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Turkmenistan after Turkmenbashi.

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Curriculum Vitae

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1. Introduction¹

Turkmenistan's economy consists of booming revenues from natural gas exports superimposed on a grossly inefficient domestic economy. Economic prospects depend upon gas revenues and upon successful economic reform to prepare for when gas revenues fail to meet the countries' needs. This paper will first describe Turkmenistan's economic history before 2007, focussing on the economic system established by President Niyazov. The second section analyses the natural gas sector to determine why revenues have soared in the 2000s and to understand the prospects for future gas revenues. The third section analyses steps taken by the new president in 2007 and the early part of 2008, against the backdrop of record-high energy prices and external competition for energy security and control over energy delivery. The final section draws conclusions about Turkmenistan's economic development and prospects, and assesses some implications for the broader Eurasian region.

With the dissolution of the USSR in 1991, Saparmurat Niyazov, who had been First Secretary of the Turkmen Soviet Republic since 1985, became a nationalist President, assuming the name "Turkmenbashi the Great" - leader of the Turkmen. He established absolute power, which he used to promote economic self-sufficiency and political neutrality. The economic system created by Turkmenbashi is often characterized by non-reform, but this hides the break from a centrally planned economy. Under Turkmenbashi the economy was highly regulated as the president took control over revenues from Turkmenistan's valuable and easily exportable primary products, natural gas and cotton, but it also became increasingly inefficient as neither coherent planning nor market forces guided the allocation of resources. Despite the gross inefficiencies, the system which looked to be in serious trouble in the late 1990s (Table 1) was sustained by the huge increase in energy prices which began in 1999. The economy which had been based on cotton and natural gas became increasingly a single-product economy as cotton output and exports diminished. Turkmenbashi remained impervious to any need for economic reform, as gas revenues were sufficient to fund his grandiose spending plans and control was maintained by a mix of populist policies, propaganda and repression.

Unlike for oil, there is no world price for gas. Delivery is constrained by pipeline networks, which are by far the most efficient delivery system, and prices are typically set in

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long-term contracts associated with quantity commitments along a given pipeline. There is, however, substitutability between energy sources. As the price of oil rose from under \$10 a barrel in 1998 to over \$140 in 2008, the incentive for gas suppliers to raise their prices increased; the Appendix contains a detailed analysis of Central Asian gas prices. In the last 6-7 years of Turkmenbashi's life, higher gas revenues driven by improved market conditions enabled him to maintain the economic system and ignore pressures for economic reform. The gas situation continued to improve in 2007-8 and, as the share of transport costs in the delivered price declined, both buyers and sellers began to promote new pipelines to minimize the risk of supply disruption and to diversify market outlets.

When Turkmenbashi died in December 2006, the succession was smoothly managed and Gurbanguly Berdymukhamedov consolidated his power in 2007. President Berdymukhamedov was caught between competing external pressures, as high and rising energy prices stimulated interest in Turkmenistan's gas exports; Russia sought to maintain its control over pipelines for the country's gas, while other potential buyers encouraged Turkmenistan to diversify its outlets. There are also pressures for internal change as many officials recognize the costs of inefficiency and potential risks of complete specialization in energy production. The post-Turkmenbashi regime is too new to evaluate with confidence. President Berdymukhamedov's domestic measures so far give little indication of commitment to serious reform, but he has been much more active than his predecessor in foreign affairs, which may be related to securing better returns on the country's natural gas resources. The key questions are the extent of those resources and whether they will be used to maintain the current economic system or to buy time for economic reform.

2. Economics and Politics before 2007

Turkmenistan was one of the last areas to be brought into the Tsarist Russian Empire. After major defeats due to geography (in the Karakum Desert in 1717) or armed resistance (at Gök Tepe in 1879), Russia finally subdued the nomadic Turkmen during the 1880s. Construction of a railway from the Caspian Sea port of Krasnovodsk (now renamed Turkmenbashi), which had been established in 1869, to Tashkent provided the basis for economic modernization and exploitation, although at the start of the Soviet era the region was still economically underdeveloped and backward.

In 1917 an anti-Bolshevik government was established in Ashgabat. It was overthrown by Soviet troops in early 1918, but the Bolshevik government was overturned in July and a nationalist government supported by British troops ruled for two years. When the British withdrew, the Red Army reconquered the city and in 1924 the Turkmen Soviet Republic was established. The campaign against religion which began in 1928 and the forced collectivization of agriculture which began in 1929 provoked armed resistance until the mid-1930s. This was followed by purges of Turkmen leaders and intellectuals, Russian immigration, and increased numbers of Russians in political positions. Similar responses occurred in other parts of the USSR, but there was a stronger nationalist element in the Turkmen Republic than elsewhere in Central Asia. Throughout the Soviet era Turkmenistan remained the most ethnically homogeneous of the Central Asian republics, and few Turkmen lived in other Soviet republics (Pomfret, 1995, 119-20).

The Soviet era saw massive advances in the provision of basic needs. In the early 1920s less than three percent of the population was literate, and health and general living standards were primitive. Sixty years later the literacy rate was over ninety percent and health services had improved dramatically, although on measures such as infant mortality the Turkmen republic continued to have the worst record among the Soviet republics. By the time of independence in 1991, life expectancy at birth was 68 for women and 62 for men.

Economic development involved sedentarization as the nomadic lifestyle was replaced by collective farms, whose principal crop was cotton. The major expansion of land under cotton followed construction of the Karakum Canal, which was begun in 1954 and which allowed an increase in the total sown area from 368,000 hectares in 1950 to over 1.3 million hectares in 1990, when over half of the arable land was devoted to cotton. The second major economic development followed heavy investment in natural gas fields during the 1980s; agriculture's share of GDP fell as natural gas came to dominate the economy. Turkmenistan is also an oil producer, although output was declining in the years before independence. In the early 1990s, Turkmenistan's newly nationalistic leadership blamed the USSR for not having invested in oil and for creating the cotton monoculture, but alone among the Caspian energy producers Turkmenistan had a relatively modern production system in 1991.² The Soviet planners were also blamed for the lack of diversification, reflected in the small size of the industrial sector, which employed about ten percent of the workforce, mostly in sixty-one

² As in Azerbaijan and Kazakhstan, the complaint was that investment in oil in the late Soviet era had been overwhelmingly in Russian oilfields and not in the Caspian Basin. Pomfret (1995) provides more details on the historical background and situation in 1992-3.

textile enterprises, a handful of other manufacturing activities, two oil refineries and the cotton gins.³

In the last two years of the Soviet Union, the Turkmen leadership combined nationalist pressures with support for retention of the Union. A new nationalist party in the late 1980s, Agzybirlik, was banned, but the republic's Communist Party leadership took up some of its concerns, making Turkmen the official language in May 1990 and declaring sovereignty over the republic's resources in August 1990. In the October 1990 direct election for President of the republic, the First Secretary of the Communist Party, Saparmurat Niyazov was elected unopposed with over 98% of the votes. The March 1991 referendum on retaining the Soviet Union had a similarly positive vote. President Niyazov was silent during the August 1991 coup in Moscow, but after the coup had failed he held a referendum which came out overwhelmingly in favour of independence. Independence was declared on October 27. The President made an official visit to Turkey and announced the opening of an Iranian consulate in Ashgabat. Nevertheless, despite taking the most positive steps towards independence of any Central Asian republic, Turkmenistan remained a strong supporter of some form of union, becoming a founder member of the Commonwealth of Independent States (CIS) in December 1991 and retaining strong bilateral ties with Russia in the early 1990s.

In 1991-2 President Niyazov moved quickly and determinedly to establish a highly centralized regime. The President was also Prime Minister and chaired the only political party, as well as controlling selection to the "Khalk Maslakhty" (People's Council), which has sole power to alter the Constitution and which in December 1999 unanimously extended the President's term of office without limit. The legislature ("Majlis") and judiciary, as well as specialised bodies, including the Central Bank, were subordinated to the President's authority, and major decisions at all levels of government had to be cleared by the President's office. He created an aura of benevolent autocracy with free provision of gas, electricity, water and salt for residential use, plus low cost public housing, and other subsidized goods and services.

The state took complete control over the rents from gas and cotton exports. There was an immediate windfall gain in 1992-3 as gas revenues accrued to Turkmenistan; Auty and de Soysa (2006, chapter 5) report that unspent revenues from gas sales in 1992-3 were in the order of \$1.5 billion. Gas rents declined during the remainder of the 1990s as annual production fell from around 60 billion cubic metres in 1992-3 to 30-33 billion cubic metres in

³ The IMF (*Economic Review, Turkmenistan*, May 1992, page 70) reported that 85% of industrial workers were employed in the textile enterprises. Two of the other enterprises, a petrol pump factory in Mary and a gas oven producer in Ashgabat, supplied the entire Soviet market and would be in deep trouble after the dissolution of the USSR and introduction of economic transport rates.

1994-6 and half of that in 1997 and 1998 (Table 2). All cotton was sold through the state export monopoly, which paid farmers well below the world price. In 1990-2 the average harvest was around 1.4 million tons, making Turkmenistan the world's sixth largest producer, and world prices were buoyant in the mid-1990s. A mixture of policies to divert acreage from cotton to wheat, poor maintenance of the irrigation system upon which the cotton economy depended, and lack of incentives to farmers led to stagnation of cotton output, which by 2005 was around 200,000 tons. Moreover, an ever-increasing share of this output is sold to domestic textile factories at well below the world price. In consequence, although cotton rents were substantial during the 1990s they have become less important in the 2000s.

The destination of gas royalties and cotton revenues was non-transparent. Some went into the state budget and were used to fund the untargeted benefits to the population. However, considerable amounts went to off-budget funds under the President's personal control. Much of the revenue was spent on monumental projects, sometimes to promote Turkmen identity (e.g. the monument at Gök Tepe or the national mosque), but mostly to benefit the President (the marble-clad presidential palace) and to reinforce a personality cult (e.g. numerous gold statues and especially the Arch of Neutrality atop which a gold statue of the President rotates to face the sun, as well as a huge mosque in honour of his mother in the President's birthplace, Kipchak).

Turkmenistan is a rent-driven economy. Gas and cotton rents accounted for between two and three-fifths of GDP in 1997-9, the years for which the best estimates exist.⁴ The pattern was most likely of high initial rents from gas and increasing cotton rents in the mid-1990s as the cotton marketing system was established and world prices were high, followed by a steady decline in cotton rents since the late 1990s. This did not worry Turkmenbashi too much, because rents from natural gas were larger than cotton rents in the 1990s, and since 1999 burgeoning gas revenues provided enough funds for desired expenditures.

After the disappearance of the economic planners, the state retained complete control over the fairly simple economy. Turkmenistan regularly ranks last by the European Bank for Reconstruction and Development's transition indicators measuring speed of reform or degree of economic liberalization in the formerly centrally planned economies of European and Central Asia. Initial price reforms, following Russia's January 1992 price liberalization, were

⁴ Pastor and van Rooden (2000) and Lerman and Brooks (2001) estimated the transfers out of agriculture to be 11-15% of GDP in 1998-9. Pomfret, (2006b, Table 7.3) reports estimates by Auty showing gas rents declining from 64% of GDP in 1994 to 33% of GDP in 1998, and picking up to 44% in 1999. Since gas output doubled between 1999 and 2000, rents were surely higher after the turn of the century. There have also been recurring, but hard to confirm, reports that Turkmenbashi personally profited from the drug trade between Afghanistan and Russia.

quickly rolled back. To deter outflow of goods to other countries still using the common currency, controls on exports were introduced, signalling reimposition of a system of strict economic control. Privatization was limited to petty service sector activities and a few joint ventures, mostly with Turkish partners. Turkmenistan introduced a national currency in November 1993, with the value set at two manat to the US dollar. The exchange rate plummeted and, when it threatened to go into free fall in 1998, the government tightened exchange controls and introduced an official exchange rate of 5,200 manat to the dollar. The black market rate soon fell to over four times the official rate, although the black market was very thin due to strict controls over foreign travel and private imports, so that the black market exchange rate was volatile and it is difficult to guess with any precision the degree to which the official rate became overvalued.

In sum, despite a constitutional guarantee of private ownership, the economy continues to operate in a highly regulated manner. In the countryside farmers produce according to central directives; wheat acreage has been increased in order to promote self-sufficiency, and yields of both wheat and cotton declined as farmers had little incentive and maintenance of the irrigation systems lapsed.⁵ After the mid-1990s, the government directed resources into import-substituting industrialization projects, including large textile and clothing factories; these factories received cotton at less than the world price and probably produced negative value-added, i.e. the jeans that were produced would have cost less to import than the revenue that could have been earned from exporting the cotton used as an input into the jeans (Pomfret, 2001).

Tracking Turkmenistan's output performance is complicated by poor data, but the general pattern is clear. Real GDP fell dramatically from 1991 to 1997, and in 1999 stood at less than two thirds of its 1989 level (Table 1).⁶ The accelerated decline in 1997 reflected falling cotton prices and a poor cotton harvest, with cotton export earnings down to \$84 million from \$791 million in 1995 and \$332 million in 1996, and the cessation of gas exports in March 1997, which left annual export earnings from gas at \$70 million, compared to around a billion dollars in the two previous years (and \$1,454 million in 1994). Starting in

⁵ The two main crops, cotton and wheat, were subject to state orders at prices well below world prices, which provided substantial earnings to the government from cotton exports (Pastor and van Rooden, 2000). Key inputs such as water and fertilizer are subsidized, but because access to them is tied to fulfilment of state orders, farmers are constrained in their choice of output mix.

⁶ Conceptually it is difficult to compare real output in periods of rapid change in the composition and quality of output, especially when reporting incentives shifted from overestimating output (to meet plan targets) to hiding income (to avoid taxes) and when much activity shifted to the informal sector, but the Turkmenistan data is the worst of all economies in transition from central planning. Several international agencies stopped publishing GDP estimates in the mid-1990s. The European Bank for Reconstruction and Development in *Transition Report*

1999 GDP began to grow rapidly, driven entirely by energy exports. Again the magnitudes are disputed, but there is little doubt that in the 2000s the value of GDP at world prices has increased substantially as gas receipts soared.

The foreign policy counterpart of the push for economic self-sufficiency was neutrality. Turkmenistan has a positive attitude to the United Nations, which imposes no constraints on domestic policy-making. Turkmenbashi viewed the United Nations as the guarantor of the country's neutrality, which the UN General Assembly formally recognized in a resolution of 12 December 1995 (Freitag-Wirminghaus, 1998). The only regional trade grouping of which Turkmenistan is a member is the Economic Cooperation Organization (ECO), which has been economically ineffectual, but the relations with Iran, Turkey and Pakistan provided a counterweight to Russia's still powerful influence (Pomfret, 1999).⁷ Turkmenistan is the only Soviet successor state not to have initiated accession negotiations with the World Trade Organization and, although it is a member of the International Monetary Fund and World Bank, actual operations of these institutions have been minimal in Turkmenistan.

Turkmenistan remained outside all projected regional trade arrangements within the former USSR. Turkmenistan soon became a passive member of the CIS, which it viewed as nothing more than a consultative grouping and refused even to supply statistical data to CIS agencies. When in the second half of the 1990s the CIS split between the Russian led Union of Five (later the Eurasian Economic Community) and the GUUAM group which each contained five of the twelve non-Baltic Soviet successor states, President Niyazov avoided taking sides (Pomfret, 2008). In 1999 Turkmenistan withdrew from the CIS visa-free zone, its President started to absent himself from CIS summits, and in August 2005 Turkmenistan discontinued permanent membership of the CIS and became an associate member.

During the 1990s Turkmenbashi took a fairly open attitude towards neighbours and great powers, apart from the frosty personal relations with Uzbekistan's President Karimov. The first railway south from the former Soviet Union linked Tejen in Turkmenistan to Mashad in Iran in 1997, and a small pipeline to Iran opened in the same year. Also in the mid-1990s Turkmenistan was actively involved in negotiations for a pipeline through Afghanistan to South Asia, first with an Argentinean partner (Bridas) and then with the US company Unocal, with the support of the US government until dealing with the Taliban became unpalatable in

1999 (p.277) reported a 26% decline in Turkmenistan's real GDP in 1997, but six months later in the May 2000 *Transition Update* (p.83) the decline was revised to 11.3%.

⁷ In 1992 Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, together with Afghanistan, joined Iran, Pakistan and Turkey in the Economic Cooperation Organization.

1997. The President's personal projects relied on Turkish construction companies, Bouygues of France and Siemens of Germany.⁸ For other countries, Turkmenistan with its population of only four or five million and resource-based economy was of little interest in the 1990s when energy prices were low.

In the twenty-first century Turkmenistan's economy remains essentially unreformed. Although agriculture has in principle been 'privatized' to create independent (*dekhan*) farms, producers are still directed how much land to plant with wheat and cotton, and they must sell these crops to state buyers. Subsidized inputs and basic service together with rights to sell fruit, vegetables and other items on local markets allow rural families to survive above a level where they will rebel from starvation. Most of the remainder of the economy consists of even more openly state employment. The import substituting projects are grossly inefficient, but provide thousands of jobs. They are an economic drain because independent competition (e.g. farmers canning tomatoes or producing cooking oil) is prohibited, and the large textile factories that dominate the manufacturing sector are inefficient users of the country's cotton. Many state officials' salaries are so low that they only survive with second jobs (so that, for example, many teachers teach for only a few hours in school) or rely on corruption, which is endemic. The obvious inefficiencies were unimportant to Turkmenbashi because they could be covered out of gas revenues while still leaving millions of dollars for pet projects, and his main concern was control rather than living standards.

By the mid-2000s there were growing pressures for change. The still universal Soviet mindset among officials recognized that declining yields of cotton and wheat were a problem, even though many officials did not accept that lack of incentives was a major cause. Now that deficits had to be financed within the country instead of from Moscow, there was concern about the huge and increasing drain of deficits in the agriculture ministry and the farmers' bank, even though there was no overall budget problem as long as gas revenues continue to rise. Externally, rising energy prices brought the country into greater international focus as Russia sought to reinforce its control over export routes, while other countries looked to Caspian energy as an alternative to dependence on Russia for gas supplies. However, as long as Turkmenbashi remained President and gas revenues could fund his spending, pressures for change were irrelevant.

⁸ Wehner (2001, 128) describes the \$40 million heart clinic and \$27 million kidney clinic built by Siemens primarily for the President's own use. Siemens had earlier arranged the President's heart bypass operation in Munich in 1997. Garcia (2006) provides a critical perspective on Bouygues's relationship with Turkmenbashi, which included public relations in France through the Bouygues-controlled TV channel TF1.

From 2002 reports of Turkmenbashi's bizarre behaviour became more frequent. In March 2002 he began a purge of the security service (KNB), which increased his reliance on the even more extra-legal and unpredictable Presidential Guard. In August 2002 he renamed the months, with January becoming Turkmenbashi. A reported assassination attempt in November 2002, which may have been a set-up, was the signal for increased repression; political rivals, journalists and religious leaders were tortured, imprisoned and killed. The President became more reclusive. External relations atrophied, as territorial disputes with Azerbaijan and Iran over demarcation of the Caspian Sea often turned violent and relations with Uzbekistan reached a low when Turkmenbashi accused President Karimov of complicity in the November 2002 assassination attempt on the Turkmen leader.⁹ In April 2003 Turkmenbashi eliminated dual citizenship, forcing the 95,000 ethnic Russians in Turkmenistan to renounce their Russian citizenship or leave the country. In February 2004 he announced that Turkmen men should not grow beards. The education system was destroyed by a series of measures, reflected in the June 2004 invalidation of all qualifications from outside the country. By that time teaching at all levels was in Turkmen, which excluded many qualified teachers and professors, and the main textbook was *rukhnama* (the thoughts of Turkmenbashi). The number of years required to complete school or university was reduced. In 2004 Turkmenbashi replaced 15,000 healthcare workers by military conscripts and banned diagnosis of infectious diseases. In March 2005 he announced the closure of hospitals and libraries outside the capital.

Nevertheless, Turkmenbashi's power remained absolute as he continued to rotate or fire ministers and senior security officers. Any popular discontent was dealt with by a ruthless security apparatus. There were questions of why he needed semi-permanent attendance by a group of German doctors, and in mid-2005, after his attendance at 60th anniversary of VE Day celebrations in Moscow, reports of his frailty and poor health circulated widely, although the official media touched up photos to make him look healthier. In April 2006, however, he made a rare official foreign visit, to Beijing. In December 2006 the President died, apparently of natural causes.

⁹ Relations with Kazakhstan were more cordial, although the push for self-sufficiency in wheat was at the cost of

3. Natural Gas

Turkmenistan has gas reserves second only to Russia in the CIS, and often described as the fourth or fifth largest in the world. Estimates, however, vary widely.¹⁰ In January 2005 the Turkmenistan government claimed recoverable reserves of 20.42 trillion cubic metres, but most outside observers place the figure in a range of 3-5 trillion.¹¹ The 2008 BP *Statistical Review of World Energy* gives proven reserves as 2.67 trillion m³ (ranked 13th in the world) and 2007 production as 67.4 billion m³ (Table 2). Even the lower bound estimates make Turkmenistan a major player in a world of rising energy prices.

Exploitation of Turkmenistan's gas is hampered by geography and by technology. The Soviet era gasfields are in the east of the country, from which the Central Asia - Center pipeline network was adequate for connecting Turkmenistan to other parts of the USSR, but no pipelines provided direct links to other countries and nor was there a dense internal network (Dorian et al., 1994). The unexploited gas reserves tend to be in the west, mostly under the Caspian Sea. Disputes over delimitation of the Caspian Sea have been especially bitter in the South Caspian, leading to occasional shooting skirmishes, and they have delayed exploitation of some fields such as the Serder field, which is also claimed by Azerbaijan where it is called Kapaz. The technically more difficult exploration and exploitation of offshore fields highlights the need for cooperation with foreigners with the necessary expertise, mostly western companies but Russian and Chinese companies have been rapidly catching up.

After independence Turkmenistan remained dependent on the inherited pipeline network. Since Russia refused to allow Turkmenistan's gas to transit to the lucrative European markets, Turkmenistan was restricted to selling its gas in CIS markets, even though several of these countries fell behind in payments.¹² Turkmenistan's only credible threat was to cut off

Kazakhstan's wheat-farmers who previously supplied Turkmenistan.

¹⁰ Turkmenbashi announced major discoveries in the mid-2000s, but the BP *Statistical Review of World Energy* gives almost identical numbers for every year after their reserves estimates begin in 1997, reflecting Turkmenbashi's lack of international credibility. In January 2008 President Berdymukhamedov announced an independent audit of Turkmenistan's gas reserves, probably as a signal that Turkmenistan is willing to play by international rules in order to attract foreign investment, and in March the British firm Gaffney, Cline and Associates was selected to conduct the survey.

¹¹ With reserves of 20 trillion m³ Turkmenistan would rank fourth behind Russia, Iran and Qatar; the next highest, according to the 2008 BP *Statistical Review of World Energy*, are Saudi Arabia with about 7 trillion m³ and the UAE and USA each with around 6 trillion m³. Some sources, such as *Heren Energy* and Western Geophysical (US), estimate Turkmenistan's recoverable offshore reserves to be over 6 trillion m³.

¹² Here and at several later points Russia and Gazprom are used interchangeably. Gazprom became a joint stock company in 1993 with the government as the main shareholder; the government share was gradually increased until it reached 51% in 2005. While it is clear that Gazprom at times operates as an arm of Russian foreign policy, there are also occasions when Gazprom is serving its own interests or those of its top officials (who may

supplies, which happened several times in the early 1990s. The most serious disruption occurred in March 1997 when Turkmenistan cut off gas supplies to its main debtor, Ukraine. After protracted negotiations with Russia and other gas importers over debt rescheduling and future payment arrangements, large-scale gas exports were only resumed in January 1999 (Sagers, 1999).

A peculiar aspect of the Turkmen-Ukraine gas deal was that, despite owning the crucial pipeline, Gazprom allowed an intermediary, Itera, to handle the sales, even buying back some of the gas from Itera at a higher price than that which Gazprom could have paid Turkmenistan for it.¹³ After Vladimir Putin came to power in Russia and the Gazprom senior management was revamped in 2001-2, Itera lost the contract, which was taken over by an even more shadowy company, TransUral Gas.¹⁴ TransUral Gas was in turn displaced in 2004 in favour of RosUkrEnergo, a 50-50 joint venture between Gazprom and a consortium of unnamed Ukrainian and Russian businessmen represented by Austria's Raffeisen Bank. On the Turkmenistan side most of the revenue went into non-transparent off-budget funds, including a Deutsche Bank account in Frankfurt in Turkmenbashi's name. The impression is that despite an effort at cleaning up the Russian side since 2002, large profits continued going to unnamed Ukrainians and perhaps to Russians connected to Gazprom. The role of intermediaries in the Russia-Ukraine gas trade was finally terminated in a March 2008 deal between Gazprom and the Ukrainian government (see Appendix for details).

be serving the interest of senior Russian politicians). No attempt is made to disentangle these skeins of decision-making within the Russian gas sector. The following footnote provides an example of their complexity.

¹³ In 2000 Itera bought Turkmenistan gas for \$35.37 per thousand cubic metres, and sold about a third of it to Gazprom for \$45 per thousand cubic metres (Global Witness, 2006). Itera originated as a US-registered company (International Trading Energy and Resources Association) whose founder and main shareholder, Igor Makarov, was a Turkmenistan citizen with good connections in Ukraine and in Turkmenistan. Gazprom claimed that Itera's special relationships enabled it to ensure payment by Ukraine. By 2001 the main holding company of Itera was registered in the Dutch Antilles and over 60% of the shares were held in trust for unnamed individuals, one of whom turned out to be a former Deputy Prime Minister of Turkmenistan and others were believed to include high-ranking Gazprom managers (Global Witness, 2006). Makarov's allegiance was flexible; in February 2004, together with the Governor of Saint Petersburg, he led a high-level Russian delegation to Turkmenistan and signed a production sharing agreement for the Zarit consortium (Rosneft and Itera each held 37% of Zarit's shares) to develop an offshore oil and gas field (the PSA was not finalized due to concerns over territorial disputes with Iran, but Zarit still exists and in March 2007 met with President Berdymukhamedov to discuss offshore oil and gas development).

¹⁴ According to Blank (2003), under Moscow's 2003 gas deal with Turkmenistan: "A large quantity of Turkmen gas will be shipped through Russia to Ukraine by a little-known gas company, TransUral, whose major stockholder, Semyon Mogilevich, is one of Russia's most notorious criminal kingpins. The Trans-Ural firm will earn from \$320 million to \$1 billion from this deal alone. And all the firms involved, including Gazprom, already are contributing to Putin's reelection." Mogilevich was also reputed to have a major interest in RosUkrEnergo. He was put on the FBI's most wanted list in 2003 for fraud, but lived with apparent impunity in Moscow until he was arrested in January 2008 on tax evasion charges. The arrest was welcomed by Ukrainian leaders and appeared to be a prelude to the March 2008 agreement which eliminated intermediaries from the Russia-Ukraine gas trade. It may also have been connected to the Russia's March 2008 presidential election won by Dmitry Medvedev, who had been chairman of Gazprom since 2000.

The first pipeline not to pass through Russia was the 200 kilometre long Korpedeke-Kurt-Kui gas pipeline, built by an Iranian company with an annual capacity of eight billion cubic metres. The pipeline became operational in December 1997 and is useful to Iran because it delivers gas to large domestic markets in northern Iran while freeing up an equivalent quantity of Iran's own natural gas for export to Turkey and Europe. More substantial projects through Iran are, however, stymied by the non-participation of US companies, and US threats of sanctions against other countries' companies which do business with Iran.

Negotiations in 1997 with Unocal of California to construct a pipeline through Afghanistan to the energy markets of South Asia collapsed as the US government drew back from relations with the Taliban government. This route is still on Turkmenistan's agenda, assuming that Afghanistan's (and Pakistan's) government can provide reasonable security guarantees and become an acceptable counterpart for the major energy companies and their governments. In 2006-7 prospects were boosted by improved relations between India and Pakistan plus promised support from the Asian Development Bank. India joined the project in April 2008 and a technical working group of the four countries' representatives met the next month, but any trans-Afghanistan pipeline is still a distant prospect.¹⁵

Following Turkmenbashi's April 2006 visit to Beijing, agreement on a new pipeline to China was reached.¹⁶ In May 2006 construction began on the 7,000 kilometre long pipeline from Turkmenistan through Uzbekistan and Kazakhstan to the Chinese border and on to the Chinese coast. There are doubts whether the planned completion date of January 2009 is feasible, in particular due to delays in the 530-kilometer stretch across Uzbekistan, but China immediately became a significant demander of Turkmenistan's future gas output. In July 2007 China signed a contract to buy 30 billion m³ a year. At the same time, the China National Petroleum Corporation (CNPC) was granted drilling rights in Turkmenistan.

In May 2007 Russia, Turkmenistan and Kazakhstan signed an agreement to build a ten billion m³ a year pipeline along the eastern coast of the Caspian, the Prikaspiisky route,

¹⁵ The group has agreed that the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline will be built by a consortium of the four countries' state energy companies, with an external company possibly involved in operation and maintenance. The project is envisaged to cost \$7.6 billion and be completed in 2014 with annual capacity of around 35bcm, of which 5-15% would be taken by Afghanistan and the rest shared equally between Pakistan and India. Prices have not been agreed; at the May 2008 technical working group meeting India offered to pay \$200-230 per thousand m³, but soon afterwards retracted the offer (*Economic Times*, New Delhi, 2 July 2008 – online at <http://economictimes.indiatimes.com>). India and Pakistan are also in negotiation over an Iran-Pakistan-India (IPI) gas pipeline, which is opposed by the USA which threatens sanctions against any participating firms.

¹⁶ Hancock (2006) and Šír and Horák (2008) provide background to China's entry into competition for Turkmen gas.

feeding into the Russian pipeline network.¹⁷ This would be in addition to the 50+ billion m³ a year which currently flows to Russia. The agreement was widely seen as a pre-emptive move to forestall Caspian gas going to China, but it did not stop the July 2007 Turkmenistan-China agreement.¹⁸ In December 2007 the proposed capacity was doubled, to carry 10 bcm from each of Kazakhstan and Turkmenistan. In July 2008 it was increased further in order to accommodate larger deliveries from Turkmenistan.¹⁹

Several proposals to construct a pipeline under the Caspian Sea and then through Azerbaijan and Georgia to Turkey were aired during the 1990s and early 2000s, but the project was eventually limited to the Baku- Erzurum pipeline from Azerbaijan to Turkey which opened in late 2006.²⁰ The TransCaspian portion was only resurrected after Turkmenbashi's death. In August 2007 the USA granted \$1.7 million to Azerbaijan for a feasibility study on TransCaspian oil and gas pipelines, and on 29 February 2008 Azerbaijan's state energy company, SOCAR, awarded the feasibility study contract to a US firm, KBR.²¹ Western plans to construct a TransCaspian pipeline to access Turkmen gas without transiting Russia are, however, now threatened with the prospect that, once it has met commitments to Russia, China and Iran, Turkmenistan will have no gas left to supply another new pipeline, even though President Berdymukhamedov has reassured Europe and America that Turkmenistan would have enough natural gas to supply this pipeline as well as other commitments. After April 2008 meetings in Ashgabat between EU officials and Turkmenistan's foreign minister, the EU External Relations Commissioner claimed that

¹⁷ As additional incentives for Turkmenistan to sign the pipeline contract Russia-connected companies provided capital. Itera, for example, was a lead investor in the \$4 billion development project to turn the area around the Caspian port of Turkmenbashi into a tourist centre.

¹⁸ China's heightened interest in Caspian energy (Kazakhstan's oil as well as Turkmenistan's natural gas) has, in turn, been born out of frustration with Russia's failure to guarantee supplies of its Far East energy to China (Blank, 2008). Proposals for an energy club within the Shanghai Cooperation Organization (SCO) are aimed at moderating Russia-China energy conflicts, but the proposals have made no headway. Tensions within the SCO are likely to grow after Russia's support for secession from Georgia, which is anathema (as "splitism") to China.

¹⁹ Lucian Kim Gazprom agrees on Pricing for Turkmen Gas Deliveries, Bloomberg news service, 25 July 2008.

²⁰ A proposal for a TransCaspian pipeline had been floated within ECO in the early 1990s, when it was considered economically infeasible (probably due to low energy prices). In 1999-2000 the US government funded a \$750,000 feasibility study by Enron for a pipeline supplying gas from Azerbaijan and Turkmenistan to Turkey, but the project fell afoul of poor relations between Turkmenbashi and President Heydar Aliiev of Azerbaijan (Cutler, 2003).

²¹ The TransCaspian would link up to the Baku-Tbilisi-Erzurum pipeline and the proposed \$5-6 billion Nabucco pipeline from Turkey to Hungary via Bulgaria and Romania. The feasibility of the TransCaspian and Nabucco projects is linked because Turkmen supplies are needed to justify Nabucco's capacity. Some Azeri commentators believe that Azerbaijan's Shah Deniz field could produce enough gas to justify Nabucco's planned capacity of 30 billion m³ a year, but most observers doubt this. Iran might also provide gas for Nabucco and the EU Energy Commissioner Andris Piebalgs has flagged this prospect (reported in Khadija Ismayilova "Azerbaijan: Baku hesitates on Nabucco pipeline project", posted on www.eurasianet.org 10 April 2008), but even if Iran were willing and able to supply gas it is likely to be effectively vetoed by the USA. The economic attractiveness of Nabucco to Western European buyers depends upon the capacity of and the terms for Russian gas transiting the proposed South Stream pipeline from southern Russia to Italy via Serbia.

Turkmenistan had committed to supply 10 bcm of gas per year directly to the EU, but the firmness of this commitment is uncertain.²²

The increased interest in gas pipelines reflects higher energy prices, in contrast to the 1990s when low energy prices deterred investors from spending large amounts on transporting energy products. A similar pattern applied to oil pipelines with the first non-Russian-routed pipelines from the Caspian opening to Turkey and to China in 2005. Unlike oil, gas markets are characterized by long-term contracts, which are intimately linked to the pipeline network that can deliver the quantities stipulated in contracts. Construction of new gas pipelines, with their huge up-front fixed costs, depends upon signing long-term contracts guaranteeing sufficient flow of gas through the pipelines to make them profitable. The prices set in long-term agreements, however, tend to be unstable because energy market conditions change.

There are substitutes for gas and in periods of low energy prices the bargaining power is with the buyers. Thus in the mid-1990s Turkmen sales to captive markets through the ex-Soviet pipeline network ran into payment arrears and were renegotiated to the suppliers' disadvantage, often by incorporating barter components which reduced the true price of the gas (see Appendix). With rising energy prices since 1998 bargaining power shifted to the suppliers. The terms of Turkmenistan's gas deals are generally opaque, but the sharp turnaround in the country's economic growth in 1998-9 (Table 1) can only be explained by increased gas receipts, probably reflected in better payment records. In 2002 Russia tried to take advantage of the situation and its control over pipelines by locking Turkmenistan into a long-term agreement at what was already a low price (\$44 per 1000 cubic meters, half in hard currency and half barter). Turkmenistan was also locked into a long-term agreement with Iran to supply the gas flowing Korpedeke-Kurt-Kui pipeline.

The situation was unsustainable as oil prices began to increase rapidly from around \$25 in 2002 to \$140 in 2008. Gas prices in the EU tripled during this period, eventually changing the dynamics of the gas trade among CIS countries.²³ Since 2005 the shift in favour of sellers has become more transparent as payment in hard currency rather than barter has become normal (see Appendix). The greater transparency has been accompanied by increasing conflict over price increases, as gas suppliers have tried to benefit from continuing increases in oil prices and concerns about energy security. For the EU this was dramatized in the

²² Interview with Benita Ferrero-Waldner in the *Financial Times*, 13 April 2008, reported in Aisha Berdyeva "Turkmenistan: Ashgabat promises direct exports to the European Union", posted on www.eurasianet.org 14 April 2008. In April 2008 the EU Commission proposed that the five Central Asian countries should be eligible for European Investment Bank financing. This move was seen as being related to EU energy security concerns, and was criticized by NGOs due to the lack of environmental or social safeguards on EIB loans. – www.bicusa.org/en/Article.3870.aspx

January 2006 dispute involving Russia increasing its gas price to Ukraine, when cuts in Russian gas supply to Ukraine had short-run spillover effects on European supplies. The conflicts have often had a geopolitical component as well as pure commercial interests, with Russia more willing to put pressure on Georgia or Ukraine after the rose and orange revolutions of November 2003 and November 2004 which in Russia's view were western-inspired and contrary to Russia's interests. While the Russian invasion of Georgia in August 2008 did not affect Turkmenistan's gas exports, it did highlight the security risks that might be associated with a TransCaspian pipeline connecting to the Baku-Tbilisi-Erzurum pipeline.

Turkmenistan plays an important role in Russia's gas strategy, because Turkmenistan's sales to Russia free up Russian gas for export to Europe at a higher price.²⁴ Thus, although Turkmenistan remains dependent on Russian pipelines, it does have some bargaining power. How strong this is depends upon domestic developments in Russia, where the historic underpricing of domestic gas is being reduced.²⁵ Most estimates suggest that demand is price inelastic, but these historic estimates might be a poor guide given the size of projected price increases compared to the minor price changes in the past. Market conditions will also be influenced by Russian supply, and perhaps alternative sources of supply from Central Asia.²⁶ Over recent decades Russia's production has come from huge fields in Western Siberia which are now past their peak.²⁷ Future supplies will be boosted by the large Yamal Peninsula and Shtockman gasfields in the Russian Arctic, but these will not come online before 2011 and difficult conditions could delay development.

²³ The delivery price of Russian gas to Western Europe varies according to a formula which includes oil prices.

²⁴ A similar displacement effect, with profit to the middleman, is at play in Iran. Turkmenistan supplies 27 million m³ per day at a price of \$75, which enables Iran to release 30 million m³ of its own gas for sale to Turkey at a higher price than it pays Turkmenistan. When Turkmenistan ceased supplying gas on 1st January 2008 as a preliminary to obtaining a higher price, Iran initially cut its supplies to Turkey and then negotiated a short-term deal for Azerbaijan to sell 30 million m³ of gas for a reported \$300 per thousand cubic meters - presumably in order to show Turkmenistan that it did not have a captive customer (Yigal Schleifer "The Iranian-Turkmen Gas Row: And the Winner is ... Russia" posted 28 January 2008, and Nino Patsuria "Georgia and Azerbaijan: Partners in Pipelines, Antagonists in Energy Export Talks", posted 14 February 2008, at www.eurasianet.org)

²⁵ Spanjer (2007) and Tsygankova (2008) analyse the gradual introduction of netback pricing (i.e. linking Russian domestic price to the export price minus transport costs) between 2008 and 2011. Apart from reducing consumption (452bcm in 2006) and improving Gazprom's balance sheet, the price increases are connected to Russia's WTO accession negotiations in which underpriced domestic gas has been a major issue. Russia also underpriced gas exports to former Soviet republics, but prices were substantially increased for the Baltic countries in 2005, for Ukraine, Moldova, Armenia, Azerbaijan and Georgia in 2006 and for Belarus in 2007; Gazprom intends to bring prices for all of these customers up to levels that provide equal profitability to sales to EU customers by 2011.

²⁶ Uzbekistan's gas production (55bcm in 2006) is not much lower than that of Turkmenistan, but with its much larger population most of Uzbekistan's gas is used for domestic consumption; under a 2002 agreement Uzbekistan will supply about 12bcm a year to Russia until 2012. Kazakhstan's gas production is much lower (20bcm in 2006) but large new gasfields coming into production are located close to the Russian border.

²⁷ Gazprom's production (548bcm in 2006) was also boosted by unrepeatable acquisition of the assets of independent producers (Itera, Novatek, TNK-BP) in 2004-7.

The price paid to Turkmenistan was increased to \$65 at the start of 2006 and in September 2006 Turkmenistan negotiated an increase in the price it would receive from Gazprom to \$100 per 1,000 m³ for 2007-9. In November 2007, as a sweetener for the East Caspian pipeline deal, this was raised to \$130 for the first half of 2008 and \$150 for the second half of 2008, which was still less than the price Russia received from Europe.²⁸ Russia is keen to discourage Turkmenistan from supporting non-Russian pipeline prospects, which would reduce Russia's monopoly power and influence. Turkmenistan's leadership is well aware that more pipelines through a greater variety of countries will increase its bargaining power.²⁹ However, against the wait until 2012 (or later) for Nabucco and an unknown gas contract with European buyers can be set the much earlier inflow of cash from Russia. With both its major pipeline routes running north, this leaves Turkmenistan still dependent on Russia, which determines the price paid for most of Turkmenistan's gas.

4. Beyond Turkmenbashi the Great

The death of President Niyazov in December 2006 marked the end of an era. Although he was known to have heart problems, the timing was unanticipated and, at least to outside observers, there was no heir apparent. Nevertheless, the succession went smoothly. The designated caretaker ruler, the president of the Senate, was arrested and Gurbanguly Berdymukhamedov became acting President. In the February 2007 presidential election Berdymukhamedov won almost 90% of the vote, and in the remainder of 2007 he consolidated his power, operating a super-presidential regime similar to that of his predecessor. Turkmenistan remains close to the bottom of any ranking list of countries by political or economic freedom.³⁰

A sense of change was created by reversal in 2007 of three of Turkmenbashi's worst recent policy decisions. Education reforms such as reducing the number of years of compulsory schooling or needed for a university degree, the non-recognition of foreign qualifications and the emphasis on *rukhnama* (the thoughts of Turkmenbashi) were all discarded in a return to the 1990s. The symbolism was clear, but the impact on education was less so; the teachers and old-fashioned teaching methods remained the same, and *rukhnama*

²⁸ On 4 December 2007 Gazprom announced that Ukraine had agreed to pay \$179.50 for Turkmen gas. Whether this represented a full pass-through or increased profits for Gazprom depends upon where the transport costs fall.

²⁹ Ikonnikova (2005) provides a game-theoretic analysis of bargaining between gas producers and transit countries in the Eurasian gas supply network, with emphasis on the strategic role of investment in pipelines.

³⁰ In the Freedom House world ranking by political rights and civil liberties Turkmenistan has always received the lowest score in both categories; in 2008 this was shared only by Burma, Cuba, Libya, North Korea, Somalia, Sudan and Uzbekistan. In Transparency International's 2007 Corruption Perception Index Turkmenistan ranked 162nd. out of 179 countries. In the Reporters sans Frontières index of press freedom, Turkmenistan's media ranked 165th. out of 167 countries, only beaten by North Korea and Eritrea.

continued to be an important textbook. Cuts in pensions introduced in Turkmenbashi's last year were reversed; the rights of disentitled pensioners were reinstated, although the average monthly payment of 500,000 manat (\$20-25) was still low.³¹ Reform of the exchange rate system was initiated by announcing that from 1st. January 2008 banks would be able to use exchange rates close to the previous black market rate for most transactions, and unification of exchange rates was promised.³² These changes cut back some of the most egregious threats to economic growth, social harmony and economic efficiency.

Because Turkmenistan functions as an integrated economic and social system, which keeps the population docile through a mix of basic needs satisfaction, benefits for the presidents' clients and a pervasive security apparatus, piecemeal reforms can be counter-productive. The 2006 pension reform, although a step towards a more rational system, was chaotic because many people, who were not recorded as having made contributions, lost their pension rights; these people had previously been dependent on many non-transparent benefits which accompanied the status of pensioner and whose loss left people in penury. The untargeted subsidization of necessities is inefficient and wasteful (e.g. free electricity or water provide the largest benefits to those with the biggest houses), but announcement in January 2008 that free petrol would be limited to 120 litres a month led to such strong concerns among ministers that it was withdrawn; farmers who had relied on selling their vegetables in urban markets, for example, faced a huge cost hike, while urban motorists who supplemented their income by providing taxi services lost that source of income. Any reform needs to be preceded by substantial pay increases for public sector employees, improved rural incomes and a safety net for workers in manufacturing enterprises which should be downsized or closed. The alternative is a hard landing when gas revenues cease to be sufficient to prop up the system.

Other changes were cosmetic or worse. Among the cosmetic changes, in spring 2008 the country officially reverted to the conventional names for the months of the year and the largest gold statue of Turkmenbashi was moved from the city centre to the outskirts of Ashgabat. The opening of internet cafes was publicized internationally as ending quarantine on information. About a dozen internet cafés were opened in various towns in 2007, all

³¹ In January 2006 Turkmenbashi had signed a new pension law that strengthened the relationship to contributions. Some groups, such as farm workers or petty traders, with no contribution record suffered from reduced pension rights.

³² On 1 January 2008 the government allowed the scheduled banks to open foreign exchange points; the exchange rate was fixed at 19,800 for buying and 20,000 for selling US dollars, nearly killing the black market. Simultaneously, the official exchange rate was raised from 5,200 to 6,250 manat to the dollar. The second step toward unification of exchange rates came on 19 April 2008 when the open market rate was lowered to 17,400

operating under Turkmentelkom, but the official affiliation discouraged many people from accessing them for fear of surveillance.³³ Less dramatically President Berdymukhamedov began a program to reduce the number of satellite dishes which clutter up apartment blocks across the country. Although the dishes are unsightly, they are the population's true information lifeline and the negative impact of reducing access to Russian TV stations will more than offset the positive effect of the internet cafés on information access.

Heavy-handed regulation continues to characterize almost all of economic life. In agriculture, farmers still grow what they are directed to grow, with unrealistic targets set for cotton and wheat output. There is little incentive to start a business, because even when a would-be entrepreneur has passed all the regulatory hurdles there is a widespread belief that a successful business would be confiscated. The banking system remains state-dominated, apart from two foreign banks (Turkish and Pakistani) which concentrate on remittances. The only other roles for foreign investors are as partners in oil and gas exploration and exploitation, as partners in textile joint ventures, and on construction projects. The latter remain lucrative as President Berdymukhamedov has maintained the building boom in Ashgabat.

Control over media makes it difficult to assess social and political conditions. A September 2008 shooting incident in the northern suburbs of Ashgabat was initially reported outside the country as involving Islamic fundamentalists and resulting in the deaths of at least twenty policemen. Within a few hours the story had been rewritten as a drugs-related shoot-out.³⁴ Neither version reflects well on the country's economic and political stability.

In foreign relations the new president seemed to make a cleaner break with his predecessor. After Turkmenbashi's initial activity in joining the United Nations, IMF, World Bank, European Bank for Reconstruction and Development and the Economic Cooperation Organization in 1992, he became sceptical of multilateral institutions and regional organizations as a threat to his prized neutrality.³⁵ Turkmenistan ceased to participate actively in the CIS, it did not join Central Asian regional trading arrangements and is not a member of

for buying and 17,600 for selling dollars. In the same month the president disclosed during a cabinet meeting that the currency would be re-dominated on 1 January 2009 by dropping three zeros.

³³ In June 2008 Turkmenistan opened up its citizens' access to the internet, with the state-run fixed-line provider beginning some home installations and Russia's MTS starting wireless coverage, but with government control of controversial websites, slow connections and costs beyond the reach of most Turkmen, the circle of users is unlikely to widen much beyond the government officials and foreigners using the internet in the past.

³⁴ The first version originated in an Associated Press report that was picked up by newspapers and online news services. The second report came from an official source in Turkmenistan. The BBC posted the first report, but within a few hours it disappeared from the BBC website (www.bbc.co.uk) to be replaced by the second version, although it is doubtful whether there was any reliable way to check the veracity of the two versions.

³⁵ As an exception of this generalization, Turkmenistan became a member of the Asian Development Bank in August 2000 but, as of end-2007, it had yet to receive country program funding from the ADB. All other multilateral institutions had become inactive in Turkmenistan, apart from some small UNDP programs.

the Eurasian Economic Community (EurAsEc) and showed no interest in Central Asian Regional Economic Cooperation (CAREC) or the Shanghai Cooperation Organization (SCO).³⁶ Especially in his later years, Turkmenbashi seldom travelled. In contrast President Berdymukhamedov was everywhere in his first year, visiting New York, Brussels, Moscow and Tehran, welcoming Recep Tayyip Erdogan, Vladimir Putin and Hu Jintao to Ashgabat, and sending observers to SCO and CAREC meetings.

The thrust of being more engaged in the wider world is clear, but the substance has not yet changed much. The 2007 pipeline deal with Russia suggested that however independent Turkmenistan would like to be, its destiny lies in pipelines and they still pass overwhelmingly through Russia. Debates over whether there is sufficient gas to fill a TransCaspian (and Nabucco) pipeline route as favoured by the USA and EU are relevant, because they question the balance between positive signals of friendship towards the West against the reality of exclusive commitments towards Russia. Although the prices set out in long-term agreements have proven unsustainable in the face of huge energy price increases, it is unsure how buyers would react to a unilateral change in the quantity supplied and current assumptions are that the contracted amounts are immutable into the fairly distant future.

The new argument in the equation is China, which came from nowhere to be a major player in 2006-7. China offered billions of dollars for investment projects in which it supplies practically state-of-the-art turnkey factories at a fraction of the price charged by European or Turkish suppliers and loans are at 3%, which undercuts potential lenders such as the EBRD. As mentioned above, China signed an agreement in July 2007 to fund a pipeline and is exploring a gas concession. The rapid growth in China's activities in 2006-7 not only put multilateral lenders and western powers on the back foot, but it was also disturbing to Russia. In January 2008 China agreed to pay \$195 for the gas that it would obtain from Turkmenistan; this notionally included a \$50 premium to finance the Turkmenistan-China pipeline, but it was still more generous than the \$130 that Russia was paying for Turkmenistan's gas in the first half of 2008.

Despite the competing claims of Russia and China western pipeline routes have not been ruled out. Relations between Azerbaijan and Turkmenistan had been soured because of

³⁶ EurAsEc members are Belarus, Kazakhstan, the Kyrgyz Republic, Russia, Tajikistan and, since 2005, Uzbekistan. EurAsEc's goal is to become a customs union and perhaps deeper economic integration, although actual progress in this direction has been limited. China, Kazakhstan, the Kyrgyz Republic, Russia, Tajikistan and Uzbekistan are members of the Shanghai Cooperation Organization, whose main concerns have been security rather than economic. CAREC is a looser arrangement involving Afghanistan, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, Uzbekistan and Xinjiang Autonomous Region of China, together with a group of multilateral agencies (the Asian Development Bank, European Bank for Reconstruction and

personal animosities in the Turkmenbashi era, but there were also substantive disputes over demarcation of the southern Caspian and over debts arising from gas shipped from Turkmenistan to Azerbaijan as far back as 1991. In 2007 relations between Turkmenistan and Azerbaijan warmed as Turkmenistan reopened its Embassy in Baku, which had been closed since 2001, and in June proposals were announced for joint exploration of the Serdar/Kapaz field under the South Caspian Sea. In March 2008 a high level delegation from Turkmenistan visited Baku and reached agreement on the debt disputes between Azerbaijan and Turkmenistan.³⁷

The rapprochement with Azerbaijan should facilitate exploration of the southern Caspian to the benefit of both countries, and could herald a positive commitment to the TransCaspian pipeline if Turkmenistan has sufficient gas. However, Russia will resist such developments and it has more leverage in the Caucasus than with China. In the early months of 2008, with Kosovo's declaration of independence as the catalyst, Russia revoked the CIS agreement on economic dealings with secessionist parts of Georgia, i.e. Abkhazia and South Ossetia. Following Azerbaijan's rapprochement with Turkmenistan in March 2008 outbreaks of fighting along the ceasefire line between Armenia and Azerbaijan became more frequent, which observers ascribed to Russia's desire to send a warning to Azerbaijan. The Russian invasion of Georgia in August 2008 sent a strong signal that Russia is prepared to use force to defend its interests, and that any pipeline through Georgia is easily within its reach. Such actions in the Caucasus could backfire, because Russia has its own frozen conflicts and secessionist movements in the North Caucasus. However, more general conflagrations in the Caucasus would undermine Turkmenistan's hopes of a western pipeline route still further.

5. Conclusions

Turkmenistan has been poorly run since independence. The inherited natural resource wealth has been dissipated by mismanagement of the cotton sector and by misuse of the huge rents from cotton and especially natural gas. Turkmenbashi's prized neutrality in effect left the country dependent on Russia which controlled all the country's important transport and pipeline outlets. How successful the post-Turkmenbashi regime will be depends upon how it

Development, International Monetary Fund, Islamic Development Bank, United Nations Development Programme, and World Bank).

³⁷ Although both countries acknowledged the debts, in 1991-3 they both still used the rouble, whose hard-currency value was disputed. Turkmenistan sought \$56 million while Azerbaijan offered \$18 million; under the March 2008 agreement Azerbaijan will pay \$44.8 million.

husbands the resource rents: both how it maximizes the flow of net revenues from gas production and how it uses those revenues to foster sustainable economic development.

The country's bargaining power with respect to gas prices has been improving and there is still room for further gains, but ultimately gas prices are linked to developments in global energy markets. Turkmenistan's longer term revenues from gas also depend upon the true level of gas reserves and even more important how much can really be produced. The quantity supplied will impact on revenues directly, and also indirectly by determining the range of pipelines built and hence the country's bargaining power with each customer. By the 2020s Turkmenistan has commitments to supply 80 billion m³ a year through Russia and 30 billion m³ a year to China as well as small amounts to Iran, and is negotiating perhaps 30 billion m³ a year through the TransCaspian and perhaps supplies to South Asia. If current gas production can be more than doubled over the next decade and a half, then all these commitments and dreams might be satisfied.³⁸ Otherwise, Russia in the pole position due to its control over the established pipeline, China next as it constructs a pipeline, and other potential buyers nowhere as they will not build pipelines without gas to fill them.

The second key to Turkmenistan's future concerns its almost complete dependence on gas. This is ironic because Turkmenbashi placed great emphasis on self-sufficiency and promoted wheat and textiles, but both of these initiatives led to inefficient use of scarce land and capital. Economic reforms are needed to provide the setting for soundly based economic diversification. When energy prices do fall, then the cost of non-reform and poor use of the energy windfall will be borne by Turkmenistan. An impoverished Turkmenistan dependent on what it can get from gas exports in a buyers' market would be vulnerable to being drawn into Russia's orbit, much as Tajikistan has been since the end of its civil war.

A positive outcome is possible. If energy prices continue to rise and Turkmenistan really does have large exploitable gas and oil reserves, then the country's financial prosperity would be assured, and the main question becomes whether Turkmenbashi's successors will allocate the revenue more wisely than he did: financing good investments in human and physical capital, providing a social safety net, and creating a well-managed fund to invest abroad for the future. In this scenario a larger pipeline choice will allow Turkmenistan greater

³⁸ Gas production in 2007 is reported to have been 72 billion m³ and projected output in 2008 is 82 billion m³, while the head of the Oil and Gas Institute in Ashgabat revealed an expected increase in output of 50 billion m³ in the "near future"; see the reports "Turkmenistan: Playing the Energy Export Field" (17 March 2008) and "Turkmenistan: Will Berdymukhamedov commit to the Trans-Caspian Pipeline during his Turkey visit?" (20 March 2008) at EurasiaNet.org - [Central Asia, Caucasus News](http://CentralAsia.CaucasusNews). External analysts are, not surprisingly given the secrecy surrounding the country's reserves, divided over the long-term potential; Tsygankova (2008) contrasts Turkmen claims of 2030 production levels around 250bcm with the scepticism of International Energy Agency

medium-term economic and political independence, and economic prosperity will be the best of all guarantees of long-term neutrality.

Appendix: Natural Gas Prices

In the Soviet Union natural gas was produced according to physical targets and delivered to planned destinations. Prices were irrelevant. When the Soviet Union dissolved, Turkmenistan was expected to be the largest beneficiary among the fifteen ex-republics of moving to world prices because its export bundle was the most under-valued relative to its imports (Tarr, 1994). The problem was, however, that there is no world market for gas and Turkmenistan could only send its gas where the pipelines led.

Turkmenistan's captive customers in the CIS were suffering from the transitional disruption and many contracts were set in barter terms whose monetary value is impossible to assess. Anecdotes of low quality or unusable goods being supplied to satisfy the barter terms abound. In one 1990s deal Ukraine supplied twelve million galoshes in payment for gas; this was to a nation of four million people living in the desert! Many barter goods were passed on; after Russia received Volvo cars in a barter deal with Sweden in the early 1990s, Turkmenistan received Volvo cars in payment for exports to Russia.

Once in place barter deals proved hard to terminate, and until as late as 2005 a large share of Turkmenistan's gas exports was paid for by barter (50-60% in 2005 according to Global Witness, 2006). When large-scale gas deliveries resumed in 1999, the price of just under \$36 per 1,000 m³ was payable 40% in cash and 60% by barter. The 2003-5 gas contract with Russia was worth \$44 per 1,000 m³ with half to be paid by barter. As a rule of thumb, the true value of barter may be half its contract value, which would bring the true price for the gas in 2003-5 down to \$33 per 1,000 m³.

Barter deals were valued by insiders because of their lack of transparency and potential for large-scale corruption. The use of intermediaries in the Turkmen-Ukraine gas trade was an additional component of a lack of transparency that enriched some insiders, who would purchase unsaleable goods from Ukrainian factories, supply these goods to Turkmenistan as the barter component of the gas deal, and sell the gas to the Ukraine's national gas supply company, Naftohaz Ukrainy, with a large gap between the price paid for the export goods and

(IEA) Reports about whether Turkmenistan can increase production at all. Dorian (2006) predicts production of 120bcm by 2010 and 180bcm by 2015.

the price received for the imported gas. Especially in the 1990s the energy trade in Ukraine was a giant system of monopolies that disposed of their output and obtained their energy supplies through a system of transfer pricing “designed to suck all the profits from the Ukrainian economy into foreign bank accounts”.³⁹

The barter system did not terminate until 2005. In December 2004 Turkmenistan stopped gas supplies to Russia and demanded a price of \$58 per 1,000 m³, expecting that Gazprom’s inability to meet its export and domestic commitments without Turkmen gas would force it to offer better terms, but Gazprom survived the rest of the winter without Turkmen supplies. In April 2005 Russia and Turkmenistan agreed that Gazprom would make all payments in cash instead of the earlier barter arrangements, but the price remained \$44 per 1,000 m³. Following the November-December 2004 Orange Revolution, the new head of Naftohaz Ukrainy announced that the contract with Turkmenistan active from 1st. July 2005 would involve no barter terms. The January 2006 Russia-Ukraine energy dispute ended with what appeared to be a definitive movement towards cash payments on gas transactions involving Russia, Ukraine and Turkmenistan, although the role of the shadowy intermediary RosUkrEnergo remained unclear. Intermediaries were finally eliminated from sales to Ukraine in March 2008 when Naftogaz Ukrainy and Gazprom signed a new agreement.

The January 2006 Russia-Ukraine gas dispute initiated an era when prices became negotiable. Although gas prices had been increasing rapidly in Europe since 2002, intra-CIS trade had been largely insulated from this before 2006. Turkmenistan’s receipts were governed by its 2002 agreement with Russia and 1997 agreement with Iran. The price from Gazprom was increased to \$65 in January 2006. In September 2006 Turkmenistan negotiated an increase in the price it received from Gazprom from \$65 to \$100 per 1,000 m³ for 2007-9, and in November 2007 this was raised to \$130 for the first half of 2008 and \$150 for the second half of 2008. At the same time, Turkmenistan was receiving \$75 per 1,000 m³ from Iran and when Turkmenistan tried to raise the price Iran offered a super-premium price (reportedly \$300) to Azerbaijan in February 2008 to teach Turkmenistan that Iran was not a captive market. On 28 January 2008 China agreed to pay \$195 for the gas that it would obtain from Turkmenistan, but this included a \$50 premium to finance the Turkmenistan-China pipeline.⁴⁰ Under the March 2008 agreement between Naftogaz Ukrainy and Gazprom,

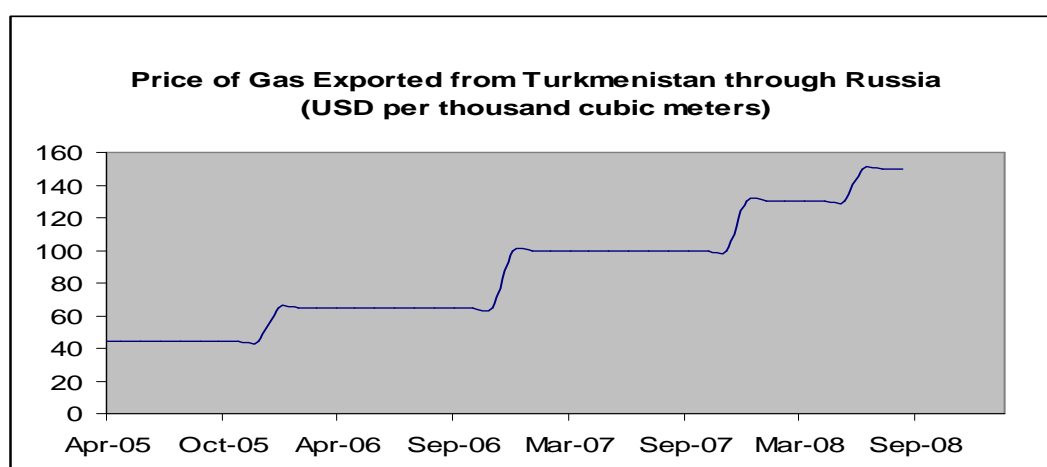
³⁹ The quotation is from *The Financial Times*, 9 December, 1998. Babanin, Dubrovskiy and Ivaschenko (2004) analyse energy-related rent-seeking in Ukraine.

⁴⁰ Neighbouring Uzbekistan raised its natural gas export price from \$55 to \$100 on 1st. January 2007, and then increased it to \$145 in late 2007, causing serious distress to Tajikistan.

Ukraine paid \$315 per 1,000 m³ of gas supplied in January and February 2008 and would pay \$179.50 per 1,000 m³ for gas to be supplied between March and December.

On 11 March 2008 Gazprom announced that it would pay European prices for Central Asian gas in 2009, i.e. in the range of \$200-300 per 1,000 m³. The announcement was part of a strategy of encouraging Central Asian countries to retain Russia as their principal market and not to agree to new pipeline routes.⁴¹ It is, however, bound to be destabilizing as Gazprom passes on the increased costs to its customers, with Ukraine being the most vulnerable, but also because of its control over the main transit pipeline to the EU the country with the strongest retaliatory potential.

In sum, between 2006 and 2008 there was a substantial upward shift in the prices being agreed on trade involving Turkmenistan and its major customers, Russia and Ukraine. Nevertheless, in 2008 Turkmenistan was still receiving substantially less than the price in the EU, which exceeded \$300; how much Turkmenistan was underpaid is difficult to assess because it is hard to know the true transport costs from the Turkmen border to the EU border. The apparently generous price offered by China in January 2008 was quickly being overtaken by price developments that made it look too low and ripe for renegotiation by Turkmenistan. At the same time, however, Turkmenistan's attempts to increase the price it receives from Iran met with an angry reaction which could lose that market for Turkmenistan's gas. The paradox is that long-term agreements on quantity and price are considered necessary to ensure the profitability of expensive gas pipeline projects, but large swings in energy prices undermine attempts to set gas prices into the future and renegotiation is always either a confrontational zero-sum game or subject to indirect consequences as price hikes are passed on.



⁴¹ The following day Russia signed an agreement to transfer to the Turkmenistan government Soviet era geological data covering Turkmen energy deposits that had been kept in Moscow. The Prikaspiisky pipeline

Table 1: Growth in Real GDP, Turkmenistan 1989-2007

1989	1990	1991	1992	1993	1994
-7	2	-5	-5	-10	-17
1995	1996	1997	1998	1999	1999/1989
-7	-7	-11	5	16	64

Source: European Bank for Reconstruction and Development, *Transition Report Update*, April 2001, 15.

Note: The final cell reports real GDP in 1999 as a percentage of real GDP in 1989

1998	1999	2000	2001	2002
7	17	19	20	16
2003	2004	2005	2006	2007
17	17	10	9	10

Source: European Bank for Reconstruction and Development, *Transition Report* (accessed online at <http://www.ebrd.org/country/sector/econo/stats/sei.xls> 24 February 2008).

Notes: 2006 = preliminary actual figure from government sources, 2007 = EBRD projection.



deal, the gas price hikes and the data transfer appeared to be a package deal to keep Turkmenistan within the Russian energy network.

Table 2: Production and Exports of Natural Gas, Turkmenistan 1990-2006
(in billion cubic meters)

	1990	1991	1992	1993	1994	1995
Production	81.9	78.6	56.1	60.9	33.3	30.1
Exports		74.9	46.9	55.7	24.7	22.0
	1996	1997	1998	1999	2000	2001
Production	32.8	16.1	12.4	21.3	43.8	47.9
Exports	24.0	40.0	2.0	10.0	35.7	38.6
	2002	2003	2004	2005	2006	2007
Production	49.9	55.1	54.4	58.8	62.2	67.4
Exports	39.4	43.4				

Sources: Production: *BP Statistical Review of World Energy 2008*, accessed at <http://www.bp.com/> on 7 July 2008.

Exports: 1991-2003 Olcott (2004, 30).

Note: Skagen (1997, 30) gives slightly lower estimates for production in 1991-6, but a similar pattern.

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