the system "picks winners," but instead on how effectively it lets "losers go." Itt is critical that many ideas get tried out, but that losers should be let go. It is important that the use of industrial policy to support diversification have the following characteristics: 1) Very high level political support and monitoring; 2) Clear channels of communication with the private sectors; 3) Mechanisms for transparency and accountability; 4) Clear benchmarks and criteria for success when providing support to the private sector; 5) Sunset clauses to force the system into letting losers go. The current set of institutions including the Development Bank and the Innovation Fund should be adjusted to conform with these principles.

7) **Trade policy should be an integral part of a development strategy.** When trade policies are integrated with industrial and development policies they can help these policies succeed. Trade agreements, in particular, can play an important role in facilitating domestic economic reforms. They can lock-in reforms and make them more credible. Indeed, the best trade agreements are those that help countries to undertake policies they should be adopting anyway. **Kazakhstan's current trade regime is in need of reform.** While tariffs are relatively low on average, the rates are highly dispersed and there are far too many different rates and classification categories. This complexity in the schedules interacts with other administrative problems in customs and other regulatory systems to raises the costs of protection. It would be far better to radically reduce the number of tariff bands, and to establish clear and transparent mechanisms for providing tariff protection. **Kazakhstan's accession to the WTO presents an ideal opportunity to rationalize and simplify the domestic tariff structure, improve its customs procedures and introduce other reforms and regulations**. Kazakhstan would be better off binding all of its tariffs at realistic levels rather than trying to preserve the highest bindings possible. The legal protections given by WTO and the right to challenge foreign actions could therefore be very important if Kazakhstan adopts a more extensive industrial policy that succeeds in developing exports in significant quantities. **It is also crucial that Kazakhstan give careful consideration to the specific form of its regional trade agreements take**. In particular to the distinction between customs unions

and free trade agreements is important. Customs unions require political mechanisms for determining the common external tariff in the first place. Entering into a Customs Union with a large and powerful neighbor could mean giving up control over trade policy – something about which Kazakhstan with its own distinctive characteristics and needs should be wary of doing. Reducing the informal regional trade barriers such as inspections at customs and en route; road transit charges; fees for customs declaration; deposits of cargo value for transit traffic; duplicate certification requirements; and wide-spread corruption in customs and transportation could probably do more to promote regional trade than grand agreements that are difficult to implement.

8) The institutional infrastructure of the country is in transition. The elements of a market economy, a transparent and open society and a credible judicial system are in the process of construction. Limitations in these areas make it harder for firms to grow and to rely on horizontal market-based transactions. These conditions are ideal for the development of large conglomerates, as these can internalize some markets and negotiate a more secure legal and institutional treatment. They may also limit the growth of new entrants who may try to contest their markets. Large conglomerates may be a force for development or an obstacle to it. Conglomerates have the wherewithal to accomplish ambitious goals that smaller firms may find infeasible. However, they may also limit entry and make governments less transparent and accountable. Korea is a good example of a country that was able to shape conglomerates into a force for good. However, this required the so-called iron triangle: strong conglomerates, strong political leadership and a strong and independent bureaucracy. This institutional architecture allows the political system and the conglomerates to reach credible commitments, as the bureaucracy can make sure that everybody follows the agreed rules and commitments. At present, Kazakhstan has two of the three legs of the triangle. It needs to develop a strong and independent bureaucracy. Such a bureaucracy would be needed in order to allow the government to interact constructively with the private sector while avoiding being captured by it.

Ensuring a Competitive and Stable Real Exchange Rate: A Macroeconomic Policy Strategy

Ricardo Hausmann

Oil exporting countries tend to have strong real and volatile real exchange rates that conspire against their ability to diversify the economy. Real exchange rate appreciation and its associated Dutch Disease have received ample attention. Less well known is the fact that a recurring feature of oil exporting economies has been a real exchange rate cycle associated with the ups and downs of oil revenues. In a sample of 75 industrial and developing countries, some oil and gas producers, notably Nigeria, Bolivia, Ecuador and Venezuela have among the highest levels of longer term real exchange rate volatility (Figure 1). Interestingly, oil-exporting Norway appears with the lowest volatility.

Understanding the determinants of the real exchange rate: the concavity of the production possibility frontier

It has been common to assume that an improvement in the terms of trade necessarily leads to real appreciation. However, it is important to understand what lies behind this connection. To shed some light on this issue, we will start with a benchmark model in which this is not the case.

Assume that both tradables and non-tradables are produced with capital and labor with a constant-returns-to-scale (CRS) technology. Assume further that capital is perfectly mobile internationally. Obviously, this assumption implies that this benchmark should be considered relevant only for the medium term, when capital has had the time to adjust to the level that would equalize domestic and international returns. Under these assumptions the real exchange rate is not affected by shifts in demand because the supply of non-tradables is infinitely elastic and the Production Possibilities Frontier (PPF) is flat. An increase in the demand for non-tradables would be accommodated by getting more workers from the tradable sector and more capital from abroad. Since the technology is CRS, this implies no increase in marginal costs and hence in relative price. The economy adjusts through changes in the composition of output without changes in relative prices: the real exchange rate does not move!

In this medium-term framework, the real exchange rate should move very little unless there are large differential technology shifts between tradables and non-tradables, which would shift the slope of the PPF. Shocks to the terms of trade would not affect the real exchange rate, only the composition of output.

The idea that shocks to the terms of trade leads to real appreciation is predicated on the idea that factors of production – international capital and domestic labor in this case – move slowly to adjust to shocks. However, in this case, fluctuations of the RER would be temporary and the RER would return to its long-run equilibrium level once the adjustment has taken place, independently of the terms of trade.

But even at 5 year horizons, the real exchange rate of oil exporting countries is very volatile, even by the standards of developing countries as shown in Figure 1. The obvious question is what is missing from the benchmark model that can account for this low-frequency volatility? One element would be fixed factors. If besides capital (which can be moved and accumulated) and labor there is another factor whose supply is fixed or quasi-fixed, such as land, air, fresh water, etc., this will make the PPF concave. Movements along the PPF now require changes in the RER. An increase in the production of non-tradables will require an appreciation of the real exchange rate (RER). In addition, changes in the RER will not only shift production, but also affect the composition of demand: a real appreciation will shift demand away from non-tradables, thus facilitating the return to balance in the market for non-tradables.

Data shows that developing countries have on average an RER which is about 2.5 times more volatile than that of industrial countries. Shocks to this volatility are also much more persistent (Hausmann, Panizza and Rigobon, 2004a). The cause of this is still unclear. Obviously, the greater reliance on natural resources might explain the presence of decreasing returns and hence a more concave PPF. However, since natural-resource-intensive sectors such as oil and gas tend to be capital intensive and tradable, while generating little employment, it is unlikely that they would create much concavity in the aggregate PPF.

An alternative hypothesis is that something makes capital less mobile in developing countries. Hausmann, Panizza and Rigobon (2004b) propose such a model. They assume that there is some financial or investment imperfection that causes investors to behave as if they were more risk averse. The idea is predicated on the notion that in a world of complete markets, risk-averse individuals would behave as if they were risk neutral because they would be able to hedge any undesired risk. They conjecture is that the more incomplete the market, the more behavior will be characterized by risk aversion.

This assumption introduces an interesting and perverse dynamic. The more volatile the RER, the riskier it is to invest, especially in tradables.[1] If there is risk aversion, this will imply a higher required expected return and a lower level of investment in tradables. This makes the economy more closed and less diversified.

Now, most open-economy macro models have the property that the more closed the economy, i.e. the smaller the tradable sector, the bigger the required shift in the RER for any given shock (Calvo, Izquierdo and Talvi, 2003). These two forces constitute a positive feedback or multiplier which may trap the economy in a vicious circle in which the RER is volatile because the economy is closed, but the economy is closed because the volatility in the RER makes it too risky to invest in non-oil tradables. In a dynamic setting this makes the stock of capital less responsive to real shocks and consequently the real exchange rate must do more of the adjustment, meaning that it needs to be more volatile.

[1] Profits in tradables are more sensitive to real exchange rate fluctuations because RER appreciations (depreciations) imply a falling (rising) relative price of tradables but are often accompanied by rising (falling) wages. Since prices and costs move in opposite directions this increases the instability in profits. By contrast, in the non-tradable sector there tends to be a positive correlation between prices and wages, thus stabilizing profits. A sufficient condition for this to hold is that the tradable sector be more capital intensive than the non-tradable sector.

Hence, the volatility of the real exchange rate in oil exporting countries may be part of a more serious ailment. Countries may fall into a bad equilibrium in which investors are reticent to invest in opportunities in the non-oil tradable sector because they fear that the exchange rate may move so as to make the investment unprofitable. This causes the tradable sector to be relatively small and concentrated in activities where economic rents, arising from natural resources, provide a cushion that allows them to survive RER fluctuations. If the economy is sufficiently diversified, the RER may be quite stable.

In this framework, we can distinguish between first-best and second-best policies. The former involve interventions that complete the financial and investment markets so that investors behavior becomes less risk averse. Second best policies involve transferring the risk faced by the tradable sector to the rest of society. By so doing, investment in tradables would go up and the volatility of the real exchange rate would decline, an externality that private investors fail to take into account. We shall come back to policy recommendations below, but before we would like to delve deeper on the connection between the RER and growth.

The level of the real exchange rate and the growth process

The level and volatility of the RER affect growth in several ways. Obviously, a stable and predictable macro environment will facilitate a smoother functioning of the economy and make investment and growth easier. This is conventional, but may understate the importance of the effect because it does not make it interact with sources long-run growth.

Clearly, a sharp increase in the relative profitability of tradables is an important contributor to igniting and sustaining growth. By contrast, a significant process of real appreciation could choke off non-oil tradable activities, rendering growth more dependent on oil and hence more susceptible to negative shocks.

There are traditional arguments in favor of macroeconomic stability (and hence RER stability) in supporting a good growth environment. We would like to complement these with the following microeconomic reasoning based on the importance we place on self-discovery. In a small open economy like Kazakhstan, the greatest returns to discovering high-productivity activities lie among tradable goods and services. This is so, because such activities can cater to the global market, instead of the small domestic market and hence, each discovery can be scaled to a much larger extent and hence make it much more valuable from a social point of view. In addition, it is harder to create the incentives for self-discovery in the tradable than in the non-tradable sector. This arises from the fact that an innovator in the non-tradable sector –by definition – will start being a monopolist in that activity until he is copied by some other entrant in the local market. This period of monopoly may help create the rents that constitute the pay-off to entrepreneurship. By contrast, the first to produce some tradable good or service in Kazakhstan will not be the first in the world and hence will be participating in a market where there already is pre-existing competition. Hence, in this sector there is least room for entrepreneurial rents to stimulate experimentation and self-discovery.

In this context, sustained real exchange rate depreciation increases the return to such entrepreneurship and acts as a subsidy to self-discovery in tradables. Its impact on aggregate productivity and economic growth can therefore be sizable. Hausmann, Pritchett and Rodrik (2004) find that growth accelerations tend to occur in periods in which the real exchange rate is significantly more depreciated than in the preceding period.

Real exchange rate volatility and the growth process

As mentioned above, large swings in the real exchange rate are not uncommon in developing oil exporting countries. For example, for Venezuela, between 1980 and 2003 the percentage distance between the most appreciated RER (observed in 1982) and the most depreciated RER (observed in 1990) was 167.8 percent. Even if we take 5-year moving averages, in order to capture the idea that investors may be able to look beyond short term fluctuation and look at longer term returns, the percentage difference between maximum and minimum amounts to 116.3 percent[2].

This fact has two implications. First, **real exchange rate volatility directly interferes with the self-discovery process.** Following the line of argument by Aghion et al (2004), the fact that self-discovery activities tend to have longer term returns than physical capital investment implies that they face more real exchange rate uncertainty. If the financial system is not developed enough to overcome these risks (as is the case in all developing countries), self-discovery will be depressed and investment will be concentrated on the accumulation of physical capital to exploit existing ideas. Empirically, Aghion et al (2004) find that real exchange rate volatility is most damaging of growth in developing countries.

Consistent with this finding, the arguments in Hausmann, Panizza and Rigobon (2004b) referred to above (in which RER volatility reduces the incentives to invest in tradables and hence lowers openness and increases volatility) may also involve a low growth equilibrium.[3]

The second implication of the large volatility of the real exchange rate in oil exporting countries is that it will tend to overwhelm modest microeconomic policy interventions to promote diversification. The impact of any finely-tuned set of tax and/or subsidy incentive programs is likely to be swamped by large movements in the real exchange rate in either direction. Microeconomic interventions matter less when the real exchange rate is (and stays) super-competitive; they will hardly make a difference when the real exchange appreciates. Today, it may make sense to invest in new seed varieties in rice, to control foot and mouth disease through tracking, to develop forests, plants and ports to export pulp and paper, to promote tourism in third markets and to provide the right institutional framework for the export

[2] We did these calculations using multilateral real exchange rate data from the International Financial Statistics. If we instead use the data JP Morgan we get instead 121.8 percent difference between the peak and the trough and 86.6 percent between 5-year moving averages.

[3] Koren and Tenreyro (2004) propose an alternative mechanism through which RER volatility would lead to lower growth. They argue both theoretically and empirically that the high RER volatility in developing countries is the product of low diversification into differentiated intermediate inputs, as firms will have more difficulty in responding to any shock to any given input. If investment in intermediates is thwarted by high volatility and at the same time increases it, this may constitute another form of a low growth trap.

of software, calling centers and other services. However, if the real exchange rate were to move by 60 percent, these activities will make much less sense and the economy will not develop the efforts that will allow these sectors to become productive and competitive.

Here may lie in part the secret of the Chilean experience. After the dramatic collapse of the economy in 1982, Chilean economic policy became focused on preventing real appreciation through a myriad of instruments: crawling bands, massive intervention and sterilization, fiscal austerity, taxes on capital inflows, debt-equity swaps, internalization of the pension fund portfolios and others. Probably, beyond the effectiveness of each instrument lies the fact that **investors understood that it was a policy goal of the government to protect the competitiveness and stability of the real exchange rate.** This implicit contract may have had a lot to do with the growth experience of Chile.

Managing the real exchange rate

We have argued that the real exchange rate may impact long-run growth through a set of unconventional channels which constitute externalities from the point of view of individual agents. Hence, a market-determined level and volatility of the RER may be socially inefficient and policies should be able to improve on them.

A commitment to a competitive and stable real exchange rate

It is fashionable these days to argue that monetary authorities should declare a commitment to low inflation and to reserve for itself operational discretion as to how to achieve this objective. If the commitment is serious and the set of instruments is powerful enough to achieve its goals, such a statement may also be credible and effective. We argue that the same overall logic applies to the real exchange rate although the policy apparatus may be quite different.

A credible commitment to a competitive and stable real exchange rate would reduce the risk of self-discovery activities and investments in tradables and would increase the effective openness and diversification of the economy. This will reduce RER volatility. In addition, it will lower the relative importance of oil on the economy further stabilizing the RER. Finally, a more open economy will have a larger political constituency in favor of a competitive and stable RER, thus making its commitments in this area politically more credible.

Hence, we would argue in favor of the idea of **making the competitiveness and stability of the RER become a major commitment of the development strategy of Kazakhstan**. It is important to understand the temptations that may pull the country away from this goal. First, from a fiscal and financial point of view, a more appreciated exchange rate –ceteris paribus– implies that the weight of dollar-denominated debt to GDP ratio will be lower. Would this not be a better strategy to improve the financial stability of the country? But ceteris is not paribus. A more depreciated and stable RER will cause GDP and exports to rise faster and the current account to be stronger, leading to both a slower growing numerator and a faster growing denominator. This is bound to lead to a more sustainable reduction in debt ratios.

Second, a more appreciated RER, will lead to a lower price of tradables, such as food, and these enter significantly in the consumption basket of the poor. Would this not be better for welfare? Again, this is a very static argument. A strong RER would lead to higher unemployment and less higher-productivity job creation through the growth and discovery process.

Beyond its desirability, the question is whether a more competitive and stable RER can be achieved through policy? And if so, how? We believe it can and will discuss which policy instruments to use for this purpose. We shall discuss fiscal policy, where the arguments outlined strengthen the case for prudence, and monetary, exchange rate and financial policies, where we depart more from the conventional wisdom.

Fiscal policy

In the long run, the real exchange rate will be impacted by the balance between aggregate supply and aggregate demand. A stronger demand will lead to a more appreciated RER. Large fluctuations in aggregate demand will lead to a volatile long-run RER. In a world without full Ricardian equivalence, fiscal policy can play a stabilizing anti-cyclical role. It can go into surplus when other sources of demand go up– say because of an oil boom or a capital inflows boom – and move into deficit when conditions worsen. However, a necessary condition for this to happen is that the overall solvency of the government be perceived as strong. A government with precarious creditworthiness will not be able to borrow in bad times to cushion the blow or to incur in quasi-fiscal losses at the Central bank as part of a sterilization strategy. In this respect, targeting a cyclically adjusted fiscal surplus, as Chile has been doing lately, swith an appropriately designed rule on oil revenues would be appropriate. As the surpluses accumulate and the economy grows, debt ratios will decline in a sustained manner and the anticipation of this trend will lower the cost of debt service much sooner. Prudent and anti-cyclical fiscal policies would contribute to the goal of a competitive and stable RER.

Monetary and exchange rate policy

While in the long run, the RER is affected by aggregate supply and demand balances at full employment, in the short run, both the nominal and the real exchange rate are affected by equilibria in asset markets. In the standard Dornbusch (1976) model, exchange rate overshooting is the product of slow adjustment in the labor market in the context of fast adjustment in financial asset markets. So, what role should monetary and exchange rate policy play in achieving a competitive and stable RER?

The conventional answer is none. It is common to argue that the task of achieving low inflation is so difficult already and the central bank has so few instruments that complicating its task with additional goals would be counter-productive. This is in part based on the idea of the impossible trinity: it is impossible to simultaneously achieve international financial integration, monetary independence and an effective target on the exchange rate. You may achieve two but not three of these goals. With international financial integration you must either choose between an exchange rate target or monetary independence.

This has lead to the bi-polar view of exchange rate policies in which the central bank either pegs fully and credibly to a foreign currency – through dollarization or a currency board – or sets completely flexible exchange rates accompanied with some form of monetary or inflation targeting. After the failure of Argentine convertibility, floating exchange rates with inflation targeting have become the new fashion.

Let us discuss how they work and see how they may interact with conditions for growth and self-discovery in the tradable sector. The standard approach to inflation targeting starts with a central bank that announces its inflation target and adjusts monetary policy in response to inflation expectations. Monetary policy is usually done through an interest rate that the central bank either sets or affects through open market operations. Intervention through interest rates has become more common because the alternative – monetary targets – tended to generate volatility in exchange rates and interest rates associated with the fact that money demand is volatile, but central banks cannot incorporate this source of variation in their money supply decisions.

With inflation targeting, the central bank usually announces that it does not care about the exchange rate except in so far as it may affect inflation expectations. In this context, consider the following three shocks: an expansionary (or irresponsible) fiscal policy, an exogenous capital inflows boom and an oil boom.

An expansionary fiscal policy will lead to increased demand and inflationary expectations in the non-tradable market. The central bank would respond with a rise in interest rates which lower domestic demand and would appreciate the exchange rate, lowering the price of importables and exportables and causing a contraction in the tradable sector. This will free up resources to accommodate the increased demand of non-tradables. Through both mechanisms inflation would be moderated, but the non-oil tradable sector would face a contraction caused by real appreciation. In other words, **monetary policy sacrifices the non-oil tradable sector in order to make fiscal irresponsibility compatible with its inflation target.**

Consider now a capital inflows boom. Under an inflation targeting regime this will lead to exchange rate appreciation. This may moderate inflationary pressures allowing the central bank to reduce interest rates. The appreciation will lower the price of tradables and will reduce employment, investment and profits in this sector, thus freeing resources that will help expand the supply of non-tradables in order to accommodate the increased demand caused by the lower interest rates. **Again, the non-oil tradable sector contracts in order to accommodate the capital inflow.**

An oil boom will cause an increased demand for non-traded goods. This will raise inflationary expectations and the central bank would respond with a combination of higher interest rates and a more appreciated exchange rate. Again, the non-oil tradable sector will contract.

What is common about these three examples is that the tradable sector plays, in this strategy, the role of front-line troops in the battle against inflation. Its expansion and contraction is called upon in order to contain inflation. Even in the case when it is fiscal profligacy that causes the inflationary pressures, the policy solution involves a real appreciation in order to contract, not the non-tradable sector which benefited from the fiscal expansion, but the tradable

sector which did not. Under these conditions, **the battle for low inflation may be won more easily, but the casualties disproportionally fall in the level and stability of the competitive conditions faced by the tradable sector.**

There is an added complication with the regime of inflation targeting when it is implemented in a country characterized by liability dollarization. Under these conditions, exchange rate fluctuations cause balance sheet effects that make a monetary expansion either less effective. When the central bank adopts an expansionary (contractionary) monetary policy, the concomitant exchange rate depreciation (appreciation) causes an adverse (favorable) balance sheet effect, making the impact less expansionary, or even contractionary (less contractionary or even expansionary). The balance sheet channel works against the normal channels of monetary policy limiting its impact on aggregate demand and forcing the central bank into larger interest rate movements (and hence real exchange rate changes) to achieve the same demand effect.

In addition, a pure floating regime would involve no exchange rate intervention which means that the level of international reserves is not used to accommodate shocks to the demand for money. Instead these get absorbed by the exchange rate and the interest rate, making them more volatile. It would be ideal to use the level of reserves to absorb at least part of that volatility so as to leave a more stable RER environment, but a pure inflation targeting scheme does not have a clear policy rule on how to do this.

For all these reasons, we believe that standard inflation targeting would not lead to a stable and competitive RER. Instead, it is bound to create too much RER and interest rate risk, and lead to other undesirable results, forcing the central bank into a series of modifications and ad hoc adjustments without a coherent policy, as for example, in Colombia.

We propose instead to peg the exchange rate to a basket and to allow a band of fluctuation around it. Fiscal policy should be set with an eye on the competitiveness and the stability of the real exchange rate. This can be achieved with a cyclically-adjusted fiscal surplus and an oil spending rule, as argued above. Monetary policy would be limited by the degree of monetary independence allowed by the band.

The underlying model behind this strategy assumes that the central bank cares not only about inflation and output today, but also about growth tomorrow, which is affected by the level and stability of the real exchange rate. Hence, the central bank needs to express a target for the real exchange rate and develop instruments to reach it. This is what we shall discuss below.

What should the central bank be ready to do when there are what it deems to be excessive pressures towards real appreciation, i.e. when it is defending the strong part of the band? The first order of business would be, of course, simple unsterilized intervention, i.e. with the purchase of international reserves with cash. This will expand base money and cause a reduction in interest rates. As the rates decline, capital will stop flowing in. However, the base money created in the process may lead to a credit boom which may potentially create expansionary pressures at home and cause inflation to accelerate with its negative effects on inflation and competitiveness. This risk should not be exaggerated. Consider, for example, the case of China. The country has purchased some US$ 480 billion in unsterilized international reserves and after a long period in which markets feared *deflation*, prices in 2004 are now rising at a rate of 5 percent

forcing the government to take action. However, this has not taken place through currency appreciation. Instead credit and public enterprise policies have been tightened. The point is that a policy of unsterilized intervention will at worst create inflationary pressures that are bound to happen gradually, through pressures in the labor market instead of suddenly through nominal appreciation. As they take place, there may be time to respond to them through other policies.

One alternative to unsterilized intervention is sterilized intervention, i.e. the purchase of international reserves but accompanied with an open market operation designed to limit the expansionary effect on the supply of money. We are less enthusiastic about this policy: it will lead to a potentially large quasi-fiscal deficit and may become unsustainable as it tends to keep interest rates high which will attract more speculative capital inflows. In the end, it may be expensive and ineffective.

Instead, we would propose to contain aggregate demand pressures through other means. Besides fiscal policy, already mentioned above, financial policies may help. An alternative to sterilization through open market operations is reserve requirements on banks. If sterilization leads to an expansion of monetary aggregates that are deemed too high and unsustainable, the central bank can act to lower the money multiplier. One way to do this is through increased reserve requirements. This will finance indirectly the purchase of international reserves by the central bank, but as opposed to sterilization, will lower deposit interest rates which will dampen capital inflows. These reserve requirements may or may not be remunerated, but the rate at which they are should be below the deposit rate.

Another instrument is the adjustment of capital adequacy requirements on banks. The expansionary effects of unsterilized intervention on bank credit can be limited by requiring banks to back up their credit with more of their own capital. This makes prudential sense because it will limit credit booms, which often end in tears. Moreover, it will make the capital adequacy requirement part of an anti-cyclical policy stance which is prudentially sound: when the external environment turns less buoyant, banks will have the capital base to face the coming difficulties.

An additional mechanism is to opportunistically fight liability dollarization in good times. When capital inflows threaten real appreciation, prudential norms regarding foreign borrowing of banks can be tightened. Foreign bank loans should under any circumstance be subject to reserve requirements. This will act as the equivalent of a tax on capital inflows, which can be adjusted given the circumstances. Dollar lending to non-tradable activities must generate a higher capital adequacy requirement in order to cover the implicit currency risk. This will limit the expansion of credit to the booming non-tradable sector while it will protect financial conditions in the tradable sector. If this is done effectively in good times, when the situation turns sour, the balance sheet effects will be that much smaller and the situation that much more stable.

In short, prudential norms on foreign borrowing by local banks can act as implicit capital controls while prudential norms on foreign currency lending can be used in a prudentially sound manner to avoid over-valuation.

In addition, foreign investment rules on pension funds can be adjusted to fight real appreciation. If capital inflows are excessive, foreign investment restrictions can be opportunistically relaxed. Internationalizing the portfolio of pension funds makes sense in order

to protect workers from the volatility in the local market. Doing this in bad times is impractical, as it would exacerbate external imbalances. But in good times, it allows to achieve a long-term goal while contributing to shorter term stability of the RER. As the experience of Chile shows, there is an additional benefit of allowing pension funds to invest abroad: they will help develop the market for long term currency hedges. As the liabilities of the pension funds are in pesos and part of their assets will be in dollars, they will want to enter long term currency swaps in order to protect their returns from an unexpected appreciation in the RER. This is the opposite fear of the one faced by dollar borrowers. The development of this market may help reduce and better distribute the currency risks caused by liability dollarization.

In synthesis, the central bank and the government can fight what they deem to be unwarranted real appreciation through an arsenal of potential tools that include fiscal contraction, unsterilized intervention, reserve requirements, capital adequacy requirements, requirements on foreign borrowing and the regulation of pension funds. The commitment to keep the RER stable and competitive need not involve a fixed RER with zero risk. The actual RER will fluctuate around the announced target. Instead, the target should be viewed as an implicit contract which signals the government's intention and gives a sense of priority to its macroeconomic strategy.

The authorities can review their exchange rate basket in line with new information. For example, if the country has a tight labor market in the context of a current account surplus and relatively low terms of trade, this would constitute prima facie evidence that the RER is undervalued. But if unemployment is above its natural rate then it should wait until it expects it to come down before announcing a move in the peg. If the current account is in deficit, or if it is in a surplus attributable to unusually favorable temporary external conditions, it should not move its peg.

In addition, the authorities should treat the peg as a central parity. Through time the authorities and the market will learn about the effectiveness of its instruments and the credibility of its stance. If it is successful, the market will help achieve the target through stabilizing speculation, a la Krugman (1988).

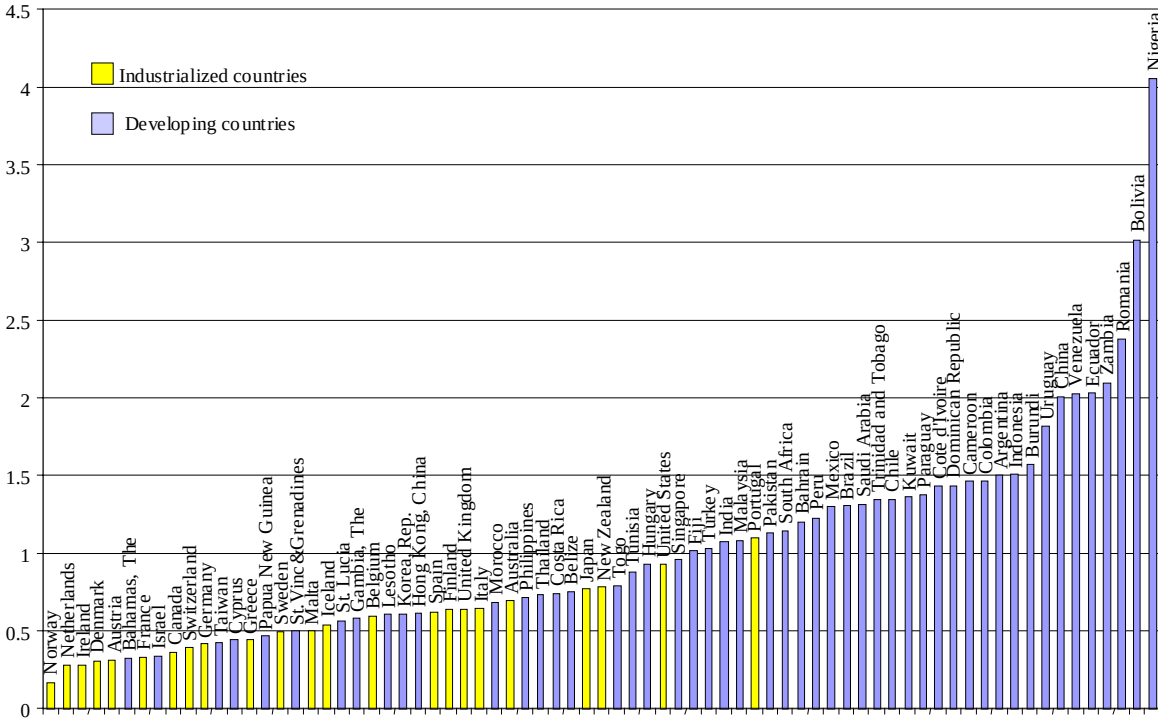
With this approach we believe that the RER volatility that has plagued oil exporting countries can be significantly mitigated. If successful, the country will grow out of its volatility problem through increased openness and diversification. In the meantime, a clear commitment to a stable and competitive RER is a key element for the strategy of structural transformation.

Fiscal policy and the National Fund (NFRK)

Many of the effects of oil booms get transmitted to the domestic economy through its impact on fiscal policy and the government's solvency. In good times, constraints on spending and borrowing are relaxed and spending may rise very significantly. In bad times, both income and borrowing tend to collapse. Ideally, the government should keep spending on an even keel and allow shocks to income to be absorbed by movements in the fiscal surplus and in international financial assets. Kazakhstan has moved in this direction with the creation of the National Fund.

As argued in the World Bank's memo on the National Fund Concept and Macroeconomic Management, a national fund rule must be complemented with a constraint on the overall fiscal position of the government, lest the gross savings done at the NFRK be eroded by an overall deficit in the fiscal accounts or in the rest of the public sector. Hence, we suggest a simple balanced budget rule applicable to the broadest possible definition of government spending, excluding oil revenues but including the transfers from the NFRK as revenue. In addition, all government revenues coming from the oil industry should go to the NFRK and all oil income to be incorporated in the budget should come from it. This has the advantage of transparency, but will also make monetary policy easier to execute. In addition, we support the spending rule suggested in that report and provide in the appendix a procedure to estimate its parameters.

Figure 1. 5-year volatility of the real exchange rate 1980-2000



Appendix: Estimating the parameters of the NFRK rule

The formula for the transfers (T) from the NFRK to the government proposed in the World Bank memo is given by:

(1) $T_t = \boldsymbol{A} + \boldsymbol{b}\ F_{t-1}$

where ***A*** and ***b*** are parameters and F_{t-1} is the level of the Fund at the time of approval. This formula combines the benefits of a rule based on permanent income (which would set ***b*** to zero) and one based on a bird-in-hand view (which would set ***A*** to zero).

The question is how to choose the parameters ***A*** and *b*.

First, it is important to note that ***b*** should NOT be the average expected return on the NFRK. Instead, it should be LARGER than the expected return. In addition, ***A*** should be smaller than the expected long run level of oil income. To see why, let us solve for the steady-state equilibrium level of the fund, i.e. the level of the fund if oil income where to stabilize forever at a level ***Y***.

First, note that

(2) $F_t = Y + (1 + \boldsymbol{r})\ F_{t-1} - T_t$

(3) $F_t - F_{t-1} = Y + \boldsymbol{r}\ F_{t-1} - T_t = Y - A + (\boldsymbol{r} - \boldsymbol{b})\ F_{t-1}$

where ***r*** is the rate of return of the NFRK we substituted equation (1) in equation (3)

The steady state is achieved when

(4) $F_t - F_{t-1} = 0$ or equivalently $F_t = F_{t-1}$

Therefore, to calculate, steady state values, we can drop the time subscripts. In addition, it is convenient to transform the variables into shares of steady state oil income Y, so that f = F/Y, and $\boldsymbol{a} = \boldsymbol{A}/Y$.

(5) $f = F/Y = (1 - \boldsymbol{a}) / (\boldsymbol{b} - \boldsymbol{r})$

For the fund to have a well behaved steady state, two conditions must be met. First, A should be (significantly) less than steady state Y so that the parameter ***a*** is (significantly) less than 1[4]. This means that ***A*** should be no more than a fraction of what is conservatively estimated to be the long run level of oil income Y.

Second, ***b*** must be greater than ***r***. If instead ***b*** is set equal to ***r*** and $\boldsymbol{A} < Y$, the fund will not have a well defined steady state level, but instead will grow to infinity. This will presumably lead to the abandonment of the formula, at its results will not be economically efficient or socially acceptable.

[4] If ***a*** is close to 1, (1-a) will be close to zero and there will be little long term saving in the fund.

To understand the magnitudes that the fund could take, note that if $\alpha = 0.5$, $\beta = 0.1$, $r = 0.05$ then the fund will stabilize at a level that represents 10 years of oil income. So to make matters concrete, if the steady state level of oil income resembled the income of the past three years (6 percent of GDP), then these parameters would create a fund equivalent to 60 percent of GDP and annual transfers of 9 percent of GDP[5].

I propose the following algorithm to choose the parameters.

1) Choose β based on how much stabilization is desirable. Given the simulations presented in the August Aide Memoire, a number such as 10 percent would seem reasonable.

2) Choose the level of government spending for 2006, and estimate the levels of non-oil income and non-oil deficit consistent with the macroeconomic objectives of maintaining low inflation and a competitive real exchange rate. I suggest that after such a sustained period of fiscal expansion as that experienced since 2000, a more conservative rate of real domestic spending growth be chosen. I understand that in 2004 the non-oil fiscal deficit was somewhat larger than 3 percent[6]. I would hope that in 2006 this number were smaller.

3) Choose the level of transfers T that would equal the expected non-oil deficit.

4) Calculate A as the difference between this planned deficit and βF_{t-1}.

5) Check that the number A you get is (significantly) smaller than the expected long term oil revenues.

Let me give a numerical example. Suppose the desired non-oil fiscal deficit is 3 percent of GDP and that the level of the fund equals 10 percent of GDP. Then A should be set at the equivalent of 2 percent of expected 2006 GDP. Call this number A'

In this example, the law would state that the transfers from the fund would be equal to:

(6) $\quad T = A' * CPI + 0.1 * F_{t-1}$

where CPI would be the CPI index with base year 2006.

Note that if oil revenues for 2006 were 6 percent of GDP and the return of the fund was 5 percent, the fund would grow by an amount equivalent to $Y - T + rF_{t-1} = 3.5$ percent of GDP.

With respect to the depletion formula, I would amend equation (6) by requiring the following restriction:

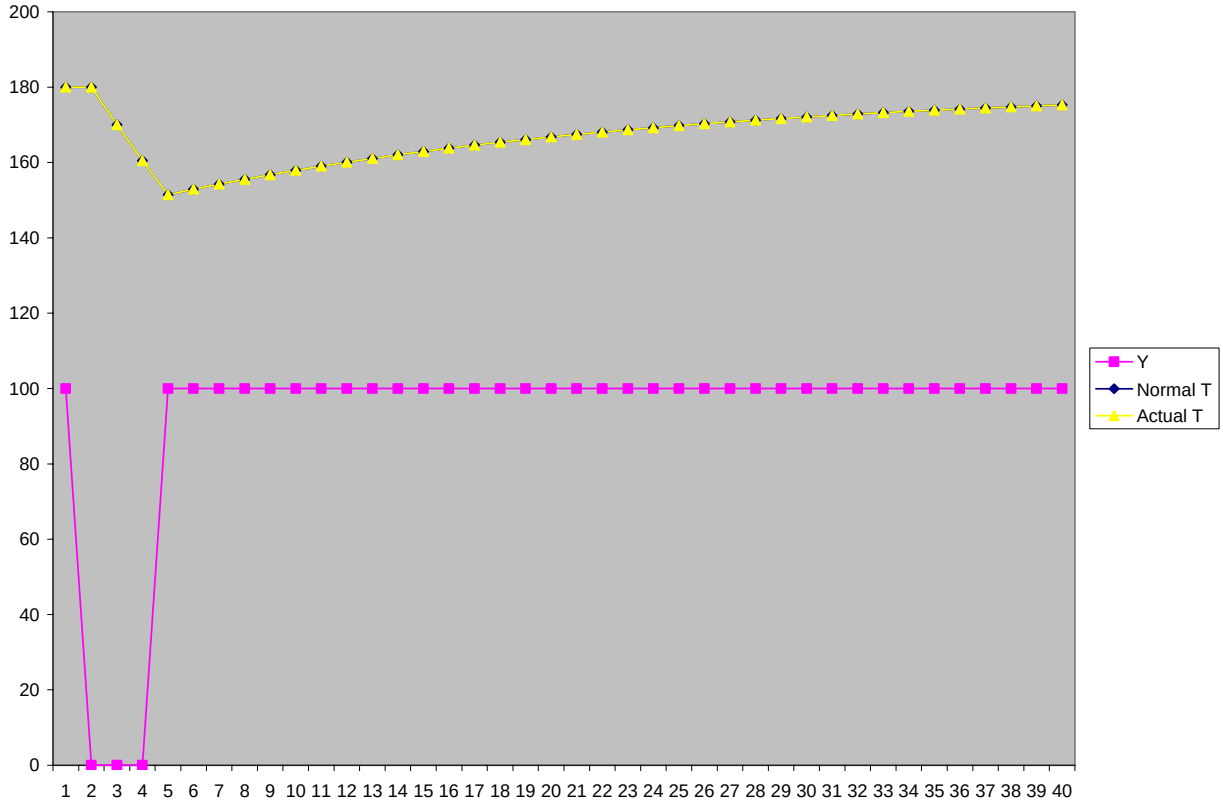
(7) $\quad T < \gamma (F_{t-1} + Y)$

[5] Note that the 9 percent in transfers would come from the sum of 6 percent of GDP in oil income plus 3 percent of GDP, given the 5 percent return on a fund of 60 percent. The formula would make A equal to 3 percent of GDP and βF equal to 6 percent of GDP, hence also producing 9 percent of GDP in steady state transfers.

[6] According to Pedro Rodriguez, in 2004 oil inflows were 6 percent of GDP, of which 44.8 percent were saved.

To get a feeling for the values, I simulate the formula assuming that we start from a steady state situation. Let us see what would happen if oil revenues went from 100 to zero and stayed there for 3 years. Starting at the steady state, the depletion formula would never come into effect and the path of the transfers would be given by the following schedule. Note that in period 5 transfers to the government are still 151.5, even though oil revenues have been zero for three years.

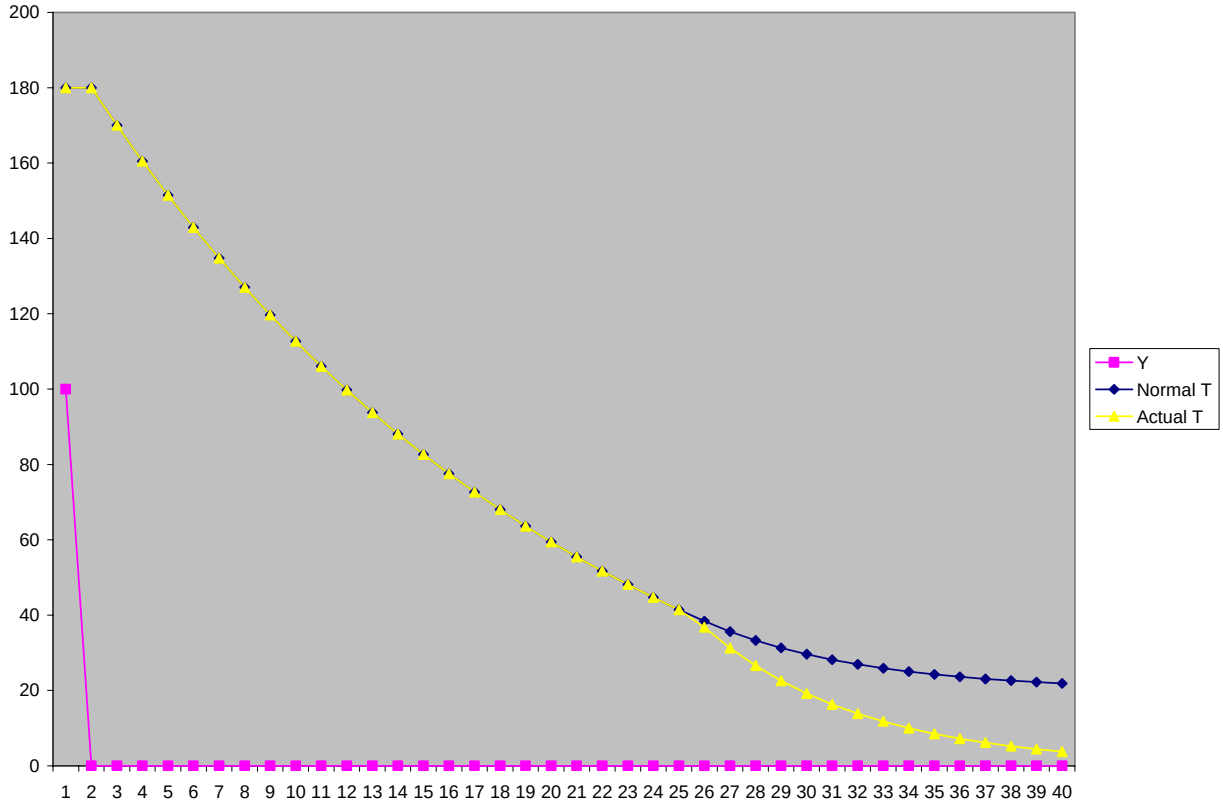
Figure 1. Simulation 1: A decline of oil income to zero for three years, starting with the steady state



Note: Y = 100, F(steady state) = 1600, A = 20, b = 0.1, r = 0.05.

If we assume a parameter ***c*** of 0.2, the depletion formula would not come into effect in this example. In fact, if we assume that oil income drops to zero forever, starting from steady state, it would take 25 years for the depletion formula to bind. This is shown in Figure 2. The yellow line is the actual transfer, while the blue line is the transfer in the absence of the depletion constraint.

Figure 2. Simulation: Permanent collapse of oil income

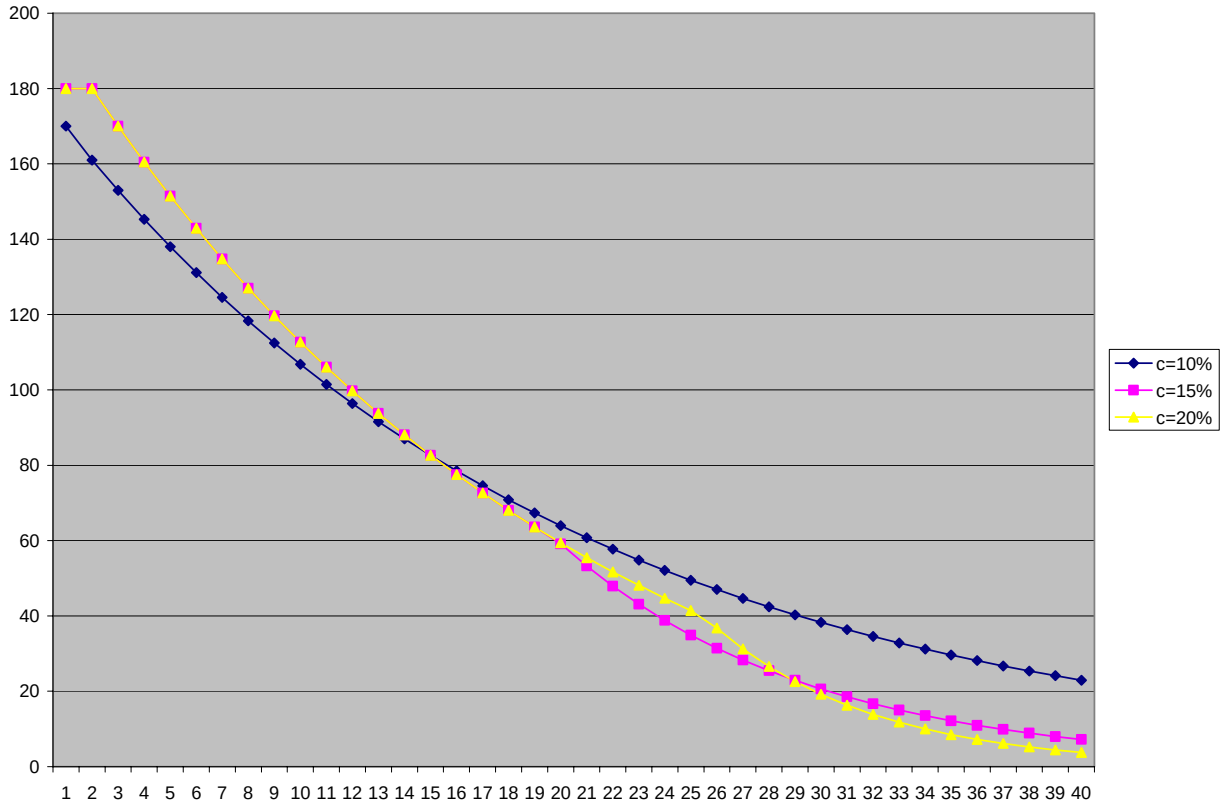


Note: F(initial) = F(steady state)= 1600, A = 20, b = 0.1, r = 0.05, c = 0.2,

Figure 3 presents the value of the transfer for three different values of the parameter c. Note that with c = 0.2 the depletion restriction does not become binding until year 25. For c = 0.15, it does not bind until year 19, while for c = 0.1, it binds from the very beginning generating a smaller level of transfers in the first years after the shock. However, after year 14 the situation is reversed: because of the tougher constraint on the depletion formula, the level of the fund is higher and allows for a higher future level of transfers.

Summing up, the depletion formula is really not that necessary. It will only bind if something quite disastrous and sustained happens to oil income. If such a depletion formula is adopted, a reasonable number would be 0.15 or 0.2. I think that 0.1 defeats the stabilization purpose of the fund.

Figure 3. Simulation: Permanent collapse of oil income, three values of the depletion parameter



Note: F(initial) = F(steady state)= 1600, Y(initial) = 100, drops to 0 in year 2, A = 20, b = 0.1, r = 0.05

On the Tenge: Monetary and Exchange Rate Policy

Jeffrey A. Frankel[1]

Executive Summary

This chapter begins by discussing the determinants of the real exchange rate. These are dominated by monetary influences in the short run. But for a country like Kazakhstan, they also include the Balassa-Samuelson effect and the Dutch Disease, especially in the medium and long run. These latter factors suggest the likelihood or pressures toward real appreciation of the tenge in the short and medium run, though it is also important to realize that this trend could reverse in the future.

With this as a background, the chapter discusses alternative options for the choice of monetary regime, such as floating exchange rates, fixed exchange rates, and various alternative nominal anchors for monetary policy (including the currently popular regime of inflation-targeting).

Two polar cases are rejected, as likely to turn out to be too constraining for Kazakhstan. (The author thus rejects the conventional wisdom of the corners hypothesis, the proposition that intermediate exchange rate regimes are unworkable and countries should easily float freely or peg rigidly.) On the one hand, the economy is too small and open to meet the "optimum currency area" criteria for a purely floating exchange rate. It is also too much in need of a nominal anchor for monetary policy. While a monetary regime of targeting the CPI while floating has been recommended widely, and for Kazakhstan in particular, this chapter emphasizes one problem with that: vulnerability to increases in world prices of imports. On the other hand, the country is too large for a rigidly pegged exchange rate. It is especially too diversified across trading partners to qualify for a peg to any one major currency (dollar, euro or ruble). If anything, a basket peg would be necessary for the tenge, perhaps at the center of a target zone.

But the heavy specialization of Kazakh export revenues in a single commodity – oil – suggests a further difficulty with using major currencies as the sole anchor, whether singly or in a basket. The difficulty lies in the powerful forces in favor of real appreciation during oil booms (Dutch Disease), followed by real depreciation during oil busts. Textbook theory says a country's currency should be allowed to appreciate when world markets for its export commodity are strong, and to depreciate when they are weak. In the late 1990s, commodity exporters like Indonesia, Russia and Argentina achieved necessary real depreciation only through painful currency crises, losses in investor confidence, overshooting, and recession. A newly proposed regime, called Peg the Export Price (PEP) would accomplish the desired shifts in the terms of trade automatically. The narrow form of the PEP proposal is to fix the price of the export commodity, oil in this case, in terms of the domestic currency, i.e., to fix the value of the domestic currency in terms of oil. Assuming Kazakhstan seeks to reduce the degree of

[1] The author would like to thank Yun Jung Kim and Maral Shamloo.

dependence on oil and encourage alternative exports, the narrow form of PEP is probably too extreme. A more moderate form of the proposal would include oil as one component of the anchor variable – that is, as part of the currency basket if a fixed exchange rate regime is chosen, or part of the price index if a form of inflation-targeting is chosen – and would declare a band or target zone around the anchor parity that is relatively wide. The goal would be to achieve the benefits of a nominal anchor, and yet remain robust with respect to changes in the terms of trade that an uncertain future could bring.

1. The Real Exchange Rate and its Determinants

The real exchange rate is sometimes defined as the price index of import goods in terms of the price index of export goods. But for a relatively small economy like Kazakhstan, which must take the prices of most import and export goods as determined on world markets, macroeconomic policy has little influence on that relative price. Therefore, it is not a useful definition of the real exchange rate. This report will instead define the real exchange rate to be the price index of a basket of all goods that are internationally tradable, whether imported or exported, in terms of a price index of goods and services that are not internationally tradable.

We discuss four categories of determinants of the real exchange rate. We begin by considering briefly monetary influences on the real exchange rate that are important in the relatively short term, such as devaluation, revaluation, and expansionary monetary policy. Then we discuss some longer term determinants of the real exchange rate: the Balassa-Samuelson effect and the Dutch Disease. We offer some new quantitative estimates regarding these last two effects.

1.1 Shorter term monetary influences

In the short run, monetary influences can pull the real exchange rate away from its long run equilibrium.

Effect of nominal exchange rate policy on the real exchange rate

Imagine for a moment that all domestic goods markets were fully integrated into world markets and wages and prices of goods and services were perfectly flexible, so that goods and labor markets always cleared. Then a devaluation or revaluation of the currency (a change in the nominal exchange rate) need have no effect on the real exchange rate. In practice, however, this is not the case. Markets are not fully integrated into the world, and not all wages and prices are perfectly flexible. Changes in the nominal exchange rate are heavily reflected in the real exchange rate in the short run. Then over time, nominal wages and prices adjust, and the real effects diminish.

Effect of macroeconomic policy on the real exchange rate

Even if the nominal exchange rate is fixed, the real exchange rate can change in the short or medium run, e.g., a high rate of inflation can be reflected as a "real appreciation of the currency," that is, a loss of price competitiveness on international markets. Such inflation can be the result of an increase in demand for goods, coming, e.g., from a monetary expansion.

1.2 Balassa Samuelson relationship

The Balassa-Samuelson relationship observes that countries with higher per capita incomes tend to have higher absolute prices (when expressed in a common currency). It is a rough, but fairly robust tendency that holds in the long run, both across countries and across time.

In this section we estimate the relationship across countries by OLS regression. Often the theory is spoken as if countries move along the regression line: predicting real appreciation during a given period according to growth rates. This approach neglects that in any given year or decade, a typical country lies rather far off the regression line. The Balassa-Samuelson relationship does have predictive power. Historically approximately half of any deviation from the line can be expected to be corrected over the course of the subsequent decade. This "regression toward the relationship" is quantitatively more important than – but supplemental to – any further real appreciation attributable to further growth.[2]

We begin by defining the following variables:[3]

RER – Real Exchange Rate is obtained by dividing *Price Level of Gross Domestic Product* for each country by that of the US (normalized to 100).
LogRER – Log of Real Exchange Rate
rgdpch – Real GDP per capita (Constant price: Chain series)
Loginc – Log of real GDP per capita

The regression logRER vs. loginc was run for 133 countries, based on their year 2000 data for RER and Real GDP per capita. It yields: $\log RER = -4.34 + 0.395 \log inc$

The coefficient on loginc is statistically significant.

```
Number of obs =     133          R-squared  =  0.496
-------------------------------------------------
      logrer |      Coef.   Std. Err.      t
-------------+-----------------------------------
      loginc |    .395      .035          11.35
       _cons |  -4.345     .300          -14.49
-------------------------------------------------
```

[2] Frankel, "On the Renminbi: The choice between adjustment under a fixed exchange rate and adjustment under a flexible rate," High-Level Seminar on Foreign Exchange System, Dalian, China, May 2004. KSG Working Paper RWP04-037, Aug. 2004.
[3] The data source is: Alan Heston, Robert Summers and Bettina Aten, Penn World Table (PWT) Version 6.1, Centre for International Comparisons at the University of Pennsylvania (CICUP), October 2002.

The residual for each country was calculated. The residual for Kazakhstan is -1.081. This means that

$$\log RER - \log RERhat = -1.081$$

$$\left(\frac{RER}{RERhat}\right) = 0.340$$

or in other words, the real exchange rate is 34% of the value predicted by the regression: the currency was **66% under-valued in 2000.**

The data in the graph below ("Figure 1") pertain to the year 2000. (For the purpose of this graph, the vertical axis is actually –logRER, so that appreciation is a movement upward.) It is estimated that over the last four years Kazakhstan has undergone a real effective exchange rate appreciation of about 5.8%, perhaps for Dutch Disease reasons (see accompanying Table.). But this calculation still leaves the currency, if anything, substantially undervalued by comparison with the Balassa-Samuelson relationship. The implication is that further real appreciation is to be expected in the future, absent unforeseen developments. (The absolute PPP data in the Penn World Table are subject to very large possible measurement error, so that the estimates for any given country must be taken with a measure of caution.)

Figure 1 – Balassa Samuelson Relationship

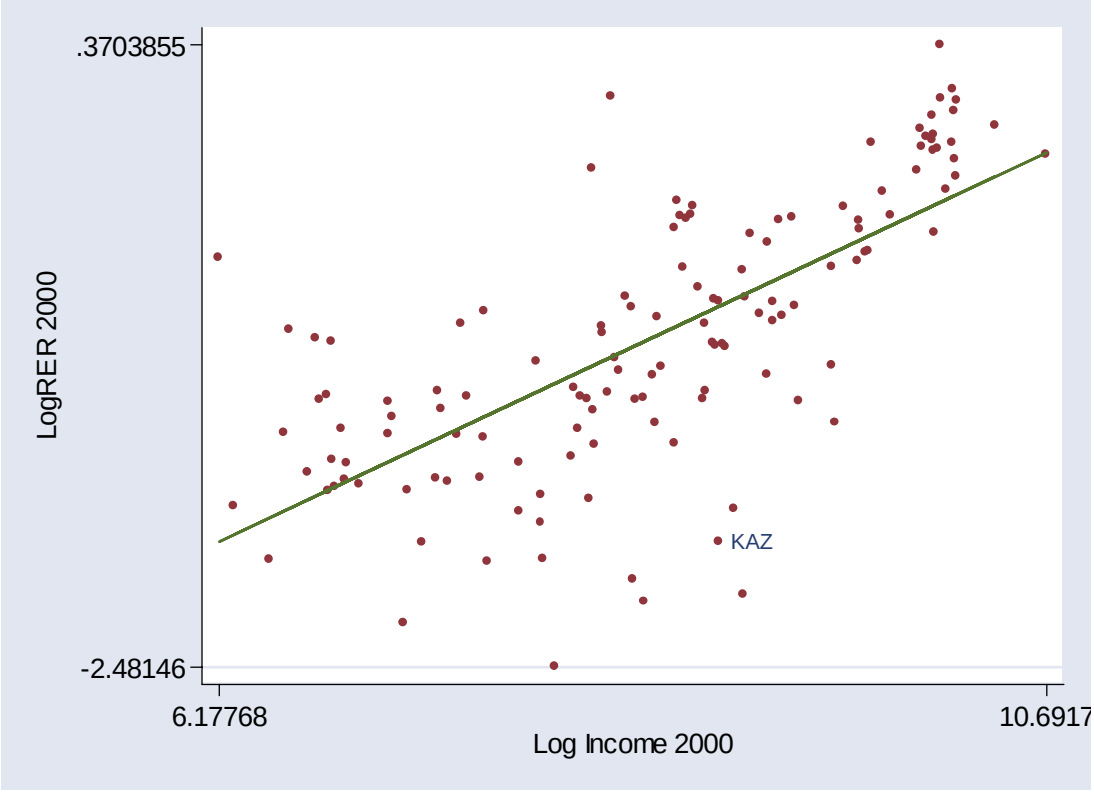


Table 1

	RER	% change
1999	110.7	-
2000	85.2	-23.0%
2001	83.7	-1.8%
2002	85.8	2.5%
2003	83.2	-3.0%
2004	80.3	-3.5%
Average (Overall)		**-5.8%**

Source: EIU

1.3 Dutch Disease

A determinant of the real exchange rate particularly important for a country such as Kazakhstan that is specialized in a mineral commodity like oil is the Dutch Disease. The Dutch Disease can be defined as the pattern whereby a boom in the commodity leads to real appreciation of the currency.

What is the "disease" part of Dutch Disease?

There are a number of possible unwanted side effects on the real economy of an otherwise-desirable commodity boom.

Among the possible side effects, some renditions focus on the case of inflation under a fixed exchange rate: a commodity-induced surplus on the balance of payments raises the domestic money supply because the inflow of reserve is not completely sterilized, and the increase in the money supply leads to overheating and inflation. The monetary expansion may be associated with excessively rapid growth in bank credit, which may exacerbate, for example, a real estate bubble. Other versions of the unwanted side effects focus on excessive borrowing from abroad (e.g., to finance development of the oil fields). Others focus on resource shifts in response to the change in relative prices: out of non-commodity tradeable goods; or on resource shifts into nontradeable goods. Still others focus on expansion of government spending. In each case, the idea is that such shifts might be appropriate if the commodity boom were to continue indefinitely, but that in practice the boom is likely to be temporary, to an extent not adequately foreseen at the time. At some point in the future, when commodity export revenue dries up, the country will then be left with a large debt, or a decimated export sector, or bloated non-traded and government sectors.

What happens when the world price of oil goes back down?

In the midst of an oil boom, it is easy to focus exclusively on the current effects. On the list of unwanted side effects of the Dutch Disease, this means the dangers of inflation and loss of competitiveness for non-commodity exports (or for goods that compete with imports).

But it is important to realize that oil booms do not go on forever. Some day the world price of oil goes back down, or the oil fields start to run dry, or bother. It is then that the costs

of the preceding Dutch Disease period become the most apparent. It is often difficult to reverse the expansion of government and nontradables investment, or to service the foreign debt that was incurred. The result can be financial crises, in any of their several (related) varieties: debt crises, banking crises, and currency crises.

The case of the government wage bill.

One illustration of the problem is the tendency for oil exporters to respond to high oil prices by increasing the number of workers employed by the government and their rate of compensation – and then, when oil prices fall, to face the painful necessity of cutting back on the public sector wage bill.

We obtained data on the government wage bill (as a share of GDP) for seven oil exporters, over the period 1974-1997 (with two missing years: 1975-76), and regressed it against real oil prices, both contemporaneous and lagged. In the cases of Mexico, Iran and Venezuela, current oil prices have had an effect on the government wage bill that is highly significant statistically (at the .01 level). In the case of Malaysia, there is no significant effect coming from contemporaneous oil prices, but there is from oil prices over the preceding three years (averaged). For the remaining three countries there is no significant positive effect: Norway (probably because its political institutions are sufficiently mature to shield against excessive sensitivity to government revenues), Indonesia (perhaps because oil revenue is not a large as among the others), and Kuwait (surprisingly).

To obtain the strongest estimation of determinants of the government wage bill, we then pooled the data for all seven oil exporters together (allowing country-specific dummies). The results are reported in the accompanying table (see the Appendix at the end of the chapter). Oil prices are statistically significant, both contemporaneous and lagged. To pursue the idea that countries with well-developed political institutions, such as Norway, were less subject to this aspect of the Dutch Disease than others, we tried an interactive term. When oil prices are interacted with an index meant to capture the quality of political institutions (ICRG), it is statistically significant (in column 1, where contemporaneous and lagged oil prices are allowed to have different effects). When oil prices are interacted with income per capita, its effect is even stronger: statistically significant at very high levels (columns 3 and 4).

A lesson is that advanced political institutions can help an oil exporting country insulate itself against some of the excessive fluctuations associated with the Dutch Disease.

2. Monetary policy regime choices

There are two big questions to consider when a country designs a regime to govern monetary policy. The first big question is to what extent is it prepared to put in place binding constraints on monetary policy, to prevent a vicious circle of actual inflation and high public expectations of inflation from ever developing? Should the Central Bank rigidly commit to a fixed exchange rate or other precise numerical target? Should the government give the central bank constitutional independence? The alternative is to retain full discretion on the part of the

government, to use monetary policy in pursuit of political and objectives other than price stability. The second big question is – to whatever extent the country is indeed willing to bond monetary policy by some sort of public commitment, even if it is no more than a vague reference to a nominal target – what form should that target take? A peg to the dollar? To the euro? A gold standard? A money supply target? A CPI target?

2.1 Goals: inflation versus others

Most central banks declare price stability – i.e., low and stable inflation – as their overriding objective. This is not because a given rate of inflation is especially costly, nor because other possible objectives such as economic growth and employment are unimportant. It is, rather, because the consensus among macroeconomists is that monetary expansion cannot boost growth and employment except temporarily, that attempts to do so result instead in higher inflation that can only be reversed in the future at the expense of recession, and that in the long run high price instability can actually be bad for growth.[4]

Still, this consensus does not imply that there are no benefits to retaining some ability for monetary policy to respond to excess supply (recession) or excess demand (overheating) in the short run. Like most things in economics, "rules vs. discretion" is a tradeoff. The optimal point is likely to call for some degree of commitment to a nominal target (and some degree of independence for the Central Bank), but not an ironclad zero-tolerance commitment. Indeed it is not within the ability of monetary authorities to hit precisely targets for such variables as the money supply, CPI, or nominal income. Attempts to get close could lead (technically) to instability, and (politically) to lower credibility than targets that appear nominally looser.[5]

2.2 Credible commitment

The argument for some degree of commitment to a target is well captured by the "time inconsistency" model of monetary policy. In this model, if the government retains full flexibility to respond to circumstances as it sees fit, the monetary authorities are unable in any given period to resist the temptation to pursue growth by expanding enough to create some inflation. Workers and firms are aware of this, and build the expectations of inflation into their behavior when they negotiate wages and prices. The result of such expectations is to produce inflation but without any success in raising growth on average. (This is called inflationary bias.) The lesson is that countries would be better off giving up on the use of monetary policy to pursue growth, and instead tie the hands of their monetary authorities, so as to reduce expected inflation, and therefore actual inflation. This strategy is called credible pre-commitment.

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[4] Empirical evidence suggests that negative effects on growth begin to show up at inflation rates above 40%. But this does not mean that it is safe to go to 20 or 30%. There appears to be a slippery slope once one goes into double digits, and it can be costly to reverse the slide once it gets started. REFERENCES. Easterly, Fischer.

[5] Velasco and Neu (2003). Gramm-Rudman legislation in the U.S. and the Stability and Growth Pact in the EU are examples of commitments of fiscal policy where the degree of commitment that was written in exceeded the degree that would have maximized credibility.

There are three approaches to credible pre-commitment:

1. *Delegation:* Appoint conservative central bankers, grant the central bank institutional independence, and thereby shield the monetary policy process from political pressures.
2. Develop a *reputation* for monetary rectitude, e.g., by a past history of tight money.
3. Commit to a nominal *rule*.

These three strategies are not mutually exclusive. Indeed, some mixture of all three is recommended. Internationally-recommended best practice is to grant the Central Bank independence: separate it from the finance ministry, give the central bank its own budget, specify long terms for governors once they have been appointed, and insulate them from political pressure by making it difficult to remove them. Reputational considerations suggest that a central bank should be particularly tough on inflation in the early part of the life of the institution or in the term of a particular governor.

The third approach, *rules*, requires a lot more discussion. The degree of commitment can range from a rigid fixed formula, to a wide band. In practice, the strategy of obtaining discipline and credibility via a rule is usually phrased in terms of targeting a single nominal variable. There are a number of candidates for what that single nominal variable should be. The difference is important in an uncertain world.

We begin by discussing the pros and cons of a fixed exchange rate, both in general and for Kazakhstan in particular. Then we proceed to consider other possible nominal anchors

As already noted, the choice of nominal anchor is as important a question as the degree of rigidity with which the target is declared (e.g., the width of the band). In the absence of uncertainty and shocks, setting one nominal anchor would be the same as another. But uncertainty and shocks are in fact large, so that it makes a big difference which of the various possible candidates for nominal anchor is chosen and announced. The choice to commit to one variable or the other, ex ante, can determine whether monetary policy turns out to be overly tight, loose, or appropriate in the face of ex post shocks.

In the end, the author will argue in favor of a novel proposal called Peg the Export Price (PEP). It has a key advantage often attributed to floating rates, which is that it is robust with respect to the terms of trade and yet does not give up the advantages of a nominal anchor.

2.3 Pros and cons of a fixed exchange rate

Instead of a comprehensive review of the exchange rate regimes, we list briefly five pros and five cons of fixed exchange rates.[6]

Advantages of fixed rates

1. A fixed exchange rate provides a nominal anchor to avoid the inflationary bias that can arise

[6] The debate on fixed versus floating exchange rates is of course a huge subject, with many valid arguments on both sides. Frankel (2004) offers a survey, including references to other surveys.

under fully discretionary monetary policy
2. It facilitates international trade by reducing transactions costs and exchange risk
3. Similarly, it facilitates international investment
4. It avoids the competitive appreciation or depreciation among trading partners that adjustable pegs occasionally suffer
5. It avoids the speculative bubbles that floating rates occasionally suffer.

Disadvantages of fixed rates

1. Under a fixed exchange rate, especially under circumstances of high capital mobility, the country loses its monetary independence, and is thus unable to respond to country-specific shocks
2. The country loses the property of automatic adjustment to trade shocks, an advantage promised by floating rates that is particularly important for a country like Kazakhstan that is specialized in the export of a particular volatile commodity (e.g., appreciating in an oil boom, depreciating in an oil bust)
3. The Central Bank loses seinorage, especially in the case of a rigid peg like a currency board or full dollarization.
4. The Central Bank loses some capability to act as Lender of Last Resort to the banking system (as did Argentina under its convertibility plan).
5. It is occasionally subject to speculative attacks and crashes (as in Mexico, 1994; East Asia 1997; Russia 1998; Turkey 2001, etc.)

The choice of regime depends on the country in question. No single exchange rate regime is appropriate for all countries. How can one add up the pros and cons, to decide if a fixed exchange rate is appropriate for Kazakhstan? There are a number of criteria, some of them grouped under the traditional "optimum currency area" framework, to help make this judgment.

2.4 *Should Kazakhstan fix? OCA criteria for degree of exchange rate rigidity*

One way to assess Kazakhstan's standing is the traditional theory of optimum currency areas (OCA). OCA theory says that countries or regions are better suited for a fixed exchange rate if their economies are small and open to trade, if they have a high cyclical correlation with trading partners, and if labor mobility is high. This field has never been able to attain a high degree of precision, in the ability to predict either what currency regimes countries will choose in practice or to predict what will best work for them. Nevertheless, a useful starting point is to examine how Kazakhstan compares by these measures to other countries. If the country were to lay at one extreme or the other with regard to the OCA criteria, it might suggest the choice of a corresponding regime: rigid peg or free float.

(i) Trade Openness

Kazakhstan ranks **70th out of a sample of 184** countries in the world in terms of trade openness. Trade openness was measured as Trade (Exports + Imports) as a share of GDP. This ratio for Kazakhstan is **89.6%** (average for 1992-2003, source: WDI). This is squarely in the

middle of the pack. If one controls for size, the country falls further down in the rankings: to 98th out of 173 if one controls for land area, and 117th if one controls for population. The obvious reason for not ranking as more open is that the country is landlocked. But it does not matter whether openness is the result of size, geography, or policy: in open countries the advantages of fixed exchange rates tend to be relatively large and in less open countries the advantages of floating relatively large.

(ii) Labor Mobility

Labor mobility could be captured by the size of remittances as a share of GDP. One rationale for looking at this variable is as an indirect proxy for the migration of workers, the sort of definition of labor mobility that Mundell (1961) originally had in mind. (The logic was that if a country suffers a cyclical downturn different from that of its neighbors, and if it has given up the ability to devalue or expand the money supply by the choice to give up an independent currency, then its workers should at least have the ability to move to where there are more jobs.) But another rationale is that the size of remittances is an important and under-recognized OCA criterion in its own right. In countries where emigrants' remittances are large, a domestic downturn can be partially offset by increased inflows from expatriate workers. (Examples include El Salvador, Turkey, Pakistan, and the Philippines.)

In this category Kazakhstan ranks **67th out of a sample of 136** countries for which data was available. Remittances make a mere **0.3%** (average for 1992-2003) of the Kazakh economy. Again, this is in the middle of the pack.

(iii) Preliminary verdict on degree of exchange rate rigidity

Diehard fans of the "corners hypothesis" may insist that all countries choose between the two extremes: rigid pegs [such as dollarization or a currency board] or high flexibility [such as a free float]. But a look at the simplest OCA data leads to the obvious conclusion: Kazakhstan is neither so small and open as to mandate a rigid peg (as is the case in Hong Kong, Kuwait, Estonia, or El Salvador) nor so large and self-sufficient as to mandate a relatively free float (as is the case with the US, Japan, or euro-land taken as a whole). The author believes, on this and other grounds, that some sort of intermediate regime is probably called for. This includes target zones or bands, basket parities, adjustable pegs, or a combination thereof.

2.5 OCA criteria for choice of anchor currency

Beyond assessing the degree of exchange rate rigidity desirable for a particular country, Optimum Currency Area theory is also useful for suggesting to what major currency it should peg or anchor, whatever the degree of rigidity in the relationship. Indeed OCA theory is somewhat more reliable for this question.

(i) Symmetry of shocks, or cyclical correlation

We calculated the correlation of the Kazakh economy with other major economies of the world. GDP deviations from the trend (from 1992-2003) were measured for Kazakhstan, US, China, EU and Russia and the respective correlations were calculated. The results in table 2 show that Kazakhstan's economy is very closely linked to Russia's. Of course this is a legacy of past history. But the decision to move the national capital northwestward suggests that there is not in place a national policy to diversify ties further in the direction of China.

Table 2-Business Cycle Symmetry

	Correlation with Kazakhstan
Russia	96%
China	60%
EURO Area (AGG.)	55%
EU15 (AGG)	54%
United States	53%
Kazakhstan	100%

Source: EIU

(ii) Major trade partners

Tables 3 and 4 show Kazakhstan's major trade partners. Still the major export destination is Russia, though the share of exports going to Russia is falling. Other main export destinations are China and Switzerland. The share of imports coming from Russia is even larger and does not seem to be falling.

Table 3

Export Destinations (Distribtution of Exports in % of total)

	1999	2000	2001	2002	2003
Russia	19.5	19.9	20.4	15.5	15.2
China	8.0	7.6	7.6	10.6	12.8
Italy	7.3	10.4	11.1	9.4	7.9
Switzerlan	5.6	5.1	4.7	8.2	13.0
RoW	59.6	57.0	56.2	56.3	51.1

Source: IMF

Table 4

Import Sources (Distribtution of Ixports in % of total)

	1999	2000	2001	2002	2003
Russia	37.0	48.0	44.9	38.7	39.3
Germany	7.7	6.7	7.6	8.9	8.9
United States	9.4	5.5	5.4	7.0	5.6
United Kingdom	6.2	4.4	3.9	3.9	3.0
China	2.2	3.0	2.7	4.8	6.0
RoW	37.5	32.4	35.5	36.7	37.2

Source: IMF

(iii) If Kazakhstan were to peg the tenge, what should it peg to?

There is no natural choice of anchor currency for Kazakhstan, regardless whether the contemplated link is tight or loose. The dollar and the euro are both possibilities. As an international currency, the euro will increasingly be a plausible alternative to the dollar, but a peg to the euro alone raises problems for a country whose trade is not heavily concentrated on the EU. To peg to the euro would mean exposure to undesired variability vis-à-vis the dollar (and other currencies). Of course the analogous point is true of pegging to the dollar. Russia remains the economy to which the country is most closely linked via trade, but the ruble is nobody's idea of a stable anchor. It is not a sufficiently reliable currency. Perhaps some day the renminbi can play the role of anchor currency, in East Asia and Central Asia, but that is not the case today. It is not yet an international currency. Kazakhstan is simply not in the position of having an obvious candidate for single-currency peg in the manner of Central European (who can link to the euro) or Central American countries (who can link to the dollar). This same problem is common throughout Asia and among many oil producers throughout the world.

That leaves a basket as an obvious anchor or benchmark; perhaps an average (either weighted or unweighted) of these four currencies, the dollar, euro, ruble, renminbi, and yen. With a basket, the target zone need not be as wide as when the central parity is defined vis-à-vis a single major currency – say plus-or-minus 10 % rather than 15 or 20%.

Basket pegs tend to lack the simplicity, transparency, credibility, and trade-boosting convenience of single-currency pegs. Also a basket does not solve the problem of large swings that can occur in the price of the export commodity when expressed in any major currency. Traditionally, floating is considered to be the proper response if fluctuations in the terms of trade are large and need to be accommodated. But if the exchange rate is not to be the nominal anchor, then some other nominal variable should take its place. We turn now to the candidates.

2.6 Each Candidate for Nominal Anchor has its Own Vulnerability

Each of the variables that are candidates for nominal anchor has its own characteristic sort of extraneous fluctuations that can wreck havoc on a country's monetary system.

- A ***monetarist*** rule would specify a fixed rate of growth in the money supply. But fluctuations in the public's demand for money or in the behavior of the banking system can directly produce gratuitous fluctuations in velocity and the interest rate, and thereby in the real economy. For example, in the United States, a large upward shift in the demand for money around 1982 convinced the Federal Reserve Board that it had better abandon the money growth rule it had adopted two years earlier, or else face a prolonged and severe recession.

- Under a ***gold standard***, the economy is hostage to the vagaries of the world gold market. For example, when much of the world was on the gold standard in the 19th century, global monetary conditions depended on the output of the world's gold mines. The California gold rush from 1849 was associated with a mid-century increase in liquidity and a resulting

increase in the global price level. The absence of major discoveries of gold between 1873 and 1896 helps explain why price levels fell dramatically over this period. In the late 1890s, the gold rushes in Alaska and South Africa were each again followed by new upswings in the price level. Thus the system did not in fact guarantee stability.[7]

- One proposal is that monetary policy should ***target a basket of basic mineral and agricultural commodities***. The idea is that a broad-based commodity standard of this sort would not be subject to the vicissitudes of a single commodity such as gold, because fluctuations of its components would average out somewhat.[8] The proposal might work if the basket reflected the commodities produced and exported by the country in question. But such a peg gives precisely the wrong answer in a year when the prices of import commodities go up on world markets. Just when the domestic currency should be depreciating to accommodate an adverse movement in the terms of trade, it appreciates instead. Korea should not peg to oil, and Kuwait should not peg to wheat.

- The need for robustness with respect to import price shocks argues for the superiority of ***nominal income targeting*** over inflation targeting.[9] A practical argument against nominal income targeting is the difficulty of timely measurement. For developing countries in particular, the data are sometimes available only with a delay of one or two years.

- Under a ***fixed exchange rate***, fluctuations in the value of the particular currency to which the home country is pegged can produce needless volatility in the country's international price competitiveness. This is especially true if the major currency that is chosen as the anchor does not constitute a majority of the country's trade. For example, the appreciation of the dollar from 1995 and 2001 was also an appreciation for whatever currencies were linked to the dollar. Regardless the extent to which one considers the late-1990s dollar appreciation to have been based in the fundamentals of the US economy, there was no necessary connection to the fundamentals of smaller dollar-linked economies. The problem was particularly severe for some far-flung economies that had adopted currency boards over the preceding decade: Hong Kong, Argentina, and Lithuania.

Dollar-induced overvaluation was also one of the problems facing such victims of currency crisis as Mexico (1994), Thailand and Korea (1997), Russia (1998), Brazil (1999) and Turkey (2001), even though none of these countries had formal rigid links to the dollar. It is enough for the dollar to exert a large pull on the country's currency to create strains. The loss of competitiveness in non-dollar export markets adversely impacts such measures of economic health as real overvaluation, exports, the trade balance, and growth, or such measures of financial health as the ratios of current account to GDP, debt to GDP, debt service to exports, or reserves to imports.

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[7] Cooper (1985) or Hall (1982). On the classical gold standard, see also Bordo and Schwartz (1997) and papers in Eichengreen (1985).

[8] A "commodity standard" was proposed in the 1930s – by B. Graham (1937) – and subsequently discussed by Keynes (1938), and others. It was revived in the 1980s: e.g., Hall (1982).

[9] Velocity shocks argue for the superiority of nominal income targeting over a monetarist rule. Frankel (1995) demonstrates the point mathematically, using the framework of Rogoff (1985), and gives other references on nominal income targeting.

- This brings us to the current fashion of ***targeting the inflation rate***.[10] Specifically, the rule, in such countries as the United Kingdom, Sweden, Canada, New Zealand, Australia, Chile and Brazil, is to target the CPI. A key difference between the CPI (or GDP deflator) and the export price is the terms of trade. When there is an adverse movement in the terms of trade, one would like the currency to depreciate. However, price level targeting can have the opposite implication. If the central bank has been constrained to hit an inflation target, an increase in the prices of imports on world markets require the country to tighten monetary policy and appreciate sufficiently so that import prices do not rise in terms of local currency. The result can be sharp falls in national output. Thus under rigid inflation targeting, supply or terms-of-trade shocks can produce unnecessary and excessive fluctuations in the level of economic activity.

- The author has proposed an alternative, called ***Peg the Export Price*** (PEP)**.** The proposal to set the value of domestic currency in terms of the leading export commodity. The dollar price of the currency would rise and fall with the dollar price of that commodity.

3. The Proposal to Peg the Export Price (PEP)

PEP is a new monetary regime designed particularly for small open economies that are specialized in the production and export of a particular mineral commodity such as oil. As noted, the proposal is to fix the price of oil in terms of local currency. One advantage is that the currency depreciates automatically when the world oil market deteriorates.[11] This is an advantage that floating rates also promise, but in practice deliver only partially. Another advantage of PEP is that the currency does not appreciate when the world price of the country's imports goes up. As we have seen, the candidate for nominal anchor that is currently most popular, targeting the CPI, if literally interpreted, has this unfortunate property: the monetary authorities must respond to an increase in the dollar price of imports by appreciating the local currency against the dollar sufficiently that the local currency price of imports does not rise; only then can the previously set target for the CPI be met. Overall, the advantages of PEP can be summed up by the observation that, unlike other proposed nominal anchors, it is relatively robust with respect to terms of trade shocks.

How would the proposal work operationally? Conceptually, one can imagine the government holding reserves of oil, and buying or selling whenever necessary to keep the price fixed in terms of local currency. Operationally, a more practical method would be for the Central Bank each day to announce an exchange rate vis-à-vis the dollar, following the rule that the day's exchange rate target (dollars per local currency unit) moves precisely in proportion to the day's price of oil on the London market or New York market (dollars per barrel). Then the

[10] Among many possible references are Svensson (1995), Bernanke, et al. (1999), and Truman (2003).

[11] Simulations for exporters of oil and other commodities show that if they had been following the PEP proposal in the late 1990s, their currencies would have depreciated automatically with the dollar price of oil, improving their current accounts when they needed it most. The alternative baselines considered were hypothetical rigid pegs to a major currency, and also whatever exchange rate policy the country in fact followed historically: Frankel (2002) focuses primarily on producers of gold, Frankel (2003) on oil exporters, and Frankel and Saiki (2002) on various other agricultural and mineral producers.

Central Bank could intervene via the foreign exchange market to achieve the day's target. Either way, the effect would be to stabilize the price of oil in terms of local currency. Or perhaps, since the oil price is determined on world markets, a better way to express the same policy is stabilizing the price of local currency in terms of oil.[12]

A common objection to the strict form of the PEP proposal concerns diversification of exports. While stabilizing the price of oil in domestic terms makes things easier for the oil producing sector, it makes things harder for other exporting sectors. Even when oil is more than half of a country's exports, it is never 100 percent. Furthermore, many oil exporters would like gradually over time to diversify further into other commodities, so that they are not quite so dependent on one. For such countries, which probably include Kazakhstan, there are more moderate versions of the PEP proposal. The first possible margin of moderation is obvious: define a wide target zone around the central parity, rather than a firm peg or a narrow band. The second possible margin of moderation would be to include other major currencies in the target basket. The basket could be give 1/5 weight to the dollar, 1/5 to the euro, 1/5 to the ruble, 1/5 to the renminbi, and 1/5 to oil.[13] The third possible way to make the proposal more moderate would be to target a comprehensive *index* of export prices, rather than a single export commodity price. This would insure that no single export sector would bear a disproportionate burden of price variability.[14]

4. Summary of conclusions

Two polar cases are rejected, as likely to turn out to be too constraining for Kazakhstan. On the one hand, the economy is too small and too open to meet the "optimum currency area" criteria for a purely floating exchange rate. It is also too much in need of a nominal anchor for monetary policy. On the other hand, the country is too large for a rigidly pegged exchange rate. It is especially too diversified across trading partners to qualify for a peg to any one major currency (dollar, euro or ruble). If anything, a basket peg would be necessary for the tenge, perhaps at the center of a target zone. But even a basket peg has the problem that it would fail to accommodate large swings in the Kazakh terms of trade.

Two monetary regimes are most prominently discussed for Kazakhstan at present.

(i) inflation targeting – in practice a band around the CPI. This approach is popular currently with central banks, the IMF, and many economists;

(ii) exchange rate targeting -- in practice a band around a basket parity. This approach has de facto popularity, with residents who are afraid of the excessive swings in the domestic

[12] Frankel and Ayako Saiki, "A Proposal to Anchor Monetary Policy by the Price of the Export Commodity," Journal of Economic Integration, September 2002, 17, no. 3: 417-448; Frankel, "A Proposed Monetary Regime for Small Commodity Exporters: Peg the Export Price (PEP)," *International Finance*, (Blackwill Publishers), vol. 6, no. 1, Spring 2003, 61-88; and Frankel, "Should Gold-Exporters Peg Their Currencies to Gold?" Research Study No. 29, World Gold Council, London, 2002.

[13] The version in Frankel (2003) proposes (for the case of Iraq), 1/3 weight on the dollar, 1/3 on the euro, and 1/3 on oil.

[14] Frankel (2005) develops the Proposal to Peg the Export Price *Index* (PEPI).

prices of traded goods that would result in the absence of any intervention. The author does not take a strong position in choosing between the two sorts of targets, inflation versus exchange rate. But he does propose that the price of oil be included in whatever basket is used, whether it is a basket of prices as in inflation targeting or a basket of currencies.

The argument for PEP (Peg the Export Price) can be summarized as follows: it simultaneously delivers automatic accommodation to adverse shocks in the world market for the export commodity, as floating exchange rates are supposed to do, and the credibility-enhancing advantages of a nominal anchor, as dollar pegs are supposed to do. When there is an adverse movement in the terms of trade, textbook principles says that one would like the currency to depreciate. But, as noted, CPI targeting can have the opposite implication: If the Central Bank has been constrained to hit an inflation target, a positive shock to import prices will require a country to tighten monetary policy. On the other hand, if the price of the export commodity falls on world markets, inflation targeting does not produce the depreciation of the currency that is desired to accommodate the adverse shift in the terms of trade. PEP does, automatically. Thus under rigid inflation targeting, supply or terms-of-trade shocks can produce excessive fluctuations in the level of economic activity that are not necessary under PEP.

A moderate form of PEP would simply add some oil to the target basket that is to be used as a nominal anchor – either to the currency basket or the price basket, as the case may be. This would increase the robustness of the anchor with respect to whatever unknown trade shocks lie in store.

Appendix

RELATIONSHIP BETWEEN GOVERNMENTS' WAGE BILLS AND REAL OIL PRICES

Countries included in this analysis:

Indonesia	IDN	
Iran	IRN	
Kuwait	KWT	
Malaysia	MYS	
Mexico		MEX
Norway		NOR
Venezuela	VEN	

Data and Methodology

Data on wages as a percentage of GDP are constructed using two sets of data: **Wages and salaries as a % of total expenditure** and **Total expenditure as a % of GDP.**

The data was streamed such that there are data points available for all the countries above for all the years analyzed. These years are 1974 and 1977-1997.

The price of oil variables are defined as follows:

Prices:	Real price of oil in a year
Lag price:	The average of real price of oil over the preceding three years.
Long Lag:	The average of real price of oil over the preceding four years.
MEX	Dummy for Mexico
VEN	Dummy for Venezuela
…	[Country dummies]
ICRG	Average ICRG (International Country Risk Guide) rating for institutional quality from 1984 to present
Asymmetry Term	current oil price – average oil price (1977-1997) if diff is positive and zero otherwise
Interaction Term	ICRG rating*current oil price **OR** Long-run average GDP per Capita*current oil prices

The following regressions were run for pooled data. Results are shown in **table 1**.

$$\text{wage expenditure} = \alpha + \beta_1 * \textit{prices} + \beta_2 * \textit{lagprice} + \gamma_1 \text{MEX} + \gamma_2 \text{VEN} + \ldots + \lambda * \text{INTERACT} \quad (1)$$

$$\text{wage expenditure} = \alpha + \beta_1 * \text{AverageLag} + \gamma_1 \text{MEX} + \gamma_2 \text{VEN} + \ldots + \lambda * \text{INTERACT} \quad (2)$$

Results

Pooled Data

Table 1
Pooled Data regressions

Independent Variable	**Equation**			
	(1)	(2)	(1)	(2)
Prices	0.194 (0.027)		0.0510 (0.007)	
Avg. lagged price	0.035 (0.051)		0.035 (0.039)	
Long lag		0.056 (0.019)		0.075 (0.000)
Interaction Term	-2823 (0.026)	-300 (0.315)	-6.19 (0.000)	-5.13 (0.000)
Number of obs.	154	154	154	154
Adj. R^2	0.7477	0.7420	0.7755	0.7721

P-values are in Parentheses

(1) Regression of wages on current prices, average lagged prices (3 years), country dummies and the interaction of long-run GDP per capita with current prices

(2) Regression of wages on average lagged prices (4 years including the current price), country dummies and the interaction of long-run GDP per capita with current prices

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Monetary and Exchange Rate Policy: An Alternative View

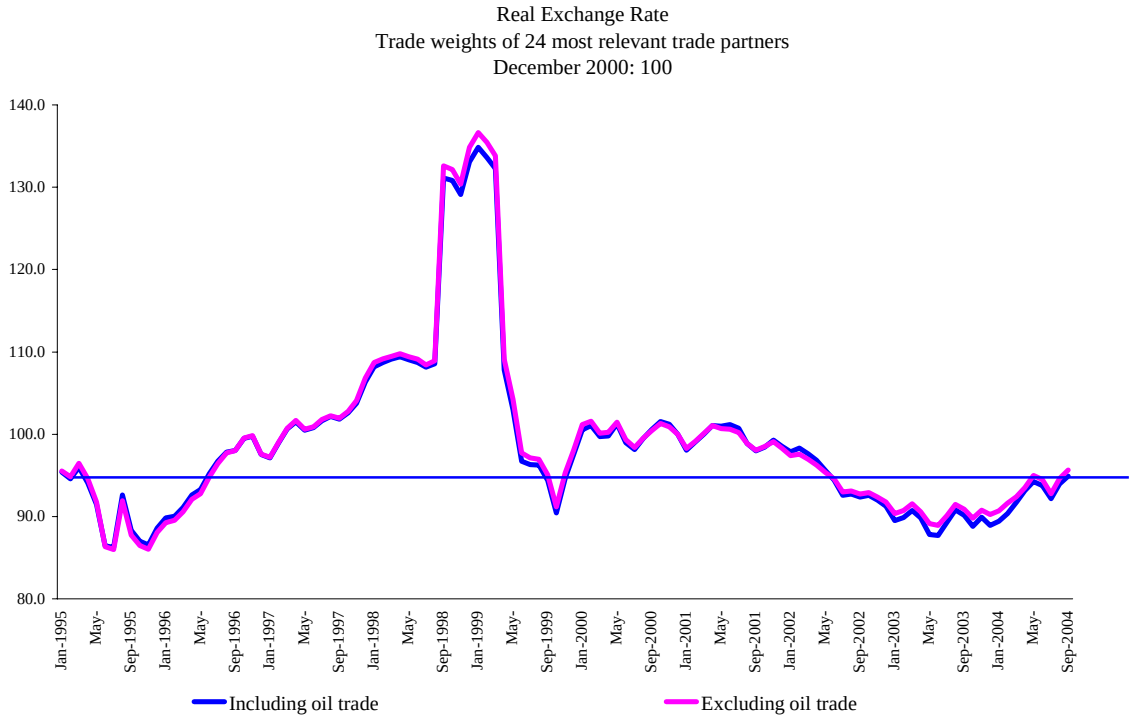
Andrés Velasco[1]

I. Issues and policy objectives

Exchange rate and monetary policies in a country like Kazakhstan can be guided by many objectives, but there ought to be four priority goals.

The first is to provide a *nominal anchor* for the economy. The domestic price level (measured, for instance, by the consumer price index) is simply the price of a bundle of goods in terms of domestic currency. That price is not uniquely determined by the workings of the market, which can only determine the relative prices of goods – that is, the price of one good in terms of another good. Instead, the domestic price level must be anchored by monetary policy. In principle, all major monetary regimes – fixed or crawling exchange rates, money supply targets, nominal income targeting, inflation targets – if implemented properly, can serve as a nominal anchor.

The second goal should be to insulate the economy as far as possible against *foreign nominal shocks*, such as inflation in trading partners' economies or sharp movements in the nominal exchange rates of economies with which Kazakhstan is closely associated. The following figure provides a concrete example of this.

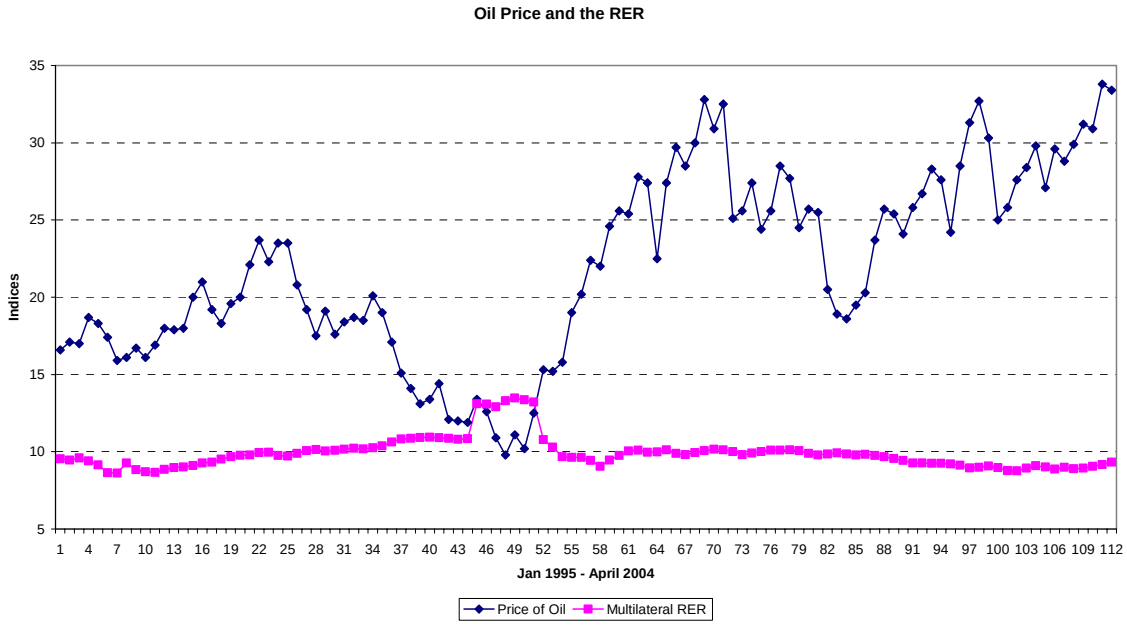


[1] The author would like to thank Pamela Arellano for assistance.

The figure shows a sharp spike in Kazakhstan's multilateral real exchange rate at the time of the Russian crisis of August 1998. At the time both Russia and Kazakhstan were pegged to the US dollar, but Russia's abrupt de-pegging caused a massive devaluation of the ruble, which in turn caused Kazakhstan's multilateral real exchange rate to appreciate suddenly. The appreciation was undone, just as sharply, when Kazakhstan ended its own peg, allowing the tenge to depreciate.

Such sharp fluctuations in relative prices, completely unconnected to real fundamentals, are harmful. They cause the profits of tradables producers to fluctuate, and send confusing signals to investors. This real volatility could have been mitigated if Kazakhstan had had a different exchange rate regime that allowed for more flexibility in the nominal parity. The advice is often dispensed that nominal shocks can be cushioned via fixed exchange rate. That is true of domestic shocks to money demand, but not of this kind of nominal shock. Here the problem was too little flexibility, not too much.

The third goal should be to insulate the economy as far as possible against *foreign real shocks*. For Kazakhstan, the most important potential such shock today is a movement in the price of oil. The following figure shows the evolution of oil prices and Kazakhstan's real exchange rate over the last few years.

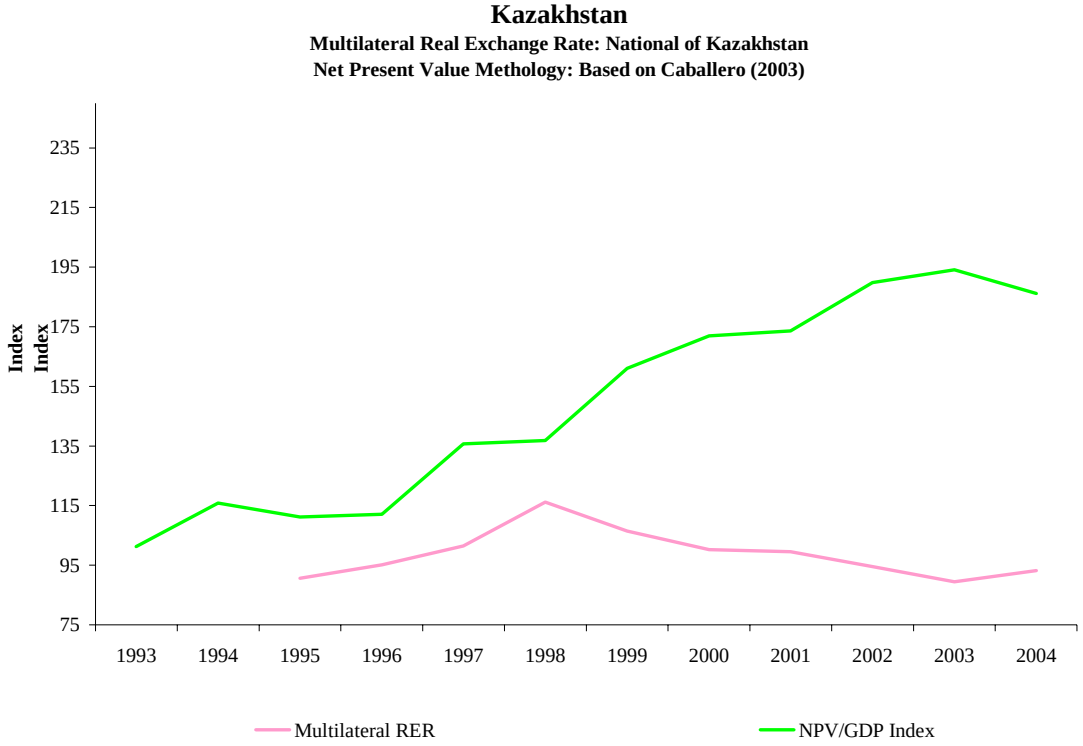


The figure shows remarkably little co-movement between the two series. One would have expected the real exchange rate to depreciate when oil prices fall and vice versa, but that does not seem to be happening. The one episode of a large real exchange rate movement (in the aftermath of the Russian crisis) goes precisely in the wrong direction: the tenge appreciated at the time when oil was reaching its lowest point in the last decade. The reasons, as discussed above, had little to do with Kazakhstan and much to do with Russia.

This suggests that the real exchange rate has not been playing its proper role as a shock absorber, particularly when it comes to foreign real shocks such as those associated with oil. Once again, a bit more exchange rate flexibility would help with this, provided interest rates and monetary policy are handled so as to allow the currency to depreciate in bad times and vice versa.

The fourth and last goal has to do with *the growing role of oil* in Kazakhstan's economy. As oil exports grow and the economy's purchasing power rises, the demands for both traded goods (imports) and non-traded goods will rise. The demand for traded goods can be met from abroad, but the demand for non-traded goods has to be satisfied by domestic producers facing inelastic supply conditions, at least in the short-to-medium term. As a result it is to be expected that as oil exports rise, the relative price of non-tradables should rise.[2]

The following figure shows the behavior of the real exchange rate and a synthetic series that tries to summarize the present value of Kazakh oil exports as a share of GDP.[3]



[2] This is a demand-driven account, valid over the short-to-medium run. But over the longer run, supply considerations point in the same direction. If productivity grows more quickly in tradables (oil) than in non tradables, the relative price of the latter should tend to grow. This is, of course, the celebrated Balassa-Samuelson effect.

[3] To compute this series we had to make assumptions about production levels and oil prices. We also assumed a 7% discount rate.

One might have expected a sustained gradual real appreciation as the present value of Kazakh oil exports as a share of GDP rose systematically in the last decade, but that does not seem to have happened. This suggests that the bulk of the real appreciation is still to come.

It is very important that this real appreciation take place in an orderly fashion, avoiding overshooting and sudden reversals. There are many reasons why the expected appreciation could become a source of instability. An important one is speculative capital flows. International investors (or Kazakhs with funds abroad) may bet on real appreciation, bringing in capital to take advantage of expected gains. Some of this is both healthy and inevitable, but too much of it may become destabilizing. The capital flows would tend to appreciate the exchange rate and create expectations of further appreciation, which in turn would call forth further capital inflows. If domestic authorities attempted to sterilize the inflows, this would keep domestic interest rates high, which again would encourage more capital to come in.

Such a process could have two harmful consequences. While it lasts it would almost surely cause an overshooting of the real exchange rate, devastating producers of non-oil tradables and bidding up excessively the prices of non-tradables such as real estate. But the process would not last forever. A misaligned exchange rate propped up by capital flows is a likely scenario for a sudden reversal, which could be triggered by anything –a drop in oil prices, a rise in world interest rates, political uncertainties, etc. Following abrupt capital outflows the nominal and real exchange rate would probably overshoot in the opposite direction. This would cause sharp changes in firm profits and potentially devastating effects on local balance sheets.

How to prevent such a destructive cycle? Here, a fair share of exchange rate flexibility has advantages and disadvantages. The advantage is that floating exchange rates move and sometimes do so unpredictably. This tends to discourage purely speculative capital flows, which thrive on the one-way bets provided by fixed exchange rates.

The disadvantage is that the combination (in a given cycle) of high oil prices and even moderate capital inflows can cause the nominal (and real) exchange rate to appreciate excessively, fueling the potential misalignment described above. This may call for limits to exchange rate flexibility, whether in the form of a target zone (with implicit or explicit bands for the exchange rate) or a feedback rule from the nominal exchange rate to domestic interest rates (more on this to follow).

II. Policy options and tradeoffs

The previous discussion suggests that a fixed exchange rate (even if the peg is to a basket) and a purely floating exchange rate (with no concern whatsoever for the course of the real exchange rate) are probably inappropriate policies for Kazakhstan. The objectives outlined above could in principle be achieved by one of the two regimes:

1. *A crawling exchange rate with wide bands around it*. In this system, some underlying trend toward real appreciation would be built into the crawl of the central parity (this could be altered, of course, if prospects for the oil sector change). Around that central parity, bands of 15

percent or more would allow some flexibility to accommodate shocks and changes in expectations. Monetary policy would be subordinated to the goal of keeping the exchange rate within the band.

2. *An inflation target married to a managed float*. In this system, an explicit target for some specified domestic price index provides the nominal anchor to the economy. The Central Bank commits to staying within a narrow band (plus or minus 2 percent?) around this target, and monetary policy is guided principally by the need to attain this goal. Monetary policy is carried out by an implicit interest rate feedback rule, in which the domestic target interest rate responds to those factors that can cause inflation to miss its target. Among those are the estimated output gap and the exchange rate. Interest rate policy responds to the exchange rate because it matters directly for inflation (via import prices) and indirectly for aggregate demand (via relative prices). If interest rate changes prove insufficient to keep the nominal exchange rate at a level compatible with the other targets, or if markets for domestic securities are not sufficiently deep to allow the Central Bank to set interest rate where it desires, then the Bank can intervene directly in the market, buying and selling foreign currency.

The main advantage of option 1 is its clarity and simplicity. In principle, the Central Bank intervenes only at the edges of the band, which provides a simple intervention rule. But this is also the main disadvantage of this option: the existence of pre-established intervention thresholds, beyond which the monetary authority will not let the exchange rate move, are invitations to speculators, who are often tempted to test the Central Bank's resolve. The outcome is a war-of-wills between the authorities and market participants, with the latter the likely winners.

The main advantages and disadvantages of option 2 are the mirror images of those of option 1. Inflation targeting of the kind described can be criticized for too much complexity and discretion: the inflation target may be clear, but the rules for attaining the target, for moving interest rates, for intervening occasionally, are not fully pre-specified. But this weakness is also a strength in that it does not commit the Central Bank to specific lines in the sand concerning the exchange rate and hence reduces the potential for destabilizing speculation.

Moreover, the simplicity and certainty of exchange rate bands is somewhat illusory. Experience shows that under these regimes, the exchange rate tends to spend most of the time at one of the edges of the band, which turns the system into a quasi-fixed exchange rate with implicit one-way bets. Understanding this, central banks tend to do two things. They sometimes intervene when the exchange rate is within the band in an attempt to keep it away from the edges. Other times they unexpectedly change the edges of the band in an attempt to frighten off speculators. The result is a complex regime with a large doses of discretion in the hand of authorities.

III. Policy recommendations and implementation

Given these costs and benefits, my recommendation is that Kazakhstan move toward an inflation targeting regime, making allowances –along the lines described above—for a an

exchange rate that is occasionally managed rather than purely flexible. This has the additional advantage of being more or less what the Kazakh authorities have told the market and discussed with the IMF, so that it provides much-welcome policy continuity.

This gives rise to the following implementation issues:

Instrument of policy: the primary instrument should be a domestic relatively short interest rate (30 days or less), which the Central Bank adjusts in response to market developments and the distance of actual variables from their target levels.

Feedback rule: the authorities need to formulate an implicit feedback rule, which specifies which factors the short interest rate should respond to. In principle, the main factor is the gap between expected price inflation (as estimated by the Bank) and its target. But this gap in turn depends on at least three more factors: the output gap, the nominal (and real) exchange rates and the course of wage inflation.

Open market operations: the common principle is to announce the level of the short target interest rate and then to sell or buy enough securities to make sure that target rate prevails. These securities in most countries are denominated in domestic currency, but there is no overwhelming reason why they cannot be foreign or foreign-currency denominated securities as well. This suggests that the domestic market for tenge bonds should be nurtured and encouraged, but that in the transition (and perhaps later), operations in dollars, US T-bills, and others are acceptable. This also means that monetary aggregates are likely to be quite jumpy. Explicit targets for monetary aggregates, whether for domestic reasons xpectations management or as part of an IMF agreement, are to be avoided.

Choice of index to be targeted: most countries target the CPI for reasons of simplicity and transparency. Targeting the PPI or some other index with a heavy weight for oil may have the additional advantage of allowing the target to respond to terms of trade changes. This is desirable, but non CPI targets are not widely known or understood by the public, which may reduce their credibility.

Criterion for intervention: when should the Central Bank buy and sell foreign currency securities, in effect "intervening" in the FX market? Given the answers above, there is no unique time when this should happen. Rather, interventions should be guided by the need to keep domestic interest rates at levels that are compatible with the Central Bank's objectives. But this still leave open the question of what the Bank should do in tranquil times –that is, in those times when it has the choice of intervening in either market. For this purpose a reserve target over a relatively long horizon may be useful as a disciplining device: when it has a choice, the Central Bank should only intervene in the FX market if needed to meet the reserve target. This target should not be defined in months of exports, but as a share of short-term debt, private and public, denominated in foreign currency.

Notes on an Industrial Strategy for Kazakhstan: The Growth Challenge

Dani Rodrik

Developing countries confront two sorts of growth challenges. The first revolves around the problem of *igniting growth*. A stagnant, non-growing economy is one where investors and entrepreneurs do not see profitable opportunities in the economy. The question in such setting is how to get investors excited about investing in the local economy. Luckily, this is not Kazakhstan's problem. The economy is growing rapidly and there is a foreign investment boom driven by oil discoveries. The second kind of growth challenge is that of *sustaining growth*. Comparative experience suggests that sustaining growth is usually harder than igniting it. That is because long-term growth depends on deeper institutional transformation. Unlike short-term growth, which can be sparked relatively effortlessly by removing some of the most binding constraints on economic activity (or as in Kazakhstan's case, by natural resource discoveries), longer-term growth requires fundamental changes in the way that the society and polity is organized around economic issues. Kazakhstan must meet this challenge if the country is to converge to the living standards that prevail in the advanced economies.

The institutional transformations that are required can be summarized under two headings: (i) institutions that provide resilience to shocks; and (ii) institutions that maintain productive dynamism.

(i) Institutions that provide resilience to external shock

An important feature of cross-national experience with economic growth is that growth bursts often come to a precipitous end in the aftermath of an external shock. The shock may take the form of a rapid decline in the terms of trade, a reversal in capital flows, or something else. In the case of Kazakhstan, the shock is likely to take the form of a collapse in the price of oil.

When the external shock hits, the country suddenly finds itself poorer: the size of the pie shrinks. Yet the economic cost of the collapse in growth is typically a multiple of the reduction in the size of the pie. This suggests that the bulk of the cost comes not from the external shock itself, but from the amplification of the shock caused by the inability to adjust to the shock appropriately. The true culprits are poor fiscal and exchange rate policy responses, which delay or prevent adjustment in the balance between expenditures and incomes.

These poor macroeconomic policy choices are in turn grounded in the poor quality of institutions of conflict management. A society that has healthy political institutions can distribute the cost of the external shock evenly among different social groups without open conflict and policy paralysis. A society with weak institutions of conflict management is unable to do the same, with the consequence that the direct costs are magnified through bad monetary and fiscal policy choices. Consider the examples of South Korea and Indonesia during the East Asian financial crisis. The democratic institutions of South Korea enabled various social groups (business and labor mainly) to sit around a table and reach an agreement about the equitable

distribution of the burden. Indonesia lacked similar institutions, and the widespread distrust in Suharto's regime broke out in open rioting.

As these examples illustrate, institutions of conflict management are fundamentally political. Mechanisms of voice, political participation, and roundtable agreements are important to build solidarity and create social trust among social partners. Ultimately, of course, democracy itself is the most important institution of conflict management. Evidence across a large range of countries shows that, while democracies and autocracies are equally likely to ignite high growth, it is democracies that have the edge when the economic system comes under stress and the external environment deteriorates rapidly.

The most basic message that emerges from this discussion is the need to use the period of high oil revenues to improve the quality of governance in Kazakhstan. Enhancing political democracy has an economic role to play in sustaining growth, in addition to its intrinsic benefits. If growth comes to an end due to external adversity, it will be because poor institutions acted as the constraint on growth.

(ii) Institutions that maintain productive dynamism

The key issue here is how to ensure a continuous stream of "winners" on world markets. Consider the contrast between South Korea and Mexico. The former country has managed to upgrade its economy on an ongoing basis, moving from garments to steel to cars to semiconductors. The latter was able to make one push into consumer electronics and autos as a result of NAFTA, but has been stuck there since. The contrast illustrates the difference between a dynamic economy and one that has experienced simply one spurt.

Kazakhstan's version of the problem consists of the question: what comes after oil? As I will explain in greater detail below, productive dynamism is not an automatic feature of market-based economies. Even under the best of circumstances (i.e., in the absence of "government failures"), market economies need a set of institutional arrangements that facilitate and encourage investments in new, non-traditional economic activities. Much of this note will focus on certain important elements of these arrangements, which I will call "industrial policy" for lack of a better term.

The challenge of maintaining productive dynamism is possibly more severe in Kazakhstan because of the so-called "natural resource curse." In recent decades, natural-resource-rich countries have tended to grow more slowly than other countries. There is considerable debate over the reasons for this, and indeed over the possibility that this finding may be a statistical mirage. One story has to do with the volatility related to natural resource prices and the difficulties of responding adequately to negative terms of trade shocks. I discussed the importance of this issue in the preceding section. A second story is the oil-led appreciation of the real exchange rate, which serves to crowd out non-oil tradables. For this to account for a long-term decline in growth, it must be the case that these non-oil tradables produce technological or other externalities. I will elaborate on this below.

What is the problem with the oil boom?

A key fact for the Kazakh economy is that investment in non-oil tradable activities is and will be lower than it would be in the absence of an oil boom. But why is this a problem?

Suppose markets are working well. Then lower investment in non-oil tradables would not be a problem at all. $1 of value added in non-oil production is of no greater value than $1value added in oil. During the oil boom, the shrinking of other tradables production is an equilibrium phenomenon. If it is resisted, the result is a larger current account surplus and lower living standards. Moreover, when markets are working well, there is no reason to worry about what happens once the oil wealth runs out: the private sector would behave socially optimally, and we get the right amount of diversification in equilibrium.

But what if the markets are not working well? In this case, there is no guarantee that the timing and extent of diversification will be socially optimal. And that is the core of the concern with oil booms. But it is not enough to simply say "markets are not working well." We need to be clear about our diagnosis of why markets are not working well, so that we can target "industrial" and other policies appropriately.

So why might markets not work well? There are two sorts of circumstances that are relevant.

(a) Government failures

There may be a poor "investment environment" due to high taxes, excessive red tape, corruption, and weak rule of law. This poor environment may well be aggravated by a relatively large bureaucratic apparatus fed and maintained by natural resource rents. The solution to this problem is obvious in the long run: improved institutions and governance.

But improving institutions takes time, and there may be short-run strategies worth thinking about as well. Many countries have managed to remove the "governance" constraints on economic activity by creatively and selectively providing institutional public goods. For example, export processing zones are a way of subjecting export-oriented firms and investors to a different legal and taxation regime than those that produce for the home market. It is a short-cut to wholesale institutional reform. Similarly enabling appeal to international arbitration in investment disputes in certain sectors or for certain types of investments is a way reducing the uncertainty that poor domestic legal regimes generate. When the institutional regime is sufficiently poor that it acts as a severe constraint on economic activity, political leaders need to think creatively about such short-cuts on the way to more comprehensive institutional transformation.

(b) Market failures

Sometimes the problem is not with government or with poor legal environments, but with intrinsic failures of a market-based system to reward entrepreneurship in non-traditional activities. Consider the following canonical examples:

- Learning-by-doing. When costs go down as a result of production experience, early entrants in an industry are disadvantaged because of low profitability (unless they have adequate access to financial markets) or spillovers to other firms.

- Cost discovery. Initial investors to new industries provide valuable cost information to potential entrants. If their investment is profitable, the gains are shared with entrants; if they fail, the losses remain private.

- Coordination externalities. Investments in certain sectors require complementary investments to become profitable. Clusters are a key example of this.

The solution to these problems is industrial policy. Successful countries have used a range of industrial policies, including credit subsidies, tax incentives, equity participation, public venture funds, and so on. Here, I will discuss a number of general principles that should inform the design and conduct of industrial policies. While Kazakhstan has already put in place a number of instruments for industrial policy, it is not clear that the machinery is guided by a clear mission or a sense of what is to be accomplished.

Selectivity

Selectivity is a necessary feature of industrial promotion policies. This is well understood in the case of market failures, but not sufficiently appreciated when we are dealing with instances of "government failures." In either case, we need to make choices on priorities. As suggested above, a practical agenda targeting government failures in the short run does require that we address some sectors' problems before others'. So the real question is not whether to be selective or not, but how to exercise selectivity.

Institutional arrangements for industrial policy

Selectivity is subject to two kinds of risks. The first risk is that of bureaucratic capture by private interests. The typical approach to avoiding this problem is to keep business at arms' length from the policy maker. The second risk is that the policy maker acts without enough information on business opportunities and constraints, and therefore exercises selectivity unwisely. The response to this risk is to get the policy makers closer to business—at least close enough to listen to their problems, become aware of their opportunities, and understand the constraints they face.

These two risks help us think about the optimal institutional arrangements for industrial promotion. The top-down model of industrial policy is clearly wrong because it gives bureaucrats autonomy, but does not supply them with enough information. The other extreme,

where bureaucrats become the agents of private business, is also obviously wrong, since it leaves bureaucrats in the pockets of business. The right model lies in between the two extremes: it consists of strategic collaboration and coordination between the private sector and the government with the aim of uncovering where the most significant bottlenecks are. It aims to induce a process of discovery. It is based on a combination of autonomy and embeddedness.

Some implications

1. Concentrate not on policy *outcomes* but on policy *processes*. The focus of an industrial policy regime must be on productive collaboration between government and business, not on which specific instrument (tax incentives, R&D subsidies, and so on) are to be deployed. Getting the institutional setting for this collaboration right is the first order of business. "First-best" policy in the wrong institutional setting does more harm than a "second-best" policy in the appropriate setting

2. Do not select sectors ex ante, but let them emerge from the collaborative process. As opponents of industrial policy have long insisted, it is unlikely that governments will have enough information to make the right selections from the outset. Eliciting information on private sector's willingness to invest subject to the removal of obstacles (or provision of incentives) is an essential part of choosing sectoral priorities. This can be accomplished through a number of different arrangements. Deliberation councils are one example. Holding contests for projects to be financed by a public venture fund are another.

3. Success is determined not by "picking winners" but by "letting losers go". Given inherent uncertainty about what will work and what will not, optimal policy outcomes will necessarily lead to mistakes. We cannot demand from successful industrial policy that no mistakes be made. The trick is not to avoid mistakes altogether, but to ensure that mistakes are recognized as such and entail phasing out of support. This is a much weaker requirement than "omniscience"—the notion that governments should know enough to always pick the right sectors. It relies on the weaker, and much more realistic, notion that the government can learn and adjust its policies appropriately.

A checklist for policy makers in Kazakhstan

With these broad principles in mind, government leaders in Kazakhstan need to ask whether the following institutional prerequisites for successful industrial policy are in place.

- High-level political support and monitoring. Any system that gives bureaucrats autonomy and the power to exercise selectivity needs a mechanism whereby the bureaucrats themselves are also monitored. Is there a senior politician who feels accountable for industrial policy, has the power to coordinate it, and can check bureaucratic excess?

- Clear channels of communication with private sector. As I emphasized, an important part of industrial policy is to elicit information from below (the markets and the business

sector). Are there institutional mechanisms whereby the bureaucracy can be fed knowledge and ideas from the private sector?

- Mechanisms of transparency and accountability. To keep both business and bureaucrats honest, we need to make sure that the rules are clear, the deliberations are open, and the decisions are made in a transparent manner. Do current arrangements ensure these?

- Clear benchmarks/criteria for success. How do we know whether the policies in place are achieving their intended purpose? Any time a project is started or support is provided, there needs to be a clear articulation of what is the yardstick by which performance will be measured. Is this built-in in current arrangements?

- Sunset clauses. Support has to be limited in time, and the government needs to be able to withdraw from failing projects. Do the existing rules enforce this principle adequately?

Financial Sector Reform in Kazakhstan[1]

Akash Deep

Both in its scope and its achievements, the process of financial sector reform in Kazakhstan over the past few years has been remarkable. A decade of ambitious measures including banking consolidation, the provision of deposit insurance, the establishment of an independent regulator, and pension reform, have led to a sharp rise in financial intermediation and a high degree of confidence in the banking system. Indeed, the financial sector of Kazakhstan may be considered one of the most advanced amongst the CIS countries. These accomplishments have fetched rich dividends for the economy. However, recent developments also reveal that further and deeper reforms are required to consolidate and sustain the rapidly expanding financial sector as it seeks to support and facilitate an even larger and more diversified economy. This note examines a selected set of issues within the financial sector of Kazakhstan that might require reform, and makes related recommendations. The main issues that will be addressed in this note are as follows:

A. Deposit insurance and the credit boom

B. Foreign currency borrowings and reserve requirements

C. Pension fund investment options

Before examining these issues in detail, one important feature that extends across all of them must be highlighted. The nature of the financial infrastructure – which broadly includes the banking and insurance sector, capital markets, and pension funds – is tied closely to the macroeconomic structure of the economy. As a result, the specific measures adopted in the restructuring of the financial sector must complement, and in turn be supported by, the choice of macroeconomic reform: specifically, monetary and exchange rate policy, and to some extent fiscal policy. The significant overlap in these two domains creates the obvious question of which agency should be responsible for taking the lead in these reform measures. The policy issues and recommendations mentioned in this note consider these areas to be primarily in the domain of the financial sector. Therefore, it is the financial custodians of the economy who should initiate the reforms discussed here.

A. Deposit insurance and the credit boom

The Kazakh deposit insurance system was established in 1999 and all commercial banks in the country are members of the system. The coverage limit has been established at KZT 400,000 per depositor per account – about 1.34 times 2003 per capita GDP. This is a reasonable

[1] This note is based on information collected through a variety of sources that include published data provided by the World Bank, The International Monetary Fund, the National Bank of Kazakhstan, etc. as well as conversations with officials from these institutions and the government of Kazakhstan.

coverage level and approximately equal to the average coverage across all countries that have deposit insurance systems in place. The insurance system is backed by the Kazakhstan Deposit Insurance Fund (KDIF) that was funded by initial paid-in capital by the National Bank of Kazakhstan (NBK). It is further funded by premiums paid by the member banks and if necessary, borrowing from the NBK or the government of Kazakhstan. The quarterly flat rate premiums are 0.25 percent of insured deposits for the first 2 years and 0.16 percent thereafter. The current size of the fund is about 2 percent of insured deposits but this is expected to rise to 5 percent by 2007.

Overall the deposit insurance system has been successful in creating confidence in the banking system in Kazakhstan as can be seen by the significant rise in deposits. However, even though deposit insurance systems remain an integral part of the financial safety net in most countries, empirical research suggests that their effect in the long run is actually detrimental to the financial system. Demirguc-Kunt and Kane[2] point out that "While deposit insurance reduces the possibility of a sunspot run on the bank, it creates incentives to make bank portfolios riskier. This is further exacerbated in a financial system that has weak regulatory structures and institutions." The reason lies in the moral hazard embedded in all insurance contracts that encourage insured banks to take on more risk (in quest of higher returns) that increases the likelihood of a bank failure and a banking crisis. Research reveals that all of the following features of deposit insurance increase the probability of a banking crisis:

- Presence of deposit insurance
- Explicit coverage limit
- Ex-ante funding of deposit insurance fund
- Public (rather than joint or private) management of deposit insurance fund

All of these features are present in Kazakhstan. Furthermore, as substantial consolidation in the banking sector has reduced the number of banks from 184 in 1994 to 35 now, commercial banking activities are highly concentrated in a three banks: Kazkommertsbank, Halyk Savings Bank, and Turan-Alem Bank. These banks might be considered "too big to fail", thus further exacerbating the moral hazard problem and creating additional vulnerability to crises.

Certain measures may be adopted to ameliorate the adverse incentives created by deposit insurance. Some of these – such as the establishment of risk-based deposit insurance premiums, supervision by the market through the issuance of subordinate debt, as well as close supervision by federal agencies – are already a part of the current or expected Kazakh financial structure. These may be complemented by steps to encourage supervision by other banks in the industry (perhaps through a transition to industry rather than government provision of deposit insurance) as well as by large depositors through coinsurance. Most importantly, clear procedures for the closure and liquidation of insolvent institutions must be established to avoid the possibility of excess regulatory forbearance as seen in the Savings and Loans crisis in the United States during the 1980s.

[2] Demirguc-Kunt, A. and E. Kane, 2002, "Deposit Insurance Around the Globe: Where Does it Work?", *Journal of Economic Perspectives*, Spring.

Even though the bank reform and supervision process in Kazakhstan has been widely appreciated, the recent failure of Nauryz Bank is a serious development that can undermine the effort spent over the last five years into restoring confidence in the banking system. The manner in which the failure of Nauryz Bank is resolved will set an important precedence and hence prove crucial in ensuring the long-run stability of the banking system in Kazakhstan.

Finally, a large component of the "consolidated supervision" framework adopted by the FSA in Kazakhstan is the adoption of Basel II capital regulations with capital adequacy ratios in excess of those recommended by the Basel Committee. While this measure is laudable in its attempt to implement even tighter capital requirements, they do not replace the need for a sound supervisory and regulatory framework. The adequacy of the existing structure is even more questionable in light of the size and nature of the credit boom that Kazakh banks have been witnessing in recent years.

Kazakhstan's credit to GDP ratio (23 percent) may be low compared to other transition and advanced economies but credit has been growing rapidly: even over the last 2 years, claims against private non-financial institutions has almost doubled while that against households has quintupled! Due to capacity constraints and lack of credit history, the sharp rate of credit growth may lead to inadequate appraisal of credit quality by banks and possibly insufficient monitoring by supervisors. As a result, the lending boom will tend to further capitalize sub-standard loans. The full extent of non-performance will be realized truly and painfully only during a downturn because currently even bad loans get recapitalized (because the volume of credit growth far exceeds the interest repayment on existing loans) and because even the visible bad loans are being considered as part of a larger (and rapidly increasing) volume of total loans, thereby making the ratio of non-performing loans to total loans appear lower than the true number. Since one of the well known shortcomings of the Basel capital adequacy requirements is their procyclicality (i.e. capital requirement jump up sharply when credit quality deteriorates in an economic downturn), it is necessary that capital should be built up now as a buffer against the inevitable decline that will occur at some point in the future.

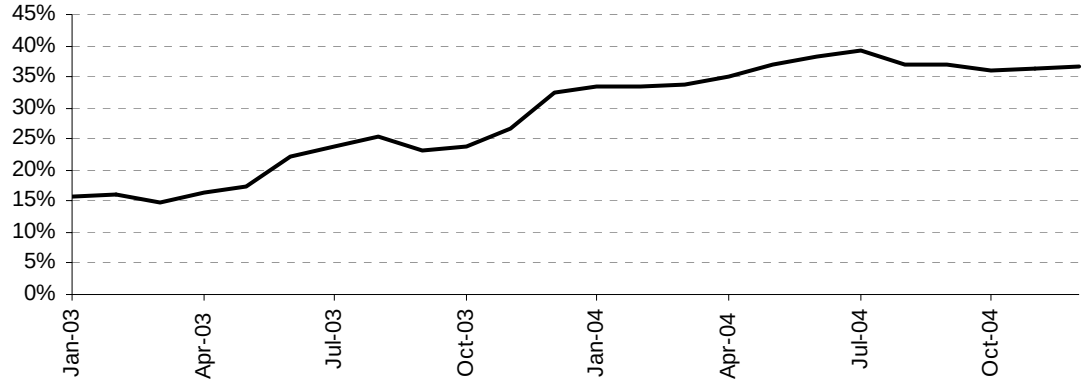
B. Foreign currency borrowings and reserve requirement

The balance sheet of second-tier banks in Kazakhstan suggest that the aggregate volume of foreign currency denominated loans is approximately equal to foreign currency denominated deposits. However, it must be the noted that that deposit dollarization has declined significantly from about 60 percent at end-2002 to 45 percent in early 2004 and will possibly decline even further. Furthermore, due to the difference in liquidity between loans and deposits, deposit denomination can change rather rapidly whereas loan denomination will not change as fast, leading to possible mismatch. Such a mismatch will develop most rapidly exactly when its consequences will be most severe – an appreciation of the tenge will lower the value of banks' assets (loans) without a commensurate rise in the value of their liabilities (deposits).

Further, while much of the foreign currency lending is to domestic borrowers, which creates a foreign currency loan repayment liability for them, it is not clear that they have a matching future income stream also in foreign currency. This currency risk exposure of domestic

borrowers translates into credit risk for the banks. Thus banks face an "economic exposure" to exchange rates even if they do not have a direct "translation exposure."

Figure 1: Net foreign Liabilities/ Total assets
(aggregate data for all second-tier banks)



This feature is more alarming in light of the presence of widespread expectation that an appreciation of the tenge is imminent. This might be skewing the choice of denomination for borrowing towards foreign currency rather than tenge. The creation of foreign currency denominated liabilities by borrowers with no matching dollar-denominated revenue stream is therefore a speculative strategy in expectation of tenge appreciation (just as amassing foreign currency denominated assets would be in theface of expectations about local currency depreciation). For example, while the share of long-term loans made in foreign currency has declined from 75% to 55% between 2002 and 2004, no such shift has been observed in short-term loans. This trend may also be seen in aggregate data (Figure 1) that show that external debt has soared over the past two years. Joint BIS-IMF-OECD-World Bank statistics reveal that of the amount of external debt (including bank loans and debt securities but not multilateral claims) outstanding as of June 2004, 60 percent was due within a year. When only bank loans are considered, the corresponding number is even higher at 82 percent.

Such speculative positions are detrimental to the stability of the banking system due to its inherent currency (and credit) risk. Further, through the possibility of foreign currency liquidity demands, it also makes any exchange rate stabilization that the central bank might desire and implement using its *own* foreign currency reserves more challenging and costly.

One of the ways to address this risk is the imposition of an Unremunerated Reserve Requirement (URR) on all external financing. Such a requirement would impose a fractional, non-remunerated deposit with the central bank for all forms of external financing including foreign credit and foreign currency deposits (though it could exclude direct and portfolio equity investments).

One of the most significant users of such a strategy has been Chile in the 1990s. In that case a fraction of all foreign currency inflow had to be deposited for one year irrespective of its planned maturity. This fraction was set at 20 percent in 1991 and increased to 30 percent in 1993 (and finally abolished in 1998). The stated objectives of this measure were to favor equity inflow over debt and to limit the volatility of flows by taxing "hot money" heavily. It also sough to increase the effectiveness of monetary policy: the reserve requirement would allow tight monetary policy without causing a large capital account surplus and thus to some degree contain the appreciation of the real exchange rate. It is generally believed that the measure was effective in that it promoted direct and longer-term portfolio investment. There is also some evidence that it reduced inflows, and thus excess appreciation and volatility of the real exchange rate.

In the Kazakh context, the unremunerated reserve requirement will increase the effective interest rate (cost of borrowing) on foreign credit and thus stem the foreign currency credit boom. It could also restrain an appreciation of the real exchange rate. However, it is reasonable to expect an active attempt to uncover loopholes in the measure: the enforcement capacity to continuously plug these loopholes has to be planned for in advance for the measure to be effective. It is expected that the URR will only be a transitory policy measure that can be lifted after a few years. However, it will expedite a smooth transition to a largely tenge-based economy that will lower the foreign currency exposure and related risks in the banking system while also facilitating a more effective domestic monetary policy.

C. Pension fund investments

The primary challenge for Kazakh pension funds has been finding investments in the face of a dwindling pool of government debt, and improving their lackluster performance. The total size of these funds has grown substantially but their return has failed to even keep pace with inflation. Table 1 shows the current and permissible investments for the pension funds across different assets (as of November 2004).

It is important first to highlight the nature of investments that pension funds ought to seek and the portfolio management style that they should adopt. This discussion can be couched in the form of three considerations: diversification, duration and denomination. The nature of pension fund liabilities are such that their performance should not be highly correlated with the performance of the Kazakh economy in general and the oil sector in particular. Furthermore, these liabilities are far in the future (have large "duration") and are tenge denominated. To meet these objectives, the assets that pension funds choose to hold must also strive to meet these criteria.

Asset	Current allocation	Permitted allocation
Government securities (incl. Eurobonds and municipal	49%	≥ 25%
KZ corporate securities	32%	≤ 50%
Foreign securities	7%	≤ 40%
Development Bank of Kazakhstan bonds	0%	≤ 15%
Mortgage backed bonds	0%	≤ 20%
Bank deposits	11%	≤ 15%
Cash	1%	

Table 1: Pension fund investments

The case for a minimum quantity of liquid government debt securities spanning a full range of maturities has been made with the objective of creating a sovereign yield curve that would provide a benchmark for the pricing of other securities in Kazakh financial markets. Since the quantity of such securities will be limited and their issuance costly (the government runs a budget surplus and is expected to continue to do so into the foreseeable future), it in necessary that these securities be relatively liquid, and therefore not constitute a substantial part of the portfolios of "buy and hold" investors such as pension funds. Hence pension funds should not bank on government debt to serve as one of the major investment assets, even if this market expands from its current levels.

The need for diversification calls for greater investment in foreign securities and this has been acknowledged by the recent increase (from 10 percent to 40 percent) in the permitted allocation to such investments. However, actual investment in foreign assets stands at a mere 7%. The most probable reason for this is the aforementioned expected appreciation of the tenge against foreign currencies: even if overseas investments perform well, their tenge denominated return will suffer if the tenge appreciates over the holding period. Hence to promote greater investment in foreign securities, there should be some means of allowing pension funds to make such investments without being exposed to the uncertainty of exchange rates. This can be achieved by allowing pension funds to take hedging positions in currency derivatives (such as forward, futures, options and swaps). While any speculative use of derivatives by pension fund managers must be curtailed (and this will require a sophisticated supervisor), a complete ban on their use will force pension funds to either implicitly speculate on currency movements or shy away from foreign assets completely.

Two other asset classes that have seen little investment are bonds of the Development Bank of Kazakhstan and mortgage-backed securities. Both these asset classes are attractive because they have higher duration than the existing portfolio, are tenge denominated and may be considered relatively safe. However, their characteristics are not very different from government securities and hence they provide limited potential for diversification.

For an investment class that has similar characteristics but may not necessarily be as safe, the government might examine the possibility of issuing infrastructure bonds. These bonds would fund specific infrastructure projects and would depend on these projects to make payments to investors with some or no recourse to the government. As the need for rapid development of infrastructure grows, such securities would facilitate the tapping of pension savings as an additional source of finance while also creating an additional asset class for pension funds that has high duration and local denomination.

Certain new asset classes ought to be explored. One of these is Collateralized Debt Obligations (CDO). In the absence of a deep and wide corporate bond market, most corporate debt resides on the balance sheets of banks in the form of loans. A CDO structure would transfer a large pool of loans to CDO investors at market price, and allow these investors to receive the same interest and principal payments (less fees) as would have been received in aggregate by the bank. However, the manner in which these payments are shared across the investors would depend on the seniority of the "tranche" that each CDO investor holds. From a given level of proceeds received every period, senior tranche holders would be paid before junior ones. Thus the riskiness of senior tranches can be much lower than the average credit quality of the loans that constitute the pool while the lowest tranches are much riskier. Relatively senior tranches would be appropriate for pension funds while lower trances might be held by other (higher return seeking) investors or retained by the banks themselves. The attractive feature of a CDO-structure is that it creates a relatively safe asset class for pension funds while also freeing up the balance sheets of banks to make additional loans and thus increases the volume of financial intermediation.

Finally, the government might examine the possibility of issuing equity for a partial stake in state-owned enterprises. These would be attractive assets for pension funds to hold due to their smaller correlation with other components of the portfolio (which are largely of the fixed-income type) while also promoting local equity markets and serving as a model for transparency and better corporate governance.

Kazakhstan Trade Policy

Robert Z. Lawrence

This memorandum deals with related three issues. The importance of integrating trade policies into Kazakhstan's overall economic strategy; the opportunities created by Kazakhstan's entry into the WTO; and Kazakhstan's regional trading arrangements.

General Considerations: Trade policy should be an integral part of a development strategy. It is tempting to treat trade policy as a separate venture and to regard trade negotiations and the setting of tariffs as a matter that can be dealt with by a group of specialists who operate separately from the key economic policy decision-makers. It is also tempting to allow political considerations to dominate trade measures, both with respect to border measures and regional agreements. But allowing trade policy to proceed on its own track could seriously undermine policies that are adopted in the rest of the economy.

Separating trade from other policies could also result in missed opportunities. When trade policies are integrated with industrial and development policies they can help these policies succeed. Trade agreements, in particular, can play an important role in facilitating domestic economic reforms. *Indeed, the best trade agreements are those that help countries to undertake policies they should be adopting anyway.*

Trade agreements can also help with the politics of reform. When a government tries to remove domestic barriers unilaterally it will generally only hear the objections from the losers – the firms that compete with imports. But if liberalization takes place in the context of an agreement that enhances access to foreign markets, the government will have support from the winners -- the exporters who will gain from improved access to foreign markets.

Trade agreements can also make domestic reforms more effective by making them more credible. There are many policy measures that Kazakhstan can implement unilaterally. But domestic and foreign investors will inevitably have questions about the permanence and stability of such actions. By "locking in" policies in trade agreements, the government can make a more convincing case that the direction of policy is likely to be sustained. This leads to a paradox. Countries sometimes claim that they have been victorious in a trade agreement, if they have preserved their flexibility, but the greater this flexibility, the smaller the gains are likely to be.

To be sure, these lock-in benefits are associated with an important cost – the reduction in autonomy. It is crucial, therefore, that before signing any agreements, Kazakhstan decides precisely how its trade policies can complement its development strategy. Trade agreements can help provide a blueprint for desirable changes, but the "devil lies in the details."

In particular, Kazakhstan faces the challenge of dealing with the implications of a dramatic increase in future oil exports which in ten years could be three times their current

levels. The economy could become even more specialized in oil and mineral exports. At the same time, therefore, there is an interest in encouraging greater economic diversification. In this environment, however, particularly if the real exchange rate appreciates, there is a danger that trade policy could be captured by protectionist pressures. While there may well be a role for infant industry protection and temporary safeguard measures to cushion change, it is important that protection be based on efficiency rather than political considerations. There may also be a case for temporary protection of certain sectors that may become competitive in the future and for some that are in decline but these measures need to be highly selective.

It is possible to make a case for infant industry protection but it requires selectivity. It is important to be clear that the mere fact that a product is being purchased from a domestic source rather than imported does not make this purchase preferable. The crucial questions are the cost and effects of such preferential measures. Protection must rest on the view that (a) there are market failures which currently prevent firms from producing these products profitability and (b) in the long run, the cost savings from domestic production of these products will be sufficiently large to offset the higher costs that are imposed in the short run. In short, it is important that there is a reasonable probability that the infants will be able to survive till they become adults!

Similarly there are sectors in which overnight liberalization could prove highly disruptive and there is therefore a case for moderating the pace of change using trade protection. But again it is crucial that these polices be applied selectively and that the protection be scheduled to decline over time. There may well be some activities in which these conditions are met, but a policy which provides incentives for all forms of domestic production is bound to be wasteful.

Kazakhstan's current trade regime is in need of reform. While tariffs are relatively low on average, the rates are highly dispersed and there are far too many different rates (10 different bands) and classification categories. (Sensitive, very sensitive etc…). In addition, there are several specific tariffs still in effect, which makes it difficult to ascertain exactly how protective such tariffs actually. This complexity in turn makes it difficult to apply a rational policy. Tariffs should not be viewed individually because they interact as a system. Tariffs that are imposed on inputs, damage the competitiveness of firms that use these inputs in other sectors reducing their effective protection. It is tempting, for example, to offer protection to domestic producers of steel in order to make the domestic production more diverse, but such measures could actually end up making production less diverse if it harms the firms that use steel to produce other types of products for domestic and export markets. The multiplicity of categories in the current system creates incentives for firms to lobby to have their products classified in one category rather than another, and it makes officials responsible for setting these tariffs open to political pressures. This complexity in the schedules interacts with other administrative problems in customs and other regulatory systems to raises the costs of protection. Kazakhstan has very large borders and smuggling is difficult to police. The simpler and more efficient the trade regime, the more effective it is likely to be. It would be far better to radically reduce the number of tariff bands, indeed ideally to have only one or two and to establish clear and transparent mechanisms for providing tariff protection. (This approach is not unknown: Kyrgyzstan I believe provides a flat rate of 10 percent to all products.)

WTO membership: Kazakhstan's entry into the WTO will improve the access of its exports to foreign markets, give it important legal rights, and provide an opportunity for reforming its trade regime and other domestic policies.

Improved market access should help encourage both foreign and domestic investment. All members of the WTO are required to grant each other unconditional most-favored nation treatment. This provides goods and services produced in Kazakhstan with protection against discriminatory and arbitrary treatment by other WTO members. Similarly they are required to provide national treatment for foreign goods which rules out discrimination in favor of local production. If Kazakhstan's neighbors with whom it has significant trade join the WTO and Kazakhstan is also a member, they would have to follow WTO rules with respect to national treatment, tariffs, standards, dumping and subsidies. If it fails to join, and its neighbors to join, Kazakhstan would also be a less competitive location for investment in export activities because firms producing in neighboring countries would have better access to foreign markets.

In addition, WTO membership entry will give Kazakhstan legal rights and the ability to challenge violations of WTO agreements using the WTO Dispute Settlement System which has proved to be very effective in obtaining compliance from even the most powerful members such as the United States and the European Union. In particular, the WTO has an extensive set of rules that govern assistance to domestic firms (The Subsidies and Countervailing measures Agreement) and another that governs dumping.

Failure to comply with WTO rules could allow other countries to levy duties designed to offset subsidies and dumping. It is very important, therefore, for Kazakhstan ensure that the manner in which it provides domestic assistance to its firms does not violate WTO rules. (Developing countries with small shares in foreign markets may enjoy some exemptions). To be sure, if Kazakhstan does not join the WTO it would be legally free to apply subsidies, but its exports would still be subject to such measures by foreign countries and in fact their treatment could be far worse. The legal protections given by WTO and the right to challenge foreign actions could therefore be very important if Kazakhstan adopts a more extensive industrial policy that succeeds in developing exports in significant quantities.

It is important to remember that WTO membership does not require completely free trade. Tariff protection at agreed levels is perfectly legal (quota protection is not) and for some agriculture products, tariff-rate quotas and a certain amount subsidies are permitted. Restrictions on services liberalization are also allowed. In fact, many developing countries have either not bound significant shares of their trade or have chosen bound rates that are far higher than those that they actually apply.

Nonetheless, Kazakhstan's accession to the WTO presents an ideal opportunity to rationalize and simplify the domestic tariff structure, improve its customs procedures and introduce other reforms and regulations. Kazakhstan would be better off binding all of its tariffs at realistic levels rather than trying to preserve the highest bindings possible.

Leaving lots of room in the tariffs might appear an attractive method for providing insurance against unforeseen disruptions, but to do so, again leaves domestic policymakers exposed to protectionist lobbying. The WTO has provisions for the use of safeguards which

allow for temporary protection in the event that imports cause significant injury and Kazakhstan would be better off using these Safeguards to deal with these contingencies.

China provides the best recent example of the use of WTO to enhance domestic reforms. The Chinese leadership took advantage of their WTO accession to implement a large number of measures that enhanced China's transition to a more complete market economy. China's entry helped change the mindset of many domestic firms and persuade them of the importance of becoming internationally competitive. The WTO rules cover not only barriers to trade in goods, but also services, the treatment of foreign firms(Trade Related Investment Measures), customs, intellectual property (TRIPs), policy transparency, and regulatory measures (Sanitary and phyto-sanitary and technical barriers to trade). Kazakhstan has needs for reforms in all these areas and can therefore use WTO entry to advance them.

It would also be a great advantage if Kazakhstan could secure treatment as a market economy, either upon its entry or within a short period of time. So-called "non-market economies" are subject to discriminatory treatment by countries such as the United States with respect to anti-dumping. In particular their costs are not regarded as relevant for their export prices and they are benchmarked against third country comparators. This is another reason why WTO accession could help stimulate domestic reform.

Regional Trade Arrangement: Kazakhstan's relations with its neighbors are of considerable political importance. But it is risky to base regional trade arrangements purely on political considerations. History is replete with failed regional economic integration initiatives that were purely politically motivated and not supported by the necessary economic measures. There are many examples in the Middle, Latin America and Africa. In the long run, not only did these initiatives fail to provide economic benefits, but their failures ultimately led to disillusion, disappointment and a loss of credibility that inflicted political damage as well. Exacerbating this problem is the tendency, over time, for people to take the political gains for granted, which requires increasing economic benefits overtime to offset these losses. Indeed, it could be argued that the success of the creation and evolution of the EU, which was motivated politically to begin with, can be attributed to the recognition of the economic benefits by members of the agreement.

Nonetheless, agreements to enhance regional economic integration can be a useful complement to policies that aim at global economic integration. Kazakhstan does have extensive trading relationship with its neighbors and in particular it has signed the agreement creating the Eurasian Economic Community (EAEC) with Russia, Belarus, Kyrgyzstan and Tajikistan. Thus far there is no common external tariff but trade among the countries is free of duties.

It is also crucial, however, that Kazakhstan give careful consideration to the specific form that such agreements take. In particular to the distinction between customs unions and free trade agreements. Whereas completed Free Trade Agreements remove all the barriers between the partners. Customs Unions not only require that these be eliminated but also that there be agreement on a common external tariff. The problem with FTAs is that if external tariff rates differ, there is an incentive to bring goods in through the low tariff country and ship them into the high tariff country. To prevent this requires agreement on rules of origin which retains the

need for customs inspections for goods moving between the partners of an FTA. By contrast there are no such incentives when the same tariff rates are applied in a customs union and no need for these rules to be enforced.

There is a long common border between Kazakhstan and Russia and it is difficult to police smuggling. This also strengthens the case for a customs union. In addition, as a land locked country Kazakhstan has a strong interest in the conditions for goods that transit across the CIS countries. But there are also reasons for Kazakhstan to be wary of such an arrangement. Customs unions require political mechanisms for determining the common external tariff in the first place. Entering into an agreement with a large and powerful neighbor could mean giving up control over trade policy – something about which Kazakhstan with its own distinctive characteristics and needs should be wary of doing. (Indeed, in early versions of the agreement among the five members of the Eurasian Economic Community members were all supposed to adopt Russian tariff rates.) Even if is possible to agree on these common tariffs, entering into a customs union could make it more difficult to implement safeguards in the future. There is also the politically difficult task of allocating the tariff revenues from goods that enter through ports in other countries but are actually destined for Kazakhstan.

Nonetheless, it is clear that Kazakhstan has a strong interest in policies throughout the Community that focus on reducing the informal trade barriers such as inspections at customs and en route; road transit charges; fees for customs declaration; deposits of cargo value for transit traffic; duplicate certification requirements; and wide-spread corruption in customs and transportation. Dealing with these issues (and investing in infrastructure) could probably do more to promote regional trade than grand agreements that are difficult to implement.

Kazakhstan: Institutions

Rafael Di Tella

Summary

There is a long list of "Institutions" that common sense suggest would help a country grow. However, beyond the obvious and some exceptions noted below, there is no evidence suggesting that some institutions are better than others.

Unfortunately, lots of people (World Bank, Davos, etc) have to talk about institutions. This creates the impression that there is some magic solution out there that countries should adopt. This is false. The evidence in favor of two institutional reforms that Kazakhstan is considering (decentralization or raising wages to deter corruption) is not great. In fact, to a first approximation, one of the most important challenges faced by reforming economies is to resist adopting bad policies stemming from such vacuous talk.

A caveat: at a basic level, there is "best practice" on a number aspects of institutions (e.g., Should we use entry exams to move towards a meritocratic bureaucracy?). The answer to such best practices issues (in this case yes) can be found in the many background papers on specific issues produced at the World Bank. Beyond that, the analysis of institutions has the problem outlined above.

There is some evidence that some reforms are more powerful when other reforms are in place. For example, there is stronger evidence raising bureaucratic wages works when strict auditing practices are in place. And there is (weaker) evidence that fiscal decentralization works better when some political authority lies at the local level.

Controlling corruption amongst high ranked officials (political corruption) is more difficult and requires electoral competition. Thus, it works only over the very long run. A free functioning media will help. But the emerging accusations need to be investigated by an independent and efficient judiciary. In fact reforming the judiciary system is one of the main priorities for most countries in transition.

Some argue that the solution is to form an independent agency to fight corruption, similar to that in existence in Hong Kong. This would be a mistake. It is unclear how effective they have been in the past. And they often imply an intolerable infringement of individual rights. Their main role is to make corruption a topic of political competition. But then there is a case for granting politicians immunity from prosecution given the bad quality of the judicial system.

At a more fundamental level, institutions are affected by beliefs. An economy that is heavily dependent on oil resources and is plagued by corruption (Kazakhstan is ranked 122 out of 145 countries by TI) has to invest in preserving the belief that success in life depends on individual effort rather than good luck and connections. Belief in the value of effort (the

"American Dream") is important as the basis for an economy with low taxes and few government regulations.

One form of such investment would be to strengthen the office of the prosecutor, subject it to electoral competition, and give it authority to initiate cases against corporations that are seen to benefit from corruption.

I. Introduction

The importance of institutions is a key lesson emerging from the analysis of market reforms in Latin America and Post Soviet economies. Indeed, economic performance in general, and in particular following privatization and deregulation, has been linked to the quality of institutions in a number of empirical studies (starting with Mauro (1995)). There is no agreement amongst economists as to which institutions are deemed to be most relevant, but the best descriptions of the problem that we have available often include the judicial system, the budget institutions, the system of political representation and the quality of the bureaucracy. In this spirit, Kazakhstan faces a challenging agenda for institutional reform.

The problem of institutional reform can be tackled at two distinct conceptual levels. First, we can think of concrete rules and legislation that contain the workings of the economy. Call this, institutions type 1. Second, and at a more general level, we can think of the belief systems that citizens have as containing the institutions and the market interactions. Call this institutions type 2.

I.a. An Example: Sound Monetary Policy

To make this concrete, consider the goal of price stability and the problem of conducting sound monetary policy towards this end. Is there an institutional reform that would help? The answer is yes. For the last twenty five years, economists have argued that some degree of independence of the central bank from the political authority would help solve the problem of time inconsistency of optimal monetary plans. Accordingly, central bank independence has been at the top of the list of institutional reforms recommended to countries with a history of monetary instability.

Argentina is a good example of the benefits and limitations of institutional reform. In 1991, the Peronist administration passed a law granting independence to the central bank. During the next 10 years, Argentina reversed its dreadful history of inflation with a record of price stability that matched (and even surpassed) that of the US. Analysts often emphasized the benefits of these institutional reforms whenever they were asked to predict the likelihood of reverting to looser monetary policy. However, in 2001 and with the country in the midst of a crippling recession, the government decided to loosen monetary policy. When the president of the central bank refused, he was accused of money laundering and other crimes. Even thought the charges were well known to be politically motivated at the time, and were dropped immediately after he resigned, public opinion supported the desperate measures. Argentina later devalued, leaving analysts pondering how come what appeared to be a robust institutional construct was destroyed in such a short time.

Argentina's failure can be explained using the distinction we are making between the two types of institutions. Indeed, during the 1990's there were impressive gains in terms of the country's legal institutions. However, the principle behind some of them was not shared by the population. In particular, when the government advanced over the president of the central bank, public opinion did not react against it. The shared mental model of the citizens of the country did not consider central bank independence an institution worth preserving. At that point, all the legal restraints could not help, because Argentina is a sovereign country. Thus, there is *always* a way to overturn a type 1 institution. Alternatively, true and lasting progress takes place only when people become convinced that certain limitations on one's own conduct are worth enforcing. This does not suggest that legal institutions are worthless. They play a role inasmuch as they increase the cost of indiscipline. Having passed the charter giving independence of the central bank, it is somewhat harder to go back on it. But, given that these are voluntary to begin with, the effects are typically small.

In the rest of this note I discuss institutional reform of the two types in an economy where resource extraction plays a dominant role. First, we discuss type 1 institutional reform focused on three challenges faced in Kazakhstan, namely political institutions, reform of economic institutions, and bureaucratic reform. We then discuss type 2 institutions.

II. Type 1 Institutional Reform

II.a. Aspects that do not Originate in Resource Abundance

There is a long list of "Institutions" that common sense suggest would help a country grow. However, beyond the obvious examples of best practice and some exceptions noted below, there is very little evidence on which we can base a "scientific" discussion. Note that by "best practice" we mean that for a number of specific aspects of institutions (e.g., Should we use entry exams to move towards a meriticratic bureaucracy?) there is a simple answer (yes), and the World Bank is a good source for such examples of best practices.

Beyond such practical issues, there are some challenges for countries in Kazakhstan's stage of development, particularly linked to the larger problem of improving their political institutions. Of course, for most people democracy is desirable per se, even if there are no associated economic benefits. Note that the international evidence does not support the view that political reform leads to improved institutions, or even later economic growth. Indeed, there are numerous instances of economic development followed by political liberalization and institutional reform. The cases of Chile under Pinochet and Spain under Franco are recent examples. See, for example, Shleifer et al (2004), who argue that even in extreme cases, dictators could introduce order. Growth then takes place without democracy, but institutions are developed. When the dictator dies, there is sufficient agreement on a set of basic principles that we can have democracy without, corruption, confiscation and chaos.

In spite of the weak evidence supporting specific institutional reforms, international organizations and other activists have insisted that countries adopt a number of them. Take the strategy of improving the quality of the public administration. There are a number of reforms that

have been emphasized to facilitate the development of small and medium enterprises, including those that reduce the control and licensing functions of the state. However, a prerequisite to tackle these reforms is to improve the capacity of the state. A particular weakness in this respect is the level of compensation in the bureaucracy. Accordingly, increasing levels of compensation in the bureaucracy is a candidate reform. Higher wages have two important effects. First, they attract better qualified applicants. And second, they induce bureaucrats to behave better, putting forward effort and succumbing less to the temptations of corruption. Although the first argument appears to have some bite, the second is only partially appealing. The main reason is that there is only weak evidence suggesting that a policy of high wages deter corruption, and only in very special circumstances. First, there has to be serious auditing and scrutiny of public officials for high wages to have any deterrent effect. Second, for high level positions, where discretion is large, the level of wage shave to be implausibly high for them to have a deterrent effect. It is politically impossible to pay such high wages. The country that pays highest wages (Singapore) is not a democracy and faces serious opposition to paying out high wages when GDP is not growing at very fast rates. Third, paying high wages is actually bad for controlling corruption in the case of politicians that are not rich to begin with. High wages gives them a way to "justify" high levels of spending (that originates in bribe taking). Indeed, the policy of insisting that politicians sign a statement of their wealth (prior to entering politics) and to then monitor their consumption and levels of wealth is a particularly effective way to controlling corruption in poor politicians.

The way to implement such monitoring of consumption is to ask public servants to make a statement of their wealth prior to entering politics. This can then be kept by the judicial system (e.g., at the office of the State prosecutor), at the administrative office of the executive, or it can be made public. In some cases these statements of wealth have been kept by special offices created for the purpose of monitoring ethics in the country. This is not necessary and, in general, these offices involve a number of risks. The proposal to create anti-corruption watchdogs is inspired in Hong Kong's experience with the Independent Commission Against Corruption (ICAC). The creation of such institutions has been supported explicitly by the World Bank, the IMF and the American government. Sometimes, it has even been suggested that some sort of financial conditionality should apply to the creation of these institutions, just like countries unwilling to undertake privatization programs in the past were restricted in their access to lending from the main international organizations. Of the many problems with this idea, the most obvious is that we don't know if it works. The experience of Hong Kong's ICAC shows nothing as other anti-corruption policies beside the ICAC have been in place in Hong Kong since its inception in 1974. A second obvious problem is that the ICAC effectiveness depends crucially on the amount of power it is given. In the words of one of the ICAC's biggest advocates,

> The new organization was given sweeping powers. All the ICAC needed to arrest someone suspected of corruption was to say that the commissioner had reasons to believe that the suspect had committed an offense. For exceptional cases, ICAC officers had powers of search and seizure without need of a warrant. The ICAC could require any person to provide any information that the commissioner deemed necessary. And the ICAC could issue a restraining order to freeze assets and properties. Klitgaard (1988), pp 108.

It is difficult to argue that such an organization is in accordance with making the country more democratic. Indeed, a serious problem in the past is that they have rarely been truly independent. The case of Argentina is telling in this respect. International pressure convinced some members of the Menem government in the second half of the 1990's to create an Office of Ethics. The American government gave this initiative its full endorsement. The American Office of Ethics' newsletter saluted this initiative as opening a bright and transparent future for Argentina in relation to corruption. Yet, the plan was to have the Argentine Office of Ethics be a part of the Interior Ministry, the precise area where some of the accusations of anti-democratic behavior and corruption where being levied by the opposition parties.[1] Under Menem's successor, the Argentine ICAC stopped pretending to be independent and took a clearly partisan role. This has allowed all of the accused to claim that they are the subject of a political witch-hunt.

A related issue is that in some cases the judicial system may itself be the source of the low (net) levels of compensation. Indeed when the judicial system is of very low quality, pressure may be exerted through false judicial accusations (i.e., sticks, rather than carrots). In such cases it may be helpful to insulate officials from such accusations of corruption, even if such insulation may protect the corrupt sometimes. Indeed, the effect of judicial immunity is twofold. On the one hand, it benefits honest officials by insulating them from judicial actions that might have been manipulated by a pressure group, while on the other hand, it makes corrupt officials less accountable to an independent judiciary. Clearly the impact of the threats will depend on the quality of the judiciary. The net effect depends on the initial level of judicial quality. When the country has a very weak judicial system, it pays to insulate officials from them as it mainly has the effect of protecting the politicians from false accusations. (see Dal Bo and Di Tella (2001)).

In summary, the policy of high wages is only likely to work for lower level bureaucrats and only if it is complemented with strict auditing policies. This is a case of institutional complementarities that has wider applicability: most reforms stand badly in isolation. High wage son their own do little to control corruption. For the policy to work, theory and experience suggest that other institutions (like auditing offices) have to be in place.

Another instance of institutional complementarities concerns the level of democratization. As mentioned above the evidence on this front is less clear cut, with many examples of countries that were able to build some institutional framework without democracy from ad-hoc initiatives involving political actors that do not have formal electoral representation. Indeed, scholars emphasize the view that developing some level of political consensus that would make the transition to full democracy at a later date smoother. First, the fact that the opposition at a national level is not represented in parliament appears as a source of weakness. There are advantages of having at least some political competition intermediated by parliament, with some of the more obvious including the fact that political debate becomes more rational and

[1] One of the first candidates to head the Argentine ICAC was Francisco Trusso, a financier who had previously been ambassador to the Vatican. In a bizarre development that further reduced the public's trust in these ideas, Trusso received enormous public attention after the downfall of a bank where his family had important financial interests. The fact that members of his direct family ended up either in prison or as fugitives from justice for crimes that included counterfeiting the signature of the Archbishop of Buenos Aires did not exactly help Trusso's credentials to lead an ethics crusade in Argentina.

constructive, the fact that it is likely that there is more investment in discovering better policies, and that other methods of protest that are more disruptive become less appealing. Having all of parliament aligned with the executive is an obstacle for the development of political institutions.

Progress along these lines is linked to and conditions progress in the development of economic institutions. Although some evidence has been gathered on the benefits of decentralization and fiscal federalism in terms of a number of measures linked to welfare (e.g., lower corruption, better provision of public goods, etc), the effects depend heavily on the level of public involvement. It has also been alleged that there are purported benefits (in terms of developing economic institutions) in transferring control over the execution of the state budget to the Parliament. But again, as a first approximation, such reforms have been thought in democratic contexts and their effectiveness will depend on the success of Kazakhstan has planned introduction of some form of democratic election of local authorities in 2005.

II.b. Aspects that Originate in Resource Abundance

There Economists have emphasized that there appear to be costs to having good luck in the activity of exploiting natural resources. Macroeconomic costs, usually of the Dutch disease variety, are the most commonly emphasized. A point that is less often made is that there are institutional costs to exploiting a country's endowment of natural resources; and that there may be policy alternatives that can help mitigate these effects. Indeed, the international experience presents a number of economically successful countries that are heavily dependent on natural resource extraction. The case of Norway and Botswana are especially worth emphasizing (see Mehlun et al (2002)). Norway went from being the poorest country in Europe in 1900 to one of the richest by the end of the century. Norway's development during this period relied heavily on exploiting natural resources, including timber, fish, hydroelectric power, oil and natural gas (Mehlun et al (2002)). Botswana has had both high rates of growth (one of the highest in the world since 1965) and a heavy dependence on diamonds. Both countries have good institutions, at least relative their regional partners. Acemoglu et al (2002), for example, have emphasized the role of institutions in promoting Botswana's growth. This suggests that the effect of resource extraction on growth may depend on the quality of institutions.

A number of channels by which oil and the extraction of other natural resources undermine democratic institutions have been discussed.[2] The first involves investment in government capacity. When governments do not need to tax their citizens to obtain their revenues but instead can rely mainly on easily obtained natural resources, they tend to under-invest in state capacity. Tax collection institutions become less important and, if there are fixed costs in the development of other institutions, there is less investment in state capacity and associated institutions, including the judiciary system and efficient bureaucracy. This has consequences in the way civil society develops: if government does not tax its citizens, civil society does not have incentives to get organized (Lipset (1959), Putnam (1993), inter alia).

Engerman and Sokoloff (1997, 2000) have emphasized a different effect of natural resources on institutions, namely that they allow for "entrenched inequality". They have pointed out that different resources require different property right regimes for their exploitation. They

[2] This discussion draws heavily on Isham et al (2003) and Ross (2001).

give the example of the different crops that are grown in North and South America. In the former, wheat and corn were grown on small family farms and there was considerable trading of these assets in the open market. In Central and South America, by contrast, large plantations were used to grow sugar and coffee and weak property rights co-existed with infrequent trading. The owners of these large assets would then resist the development of other activities that would introduce a competition for their (labor) inputs. Moreover, relationships involving the powerful owners of large plantations and the rest of society tend to be signed by mistrust, while small farm owners relate to each other and the rest of society in a more horizontal fashion.

III. Pro-Market Beliefs as an Institution and the Role of Natural Resources

Economists have long emphasized the role of institutions in development. But what are really those institutions? One of the most productive approaches includes the set of beliefs (see Greif (1994) and Denzau and North (1994)). Indeed, Greif (2003) defines an institution as a system of shared beliefs on the link between behavior and outcomes, as well as internalized norms, cognitive systems and formal and informal rules that together generate a regularity of behavior. North (2004) attributes a central role to the beliefs system in shaping institutional designs, stating:

> There is an intimate relationship between belief systems and the institutional framework. Belief systems embody the internal representation of the human landscape. Institutions are the structure that humans impose on that landscape in order to produce the desired outcomes. Beliefs systems therefore are the internal representation and institutions the external manifestation of that representation. … The key to building a foundation to understand the process of economic change is beliefs – both those held by individuals and shared beliefs that form beliefs systems." North (2004), pp. 77 and 119.

This view giving a central role to beliefs has produced one of the most satisfying theories designed to explain differences in economic organization across otherwise similar countries. For example, many observers have wondered why America has an economic system based on low taxes and private initiative while Europe has a system with a large government sector and high taxes. The best explanation we have is that there are differences in the beliefs Americans and Europeans have.[3] This happens to be true empirically. For example, Alesina *et al* (2001) report that 60% of Americans –yet only 26% of Europeans- believe the poor are lazy.[4] Furthermore, they show that countries were few people hold this belief (as well as other beliefs that are compatible with the proper workings of a free market) also have more government intervention. One of the reasons why this is extremely important is that many countries would like to imitate some of the policies that the Americans have used in the course of their development. These findings suggest that they need to first engineer "American style beliefs". The relevant policy question then is how can they do that?

[3] See, for example, Piketty (1995), Benabou and Tirole (2002), Alesina and Angeletos (2003), *inter alia*.
[4] Hochschild (1981) provides an illuminating discussion. See also work by Inglehart (1990), Ladd and Bowman (1998) and Fong (2004).

First, note that we are not concerned about all of society's beliefs but rather a subset that are important in shaping economic outcomes. In particular, we are concerned with affecting beliefs that are consistent with the workings of free markets, which we term pro-market beliefs. One example is those concerning how important is individual effort relative to luck and connections in shaping income (*meritocratic* beliefs). Beliefs in this broad class include those referring to the desirability of redistributing income, and those concerning the minimum standard of living that is desirable to the poor.

Prior work in this area suggests that pro market beliefs are negatively correlated with perceptions of corruption. This can be observed at the individual level at one point in time, as people who see a lot of corruption in the country also declare to think that the government should do more to redistribute income to the poor and other left-leaning beliefs. And it can also be observed within countries over time, as countries that experience a shock to their corruption levels elect parties with left leaning rhetoric in later years. See Di Tella and MacCulloch (2002). Another hypothesis that is backed by some evidence is that owning property may change the beliefs that people hold. This hypothesis has long been emphasized by conservative politicians. For example, Mrs Thatcher stated:

> … we also pioneered two radical policies for wider ownership. The sale of public sector houses at large discounts to their tenants turned hundreds of thousands of families into property owners. Alongside this, the privatisation of industries with special preference for workers and for small buyers began to turn Britain into a nation of shareholders. Of course, ownership of assets brings risks as well as rewards. But the transformation it effects on a society is wholly positive, because it gives people a stake in prosperity and trains them to take control of their own lives. Thatcher (2000).[5]

The evidence we have available suggests the size of the effects can be quite large. For example, Di Tella, Galiani and Schargrodsky (2004) show that almost all of the difference in a measure of pro market beliefs that exists between the Argentine general population and a group of squatters that are on the lowest income quintile can be bridged by just giving them property rights to the small plots of land that they occupy. Finally, it has been argued that homeownership also helps with another type of beliefs that are crucial for the workings of the free market, namely social capital (i.e., beliefs concerning how trustworthy are others). Some of the empirical evidence on the connection between homeownership and "good citizenship" has been gathered by DiPasquale and Glaeser (1999). They find some connection between homeownership and good citizenship as measured by involvement in local politics and nonprofit organizations.[6]

In this spirit, a natural hypothesis for countries with a heavy economic dependence on natural resources to consider is that very noisy income processes (or more precisely, a belief that noise dominates the generation of income) reduce the intensity of pro market beliefs. A related hypothesis is that people will be more likely to want to redistribute income in a country because they see themselves as having rights over the newly acquired wealth.

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[5] Convocation Address by Lady Thatcher at Hofstra University, New York, Monday 27 March 2000.

[6] Green and White (1997) report evidence of greater educational attainment among children of homeowners relative to children of renters.

A simple implementation of this idea is in the context of oil producing countries, including Venezuela, Kazakhstan and Nigeria. If oil, or natural resources more broadly, play an important role in driving overall GDP movements, then forces outside of the individual's control determine an large component of individual income. It is hard, in such circumstances, for the individual to hold on to the beliefs that sustain a truly capitalist environment with low taxes and small degree of government intervention. In particular, the belief that *"In general, people who put effort working end up much better, than those who do not put an effort",* will be hard to sustain, simply because it is not true.

Currently, there is no evidence available on this issue. Without knowledge of whether such a relationship holds, we cannot really know if the more modern versions of institutional economics are relevant for countries heavily dependent on resource extraction. Thus, a first task is to test the effect of resource dependence on beliefs with the available data. In Table I we report how a proxy for the level of natural resources that a country has been endowed with (i.e., fuel exports as a proportion of GDP) shapes people's economic and non-economic beliefs, respectively. We also control for a set of individual effects like sex, age, marital status and position within the nation's income distribution.[7] To the extent that countries rely on abundant natural resources, becoming wealthy may be more associated with success in capturing rents and belonging to the elite, rather than on working hard in competitive industries. This may alter, for example, people's beliefs on the type of society they live in and also affect their desired levels of taxation and revolt. The three countries in our sample in which fuel exports represent a particularly high proportion of GDP (i.e., greater than 10%) are Nigeria, Norway and Venezuela.

In column (1) we explain beliefs about whether the poor are lazy or have been treated unfairly. *Fuel Exports* has a positive coefficient (indicating that more fuel dependence leads to more people ticking the unfair option) although it is not significant.[8] Note that in spite of the large number of individual observations, the key coefficient is estimated using a relatively limited number of observations. Indeed, resource dependence (*Fuel Exports*) is measured at the country level and the number of nations is 45 for column (1). A similar problem appears in column (2) with also 45, 43 for column (3) and 45 for column (5). Degrees of freedom improve somewhat in column (4), which involves 61 observations.

The results in column (2) show similar patterns, with fuel exports again positive yet only significant at the 28% level. In the next column (column 3) a higher proportion of GDP coming from exports of the natural resource in a country now pushes its people more strongly toward the view that the government should be doing more to help the poor. A one standard deviation rise in *Fuel Exports* leads to an 11 point increase in the latent variable (on a scale where the two cut

[7] When explaining general political ideological orientation, the regression evidence suggests that males and older people are more likely to declare themselves as being right-wing compared to younger people (see Di Tella and MacCulloch (2005)). It supports the often quoted line *"Any man who is under 30 and is not a Liberal has no heart; and any man who is over 30 and not a Conservative has no brains"* variously attributed to Winston Churchill (1874-1965), Georges Clemenceau (1841-1929) and Benjamin Disraeli (1804-1881).

[8] The largest coefficient of all the personal effect occurs for the unemployed, who strongly hold the view that they have been unfairly treated by society. Interestingly, the self-employed look at things differently – that is, the poor are lazy. The coefficients indicate that unemployment leads to an 11.1 percentage point higher probability of ticking the 'unfair' option whereas self-employment leads to a 5.3 percentage point higher probability of ticking the 'lazy' one.

points are -1.45 and -0.37). This represents shifting 4.5 percentage points of the population. There are no significant effects of fuel exports on beliefs when the measure used is *Fair Pay-L*.

Two interpretations are possible. First, resource dependence moves the electorate left overall. Or it could be that it changes beliefs at a fundamental level (i.e., concerning meritocracy etc). The implications are different, for example because affecting fundamental beliefs would presumably lead to more permanent changes in institution (and hence in economic organization). Although it is hard to provide a full test, we can provide some evidence on this by looking at the effect of *Fuel Exports* in other fundamental beliefs. Interestingly, once we do it, there appears an exception to the previous pattern: the environment. Column (5) switches to concern for the environment over growth, a question that has been included in these surveys because political scientists believe that a concern over the environment is typically a left-wing view. It is helpful as a check because countries with heavy dependence on natural resources should be less concerned about the environment (as it is more expensive for them). It shows a strikingly different pattern with respect to how more abundant natural resources affect beliefs on whether the government should do more to protect the environment (compared to whether it should do more to help the poor). A higher proportion of *Fuel Exports* diminishes the conviction that the environment should be afforded more protection (i.e., the leftist view). A one standard deviation rise leads to a drop in the proportion of people who support the environment of 2.8 percentage points. (On average across the sample, 55.3% of people think that it should be given priority over economic growth and jobs). With respect to the personal characteristics, whereas people in the top income quintile prefer more to be done to help the environment (suggesting that it is a luxury good), the unemployed want less done and more priority to be given to the economy and job creation. These results are also strikingly different from those reported in the previous table in which the rich (unemployed) tended to offer less (more) support for the leftist economic beliefs.

Overall, these results suggest that an abundance of mineral resources may push people toward the (left wing) economic view that the government should be doing more to help the poor. And that it has the opposite effect on non-economic views about protecting the environment (i.e., it becomes less of a priority).[9]

IV. Implications

Pro market beliefs are a key institution affecting economic organization. A natural hypothesis is that countries that depend heavily on oil and other natural resources have important challenges maintaining those beliefs. The evidence we present is consistent with this hypothesis. This suggests that, relative to other countries in the world and given a similar ideological objective, countries that rely on natural resources should "invest" in pro market beliefs. Three strategies are proposed:

First, reduce the connection between overall GDP and natural resources. Added to the usual arguments for doing so (e.g., smoothening consumption, employment, etc), a reduction the

[9] Similarly whereas the unemployed hold strongly left-wing economic views on all aspects of poverty (i.e., how unfair it is, the low chances of escaping from it and that the government should help more), they tend to hold strongly right-wing non-economic views regarding the (low) priority that should be attached to the environment.

connection between GDP and oil will reduce the drive towards interventionist policies that originates in the growth in anti-market sentiment.

Second, increase property ownership in the country. The reason is simple: owning property makes people more likely to believe in markets. There are two reasons why this is so. First, there is an economic rationale, as emphasized in research that studies the sustainability of reforms in Eastern Europe. In this case, more people have an economic interest in having markets free from interference. Second, there is a psychological rationale, for example when people mistakenly attribute the obtaining of the property as evidence that the market works even when it is handed by the state or by luck (because they overestimate their merits in the process as part of the fundamental attribution error).

Third, increase the effort to control corruption (over and above the effort that is done by the typical non-oil dependent country). The reason is that corruption also diminishes the belief in markets. The mechanism is similar: more corruption increases the perception that the distribution of income does not reflect an individual's merit or effort, but rather connections and immoral behavior. Accordingly, corruption introduces a desire to redistribute, and more generally, towards interventionist policies.

We do not currently know what works in controlling corruption, in spite of statements to the contrary by the World Bank and Transparency International. Take the policy of increasing wages for bureaucrats and politicians. There is only weak evidence suggesting that they work in very special circumstances. First, there has to be serious auditing and scrutiny of public officials for a policy of high wages to have any hope of working. These other policies are difficult to organize credibly in developing countries. Second, for high level positions, where discretion is large, the level of wage shave to be implausibly high for them to have a deterrent effect. It is politically impossible to pay such high wages. The country that pays highest wages (Singapore) is not a democracy and faces serious opposition to paying out high wages when GDP is not growing at very fast rates. Third, paying high wages is actually bad for controlling corruption in the case of politicians that are not rich to begin with. High wages gives them a way to "justify" high levels of spending (that originates in bribe taking). Indeed, the policy of insisting that politicians sign a statement of their wealth (prior to entering politics) and to then monitor their consumption and levels of wealth is a particularly effective way to controlling corruption in poor politicians.

Table I. The Origins of Economic Beliefs, Probit Regressions, 1981-95

Dependent Variable:	**(1)** *Unfair for Poor-L*	**(2)** *No Escape-L*	**(3)** *Gov't help Poor-L*	**(4)** *Fair Pay-L*	**(5)** *Environm-L*
Fuel Exports	0.36	0.40	**1.45***	0.04	**-0.36***
	(0.35)	(0.37)	**(0.72)**	(0.28)	**(0.17)**
Personal Income Quintile:	0.01	0.01	0.02	-0.02	0.02
	(0.02)	(0.02)	(0.05)	(0.01)	(0.02)
3rd	-0.02	0.00	-0.01	-0.02	0.04
	(0.03)	(0.04)	(0.08)	(0.02)	(0.03)
4th	-0.03	0.01	0.00	-0.03	0.04
	(0.04)	(0.04)	(0.12)	(0.02)	(0.03)
5th	**-0.07**	-0.03	-0.07	**-0.07****	**0.06***
	(0.04)	(0.05)	(0.15)	**(0.02)**	**(0.03)**
Work Status: Unemployed	**0.11***	**0.12***	**0.31***	**0.04****	**-0.08****
	(0.02)	**(0.03)**	**(0.07)**	**(0.02)**	**(0.03)**
Self	**-0.05***	-0.03	-0.04	-0.02	-0.02
	(0.03)	(0.03)	(0.07)	(0.02)	(0.03)
Retired	**0.09***	**0.10***	**0.27***	-0.01	3e-3
	(0.02)	**(0.03)**	**(0.06)**	(0.01)	(0.02)
Student	0.02	0.02	-0.01	**-0.02***	0.01
	(0.03)	(0.03)	(0.07)	**(0.01)**	(0.02)
Home	-0.03	-0.01	-0.10	0.03	**-0.05***
	(0.03)	(0.03)	(0.08)	(0.02)	**(0.02)**
Male	**-0.05***	**-0.06***	**-0.12***	**-0.03***	**-0.04****
	(0.01)	**(0.01)**	**(0.03)**	**(0.01)**	**(0.01)**
Age	**0.01***	**0.01***	**0.02***	**-3e-3****	-3e-4
	(2e-3)	**(2e-3)**	**(4e-3)**	**(8e-4)**	(1e-3)
Age squared	**-8e-5***	**-8e-5***	**-2e-4***	**3e-5****	-1e-5
	(2e-5)	**(2e-5)**	**(5e-5)**	**(9e-6)**	(2e-5)
Pseudo-R^2	0.02	0.01	0.01	0.01	0.01
Number of observations	33,515	38,014	34,843	95,892	32,970

Note: Standard errors in parentheses. Bold-face is significant at 10 percent level; Starred-bold at 5 per cent level; Double-starred bold at 1 percent level. Cols (1), (2) and (5) are probits, marginal probabilities reported; cols (3) and (4) are ordered probits (cut_1=-1.45, s.e.=0.13; cut_2=-0.37, s.e.=0.13 for col (3); cut_1=-0.37, s.e.=0.09; cut_2=0.78, s.e.=0.08, cut_3=1.03, s.e.=0.08 for col (4)); Number of nations is 45 for cols (1-2), 43 for col. (3), 61 for col. (4) and 45 for col. (5). For definitions of the dependent variables in columns (1-5), see the appendix. Standard errors on *Fuel Exports* adjusted to take account of clustering within countries.

Appendix 1

Survey Descriptions

World Values Survey and European Values Survey (1981-84, 1990-92, 1995-97, 2000-04)

The Combined World Values Survey is produced by the Institute for Social Research, Ann Arbor, MI, USA. The series is designed to enable a cross-national comparison of values and norms on a wide variety of norms and to monitor changes in values and attitudes across the globe. Both national random and quota sampling were used. All of the surveys were carried out through face-to-face interviews, with a sampling universe consisting of all adult citizens, aged 18 and older, across over 60 nations around the world. The 1981-83 survey covered 22 independent countries; the 1990-93 survey covered 42 independent countries; the 1995-97 survey covered 53 independent countries. In total, 64 independent countries have been surveyed in at least one wave of this investigation (counting East Germany as an independent country, which it was when first surveyed). These countries include almost 80 percent of the world's population. A fourth wave of surveys is being carried out in 1999-2000. The full set of countries covered is: Argentina, Armenia, Australia, Austria, Azerbaijan, Belgium, Bangladesh, Bulgaria, Bosnia-Herzegovina, Belarus, Brazil, Canada, Switzerland, Chile, China, Colombia, Czech Republic, East and Unified Germany, Denmark, Dominican Republic, Spain, Estonia, Finland, France, United Kingdom, Georgia, Ghana, Croatia, Hungary, India, Ireland, Northern Ireland, Iceland, Italy, Japan, South Korea, Lithuania, Latvia, Madagascar, Mexico, Macedonia, Montenegro, The Netherlands, Norway, Pakistan, Peru, Philippines, Poland, Puerto Rico, Portugal, Russia, Slovak Republic, Slovenia, Sweden, Turkey, Taiwan, Ukraine, Uruguay, United States of America, Venezuela, South Africa, Moscow, Tambov oblast, Montenegro, Spain, Nigeria, Romania, Moldova and Serbia.

Data Definitions

Economic Beliefs

Unfair for Poor–L: The response to the World values question: "Why, in your opinion, are there people in this country who live in need? Here are two opinions: which comes closest to your view? (1) They are poor because of laziness and lack of willpower, or (2) They are poor because society treats them unfairly." (*Unfair for Poor-L* was redefined to equal 0 if the answer is category (1) and 1 if the answer is category (2)).

No Escape–L: The response to the World Values question: "In your opinion, do most poor people in this country have a chance of escaping from poverty, or there is very little chance of escaping? (1) They have a chance or (2) There is very little chance." (*No Escape-L* was redefined to equal 0 if the answer is category (1) and 1 if the answer is category (2)).

Government help Poor–L: The response to the World Values question: "Do you think that what the government is doing for people in poverty in this country is about the right amount, too much, or too little? (1) Too much, (2) About the right amount, or (3) Too little."

Environment-L: The response to the World Values question: "Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (1) Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs. (2). Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent." (*Environment-L* was redefined to equal 0 if the answer is category (2) and 1 if the answer is category (1)).

Fair Pay-L: The response to the World Values question: "Imagine two secretaries, of the same age, doing practically the same job. One finds out that the other earns considerably more than she does. The better paid secretary, however, is quicker, more efficient and more reliable at her job. In your opinion, is it fair or not fair that one secretary is paid more than the other? (1) Fair or (2) Not fair." (*Fair Pay-L* was redefined to equal 0 if the answer is category (1) and 1 if the answer is category (2)).

Aggregate Level Variables

Fuel Exports: Fuel Exports as a proportion of GDP (from the World Bank's World Development Indicators 2000).

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