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March 14, 2006

To: Members of the Executive Board

From: The Secretary

Subject: **Republic of Azerbaijan—Selected Issues**

This paper provides background information to the staff report on the 2005 Article IV consultation discussions with the Republic of Azerbaijan (SM/06/108, 3/14/06), which is tentatively scheduled for discussion on **Monday, March 27, 2006.** At the time of circulation of this paper to the Board, the Secretary's Department has not received a communication from the authorities of the Republic of Azerbaijan indicating whether or not they consent to the Fund's publication of this paper; such communication may be received after the authorities have had an opportunity to read the paper.

Questions may be referred to Mr. Kramarenko (ext. 34357) and Ms. Zermeno (ext. 37540) in MCD.

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REPUBLIC OF AZERBAIJAN

Selected Issues

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Approved by Middle East and Central Asia Department

March 13, 2006

Contents Page

I. MOVING TO INFLATION TARGETING IN AZERBAIJAN[1]

A. Introduction

1. **Over the last two years, terms of trade gains and an oil-related investment boom posed significant challenges for monetary and exchange rate policies in Azerbaijan (Figure I.1)**. Real exchange rate appreciation pressures emerged by 2004, as oil-related foreign capital inflows increased sharply and higher oil prices allowed the public sector to increase spending. These pressures led to fast increases in liquidity, against the background of a de facto fixed exchange rate peg and a limited choice of monetary policy instruments, causing inflation to rise into the double digits. The exit from the peg, and tighter monetary and fiscal policies helped reduce inflation in 2005. However, a peg was reinstated in September 2005.

2. **The Azerbaijan economy is undergoing a major transformation, which would require a significant overhaul of the existing monetary and exchange rate framework**. The country is starting to receive large revenues from an unprecedented oil boom; and the authorities have decided to spend part of the oil wealth upfront. Moreover, the economy is also opening up to international trade and capital flows. Against this background, the authorities need to establish a monetary and exchange rate policy framework that can help maintain macroeconomic stability, which is essential for fostering growth and employment creation in the non-oil sectors.

3. **This chapter aims at (i) drawing lessons from the recent experience in monetary and exchange rate policy implementation in Azerbaijan; and (ii) justifying the need for a gradual transition first to inflation targeting (IT) "lite" and ultimately to full-fledged IT**. It is organized as follows: Section B describes recent monetary and exchange rate policies in Azerbaijan; Section C provides a rationale for implementing an IT framework; Section D discusses operational issues related to IT "lite" implementation; Section E assesses Azerbaijan's progress towards a full-fledged IT framework against the pre-conditions set in the literature, and establishes short- and medium-term recommendations; and Section F concludes and provides a summary of recommendations.

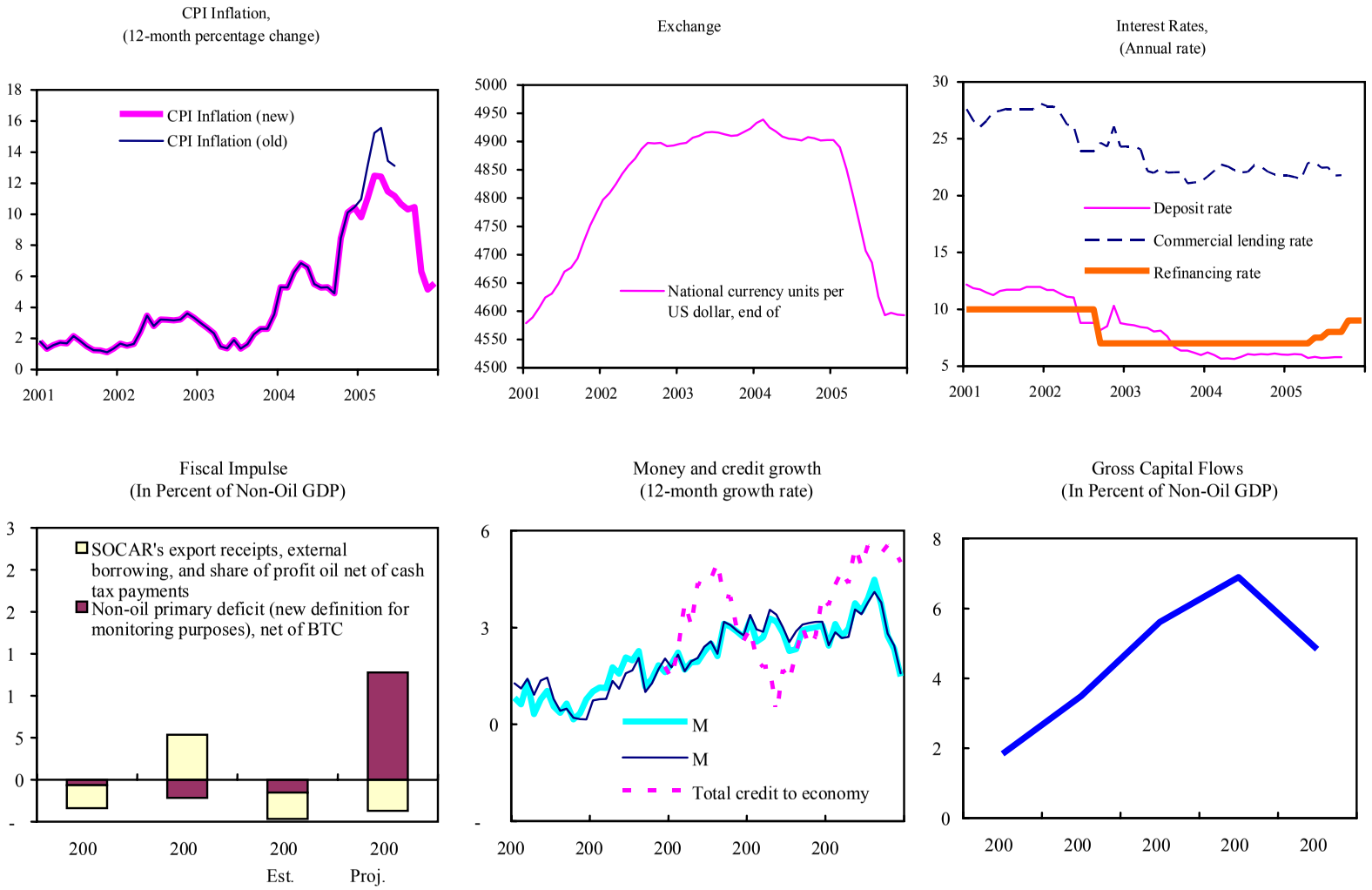
B. Recent Monetary and Exchange Rate Policies [2]

4. **Three distinct periods in the history of monetary and exchange rate policy have been observed in Azerbaijan since 2002**. First, a de facto fixed peg was in place from mid-2002 to February 2005. Second, in response to rising inflationary pressures the ANB allowed some nominal exchange rate appreciation and raised interest rates during February–

[1] Prepared by Mayra Zermeño with inputs from Daehaeng Kim (Annex I.1) and Felix Fischer (Annex I.2).

[2] Longer-term developments have been analyzed in IMF Country Report No. 05/259.

Figure I.1. Azerbaijan: Selected Economic Indicators, 2001–06



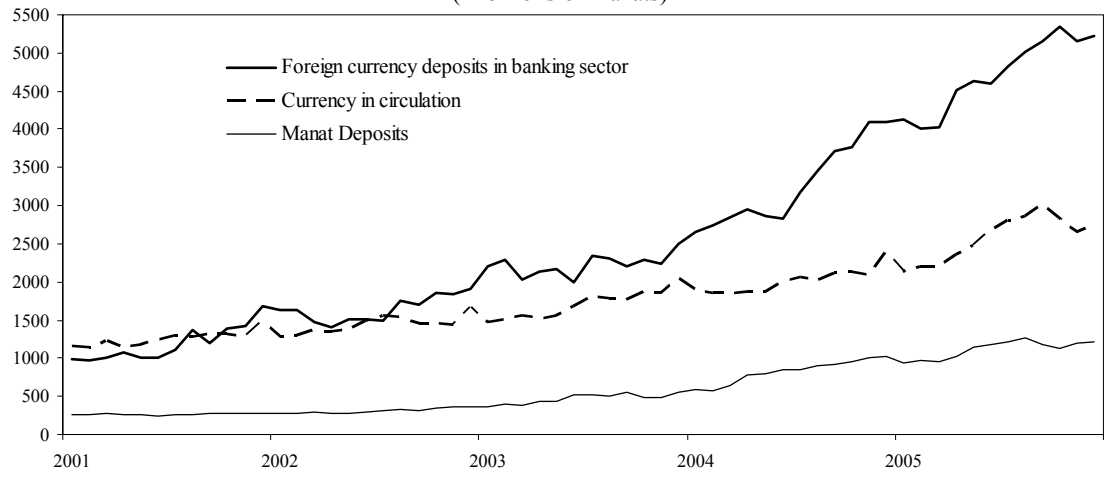
Sources: Azeri authorities; and Fund staff estimates.

September 2005. Third, since mid-September 2005 a de facto peg to the dollar has been reinstated mainly for political reasons, reducing again the ANB's flexibility in monetary policy implementation.

Fixed peg: mid-2002–early 2005

5. **The peg served Azerbaijan well from mid-2002 to early 2004.** In the absence of major foreign exchange market pressures, the fixed peg was effective in containing inflation: the 12-month CPI inflation rate fluctuated within a narrow range of 2 to 4 percent during the period (Figure I.1). The peg also reduced the incentives to develop and use indirect instruments of monetary policy: the ANB's interest rates remained broadly unchanged, sterilization operations were negligible, and the stock of government securities was reduced significantly. Nevertheless, despite low inflation and exchange rate stability, dollarization persisted with foreign exchange deposits reaching about 49 percent of broad money by end-2003 (Figure I.2). The hysteresis of dollarization in Azerbaijan is similar to the experience of other developing countries with a long track record of macroeconomic stability.[3]

Figure I.2. Azerbaijan: Currency in Circulation, Manat Deposits and Foreign Currency Deposits, 2001–05
(In billions of manats)



Sources: Azeri authorities; and Fund staff estimates.

6. **When tension between the peg and the inflation objective arose in 2004, the exit from the peg was delayed.** Real appreciation pressures spilled into higher inflation in the context of the fixed peg: the 12-month CPI inflation rate increased from 3.6 percent in December 2003 to 10.4 in December 2004. These pressures emanated from large capital inflows and expansionary fiscal policy. Capital inflows, mainly in the oil sector, increased

[3] For a recent discussion on the causes of persistent dollarization and related policy options see Ize and Levy (2005).

from 18½ percent of non-oil GDP in 2002 to 48½ percent of non-oil GDP in 2004, and the fiscal stimulus originated from increased spending by the State Oil Company of Azerbaijan Republic (SOCAR). At the same time, the ANB accommodated the rising supply of foreign exchange, and cash in circulation increased rapidly.[4] The attendant rapid growth in money and credit (Figure I.1) was initially interpreted as a sign of remonetization, and rising inflation was ascribed to one-off supply shocks. This assessment, together with concerns about the political repercussions of greater exchange rate flexibility, delayed the exit from the peg.

7. **The strong political opposition to greater exchange rate flexibility is rooted in widespread dollarization and to some extent in concerns about competitiveness.** Nominal exchange rate appreciation reduces the purchasing power of foreign currency-denominated assets and streams of incomes of large groups of the population, in terms of non-traded goods and services and food.[5] The corporate financial and nonfinancial sectors also have large open positions in foreign exchange and earn substantial foreign currency incomes. The two largest players in Azerbaijan's foreign exchange market—the International Bank of Azerbaijan (IBA) and SOCAR[6]—would incur large valuation and income losses from nominal appreciation. In addition, the widespread belief that nominal appreciation will lead to faster real appreciation and to a loss of competitiveness[7] contributed to the authorities' hesitation to allow greater nominal exchange rate flexibility.

Gradual appreciation: February–September 2005

8. **In an effort to reduce inflation, the authorities moved away from the fixed peg and allowed the nominal rate to appreciate starting in early 2005**. A relatively strong and fast exchange rate pass-through to prices has been present in Azerbaijan over the last six years[8] (Figure I.3). Based on these findings, the ANB abandoned the fixed peg, and started to use an appreciating path for the nominal effective exchange rate (NEER) to guide its foreign exchange interventions. During February–July 2005, the NEER appreciated by about 8 percent, and the refinancing rate was increased by 100 basis points to 8 percent. The authorities also supported their monetary policy tightening with expenditure restraint and non-oil revenue mobilization. In late summer 2005, they gradually shifted the focus of their monetary policy operations from the exchange rate path to base money targets; allowed

[4] Annex I.1 has identified cash in circulation as one of the main leading indicators of inflation.

[5] In Azerbaijan, food items could be imported to smooth out supply shocks. However, fito-sanitary and other non-tariff restrictions make them to a large extent non-traded goods.

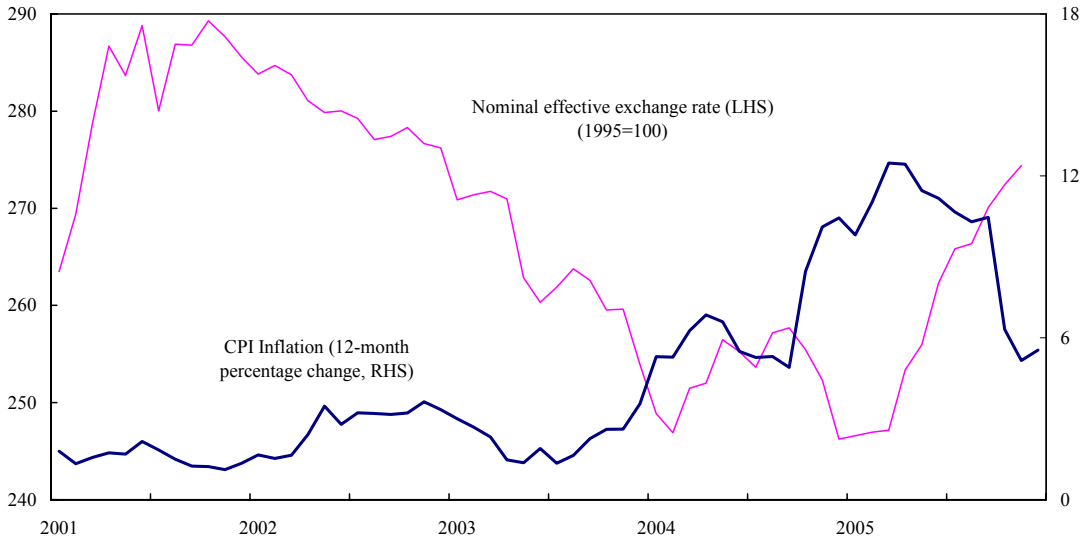
[6] The foreign exchange market is dominated by the treasury, SOCAR, and the IBA.

[7] Chapter IV discusses competitiveness trends and issues.

[8] See Annex I.1 for a discussion of econometric results.

greater exchange rate volatility; and increased interest rates by another 100 basis points to 9 percent. The impact of this monetary tightening and fiscal prudence on inflation was encouraging: the 12-month CPI inflation rate declined from 15.4 percent in April to about 10.5 percent in September 2005.[9]

Figure I.3. Azerbaijan: Nominal Effective Exchange Rate and CPI, 2001–05



Sources: Azeri authorities; and Fund staff estimates.

Peg reinstated: September 2005

9. **The experience with greater exchange rate flexibility was short-lived, as political pressures against nominal appreciation intensified in September 2005.** The return to the peg was triggered by a sudden appreciation of the manat in the cash market in mid-September. Although technical shortages of banknotes contributed to the sharp appreciation, the underlying reason was the on-going tightening of monetary policy amidst mounting real appreciation pressures. Capitalizing on public opinion against nominal appreciation and exchange rate volatility, vested interest groups exerted strong pressure on the government and the ANB to change their exchange rate policy. In response, the government publicly announced a new target range of 4,500 to 4,600 manats per U.S. dollar in mid-September, and the ANB confirmed this target range soon thereafter.

10. **In the fourth quarter of 2005, there was no apparent conflict between the fixed peg, base money targets, and the single-digit inflation objective.** The ANB reverted to

[9] The CPI methodology was revised in 2005 as discussed in Box I.1.

targeting the exchange rate to the dollar, as reflected in large one-sided foreign exchange interventions. As the November 2005 parliamentary elections and the currency redenomination[10] deadline approached, the demand for dollars increased and bank deposits and cash in circulation declined. Facing an increased demand for dollars, the ANB maintained the fixed peg, and the base money target was undershot. The lagged impact of the previous monetary policy tightening, together with fiscal restraint, reduced inflationary pressures; and the 12-month inflation rate declined to about 5.5 percent in December 2005. A revision to the CPI methodology (Box I.1) and moral suasion on retailers were additional factors explaining the recent decline in inflation.

Box I.1. Recent Changes to the CPI Compilation Methodology

As part of a revision to the CPI methodology, starting in January 2005, the product coverage of the CPI was expanded and the expenditure-based product weights adjusted to reflect recent consumption patterns. These changes appear to have improved the relevance of the new CPI. However, the regional coverage was also increased, and population-based weights are now being used in geographic aggregation. This aggregation method has raised some methodological questions.

International best practice suggests the use of expenditure-based weights in every stage of aggregation in CPI compilation. Expenditure-weighted CPIs are generally considered the estimates of "plutocratic" cost of living indices (COLIs) that can be derived in utility and welfare terms. As reflected in the SNA-1993, the CPI manual, and the ILO conventions, the international standards recommend plutocratic principles. Alternatively, the theoretical literature has suggested giving each household an equal weight (i.e., the "democratic" principle); but this approach has not been recommended as the standard approach to CPI aggregation.

In Azerbaijan, the new CPI methodology aggregates regional elementary indices to the overall CPI using population shares. In principle, population shares could be used as proxies for regional expenditure shares. However, the staff is of the view that regional population shares are not reliable proxies of expenditures in Azerbaijan because: (i) the Baku region represents a much larger share of domestic consumption expenditure than implied by its official population share; and (ii) official data appears to understate the actual population of the Baku region by a large margin.

Population-weighted CPIs can be considered a measure of democratic COLIs (as opposed to plutocratic indices)**.** However, it should be noted that the currently compiled CPI in Azerbaijan is only *partially* consistent with this principle since the first stage of aggregation is based on the country-wide product group expenditure shares (i.e., the composition of the basket does not vary across regions). STA recommended using the expenditure-weighted geographic aggregation in line with international best practices. If such practice is impossible to implement in the short term due to deficiencies in data sources, the staff suggested using additional information from the household budget survey, a National Food Survey, and a retail sales survey to derive more reliable proxies for regional weights.

[10] On January 1, 2006, the manat was redenominated to the new manat at a rate of 5,000 to 1. The old and new manat (banknotes and coins) will both circulate through the end of 2006.

C. Rationale for Implementing an IT Framework

11. **Azerbaijan is facing important macroeconomic challenges.** The fast increase in oil production and revenues that started in 2005[11] and the large capital inflows experienced in recent years are likely to continue over the medium term. These shocks have been already accompanied by strong real appreciation pressures as discussed above. Against this background, the consistency of the fixed peg with the low inflation objective needs to be revisited.

12. **The largest macroeconomic shock originates from the fast increase in oil revenues, and the authorities' decision to spend part of the oil wealth upfront**. Azerbaijan is on the eve of an unprecedented fiscal expansion to be financed with a large but temporary increase in export revenues. In the coming years, oil and gas production and exports will increase at double-digit rates.[12] The Azerbaijan authorities recognized the important policy challenges associated with the large, but temporary, oil boom and approved a Long-Term Oil Revenue Management Strategy (LTORMS) by a Presidential Decree in 2004. The fiscal rule embedded in the LTORMS is based on a permanent income hypothesis, which, in principle, allows for a front-loaded spending out of oil wealth relative to the size of the non-oil economy (Chapter III). When fully operational, the main contribution of the LTORMS would be to specify a medium-term path for the non-oil primary fiscal deficit consistent with long-term fiscal sustainability and price stability.[13] In the immediate future, the 2006 budget envisages a large increase in the fiscal impulse originating from higher expenditures (Figure I.1). This fiscal stance will most likely lead to significant real appreciation pressures.

13. **Other shocks are expected as Azerbaijan becomes more integrated into the global economy**. Azerbaijan's exposure to large foreign capital inflows will continue as the country's creditworthiness improves. In the recent past, oil-related loans and FDI dominated the capital account of the balance of payments. However, as major oil and gas projects are coming to completion, borrowing by a broader spectrum of financial and non-financial corporations is rising and portfolio investments are likely to follow. In addition, the large share of oil in export earnings will perpetuate the country's dependence on highly volatile international oil prices for the foreseeable future (Figures I.4 and I.5).

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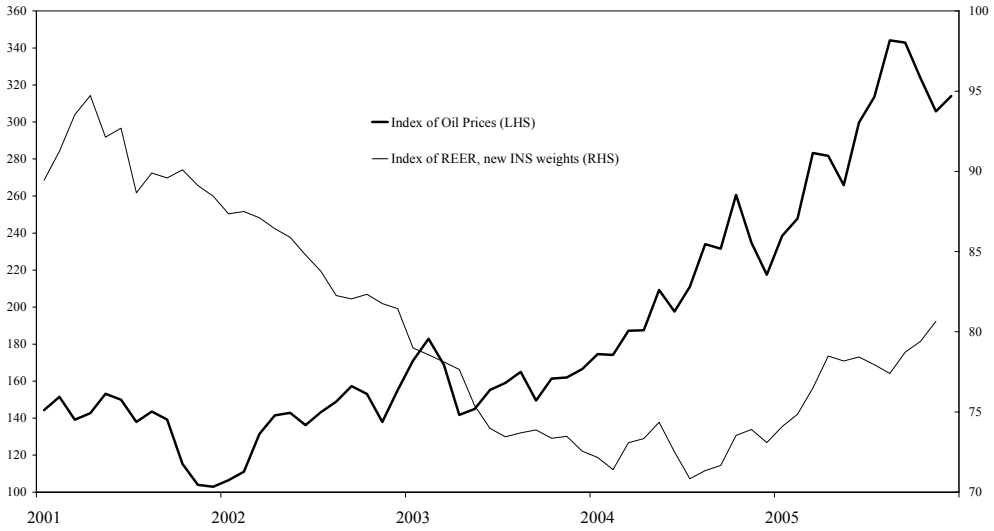
[11] In 2005 real oil GDP increased by 65 percent and export revenues by 84 percent compared with 2004.

[12] Chapter III discusses the fiscal implications of the oil boom and policy options.

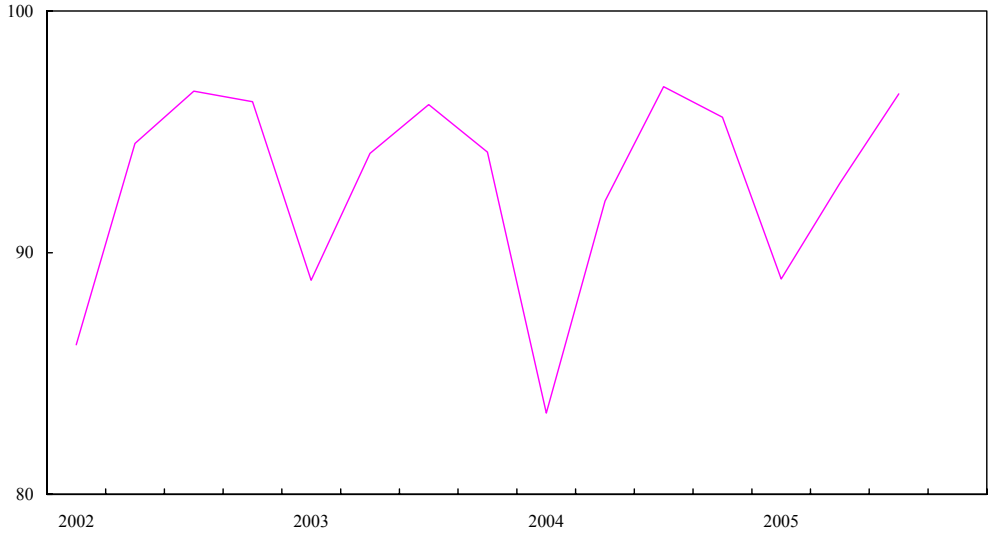
[13] Chapter III discusses the authorities' LTORMS in more detail and suggests modalities for its implementation.

Figure I.4. Azerbaijan: Oil Prices and Real Effective Exchange Rate
(1999=100), 2001–05



Sources: Azeri authorities; and Fund staff estimates.

Figure I.5. Azerbaijan: Oil Exports' Share in Total Exports,
2002–05



Sources: Azeri authorities; and Fund staff estimates.

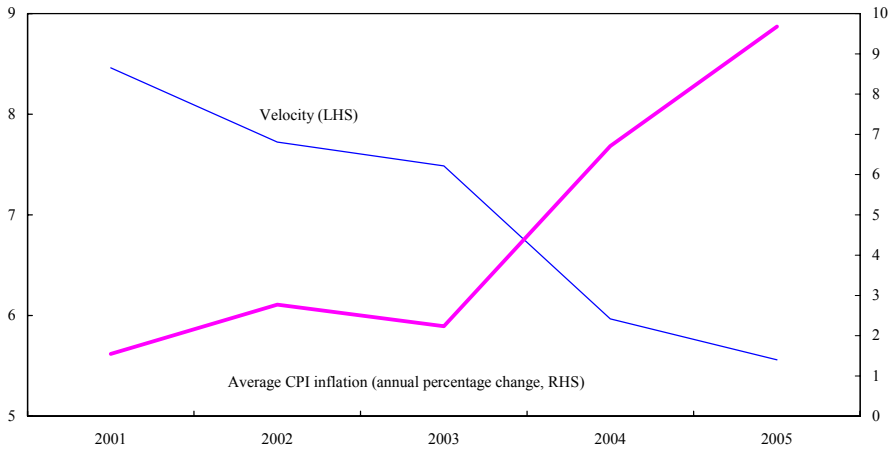
14. **In this environment, exchange rate flexibility is needed to ensure macroeconomic stability.**[14] The expected shocks are likely to exacerbate real appreciation

[14] Berg and Borensztein (2000), Mussa et al. (2000) and Rogoff et al. (2003).

pressures, which can materialize mainly through nominal appreciation or mainly through inflation. It can be argued that nominal appreciation would be preferable because of the well-established long-lasting negative effects of inflation on growth and employment.[15]

15. **The move to greater exchange rate flexibility calls for an alternative nominal anchor.**[16] In the immediate future, using broad monetary aggregates to anchor nominal values might be of limited use because these aggregates are difficult to control. In Azerbaijan, broad money (M3) incorporates a high proportion of foreign currency deposits that are less sensitive to monetary policy changes than other deposits. Although in principle M2 might be easier to control than M3, in practice the ANB has very little influence over this aggregate because of high volatility of the money multipliers and velocity (Figures I.6 and I.7).

Figure I.6. Azerbaijan: Inflation and Velocity of Broad Money 1/, 2001–05



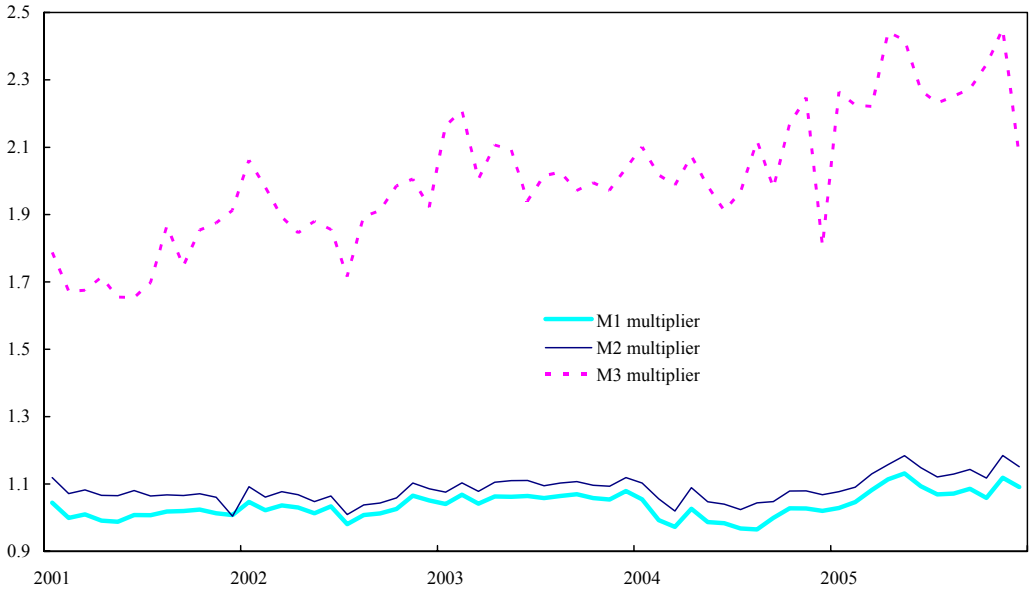
Sources: Azeri authorities; and Fund staff estimates.

1/ Defined as gross domestic demand (excluding oil sector FDI-related imports) divided by average broad money.

[15] Bernake et al. (1999), Fischer (1993), and Khan and Senhadji (2001).

[16] In a paper-money system, there is a need for some constraint on monetary policy such as a nominal anchor.

Figure I.7. Azerbaijan: Money Multipliers,
2001–05



Sources: Azeri authorities; and Fund staff estimates.

16. **The ANB's intention to move to inflation targeting "lite"—as a nominal anchor—appears appropriate in the immediate future.** Under IT "lite" countries usually announce a broad inflation objective but because of relatively low credibility they are not able to maintain inflation as their foremost policy objective. Their relatively low credibility reflects vulnerabilities to large economic shocks and financial instability and a weak institutional framework.[17] Consistent with this definition, the ANB intends to achieve its inflation objective by using all monetary instruments at its disposal, while limiting large exchange rate fluctuations that could jeopardize the stability of the financial system. Because inflation targets are easier to observe and understand than other targets, an IT "lite" framework would increase the public's awareness of the authorities' policy intentions and the role of monetary and exchange rate policies in maintaining a stable macroeconomic environment. IT "lite" would also reinforce the ANB's mandate and commitment to price stability and strengthen its credibility**.**

D. IT "lite" Implementation Issues

17. **The implementation of an IT "lite" framework involves key decisions on the choice of the operating target for monetary policy, and on the communication of inflation objectives.** In the absence of well-developed domestic financial and securities

[17] Stone (2003).

markets, the ANB would need to use an operating target, other than interest rates, to conduct monetary policy. This practice will be in line with the experience of most other countries that have opted for an IT "lite" framework.[18]

Operating targets under an IT "lite" framework would need to be

- Under control of the central bank;
- Strongly related to the path of domestic prices;
- Easily quantified and with little discretion and ambiguity in their measurement;
- Relatively easy to forecast; and
- Easy to observe and understand by policy makers and the general public.

The experience of other IT lite countries shows that the following variables, alone or in combination, could be used as operating targets:

- Base money;
- Exchange rate vis-à-vis one currency or a basket of currencies;
- Interest rates (repo or other short-term rates).

18. **As is being done by many other IT "lite" central banks, the ANB is now using local currency base money as its primary operating target**. Base money is a relatively narrow monetary aggregate that can be at least partially controlled by central banks. In the absence of a well-established domestic financial and securities market, the ANB is mainly using foreign exchange intervention to achieve its manat base money targets. Allowing greater nominal exchange rate flexibility is therefore key to improving the ANB's ability to meet its manat base money target.

19. **On a regular basis, base money targets need to be revised to account for inevitable large shocks to money demand.** These revisions must be clearly explained to the public, given that the ANB has announced its annual base money target, and in so doing has put its credibility on the line.

20. **Nevertheless, the ANB is likely to remain concerned about excessive nominal exchange rate volatility in the foreseeable future**. Using base money as the primary target to control inflation is bound to generate some exchange rate volatility. In the very short term, the exchange rate path can be smoothed out through sterilization, but this is not a viable alternative to greater exchange rate flexibility or fiscal adjustment under persistent real appreciation pressures.

[18] Stone idem., Table 4.

21. **Alternatively, the ANB could also consider a path for the nominal exchange rate as its primary operating target.** Several IT "lite" countries have been using the exchange rate path as their operating target, and in most cases in combination with interest rates or money base targets.[19] The ANB used an NEER path to guide its monetary policy interventions in early 2005 with positive results. Should the ANB decide to move to the nominal exchange rate as its primary operating target at some stage, it will need to explain to the public that it is not committed to any specific exchange rate level. This will help discourage speculative capital inflows and avoid potential conflicts between inflation and exchange rate objectives. While using a nominal exchange rate as the operating target, the authorities may find it useful to continue monitoring closely changes in money base and other monetary aggregates.

22. **The most recent econometric work on Azerbaijan suggests that both cash in circulation (the largest component of manat base money) and the NEER are closely linked to inflation.**[20] These results suggest that the ANB could pursue its inflation objective by setting base money targets as it is currently doing, or by targeting an NEER path as it sought to do in early 2005.

23. **The ANB has communicated to the public its inflation objectives for 2006 and the main risks to its monetary program.** Most countries using a full-fledged or an IT "lite" framework set their inflation targets within a narrow range.[21] In its 2006 statement of monetary policy, the ANB announced publicly: (i) its objective to maintain core inflation[22] in the single digits; (ii) the use of base money as the primary operating target; and (iii) its commitment to follow a managed float in 2006. At the same time, it recognized the significant upside risk to its inflation objective, against the background of large uncertainties regarding the 2006 budget and its limited liquidity management capacity. In future annual policy statements, the ANB can establish a more precise range for its inflation target with the intention of maintaining the 12-month CPI rate not too far away from the middle point of the target range. It would also be important to announce a medium-term path for the inflation target: the range can be narrowed down and the middle point lowered, as the authorities continue to make progress towards the implementation of a full-fledged IT framework.

[19] Stone idem., Table 4.

[20] See Annex I.1 for the details of the econometric work.

[21] Stone idem., Table 1.

[22] The ANB's core inflation definition excludes fruits and vegetables and some administered prices from the CPI headline inflation. These items account for about 17 percent of the CPI basket.

E. Pre-Conditions for Full-Fledged IT in Azerbaijan

24. **Over the medium term, a full-fledged IT framework would formalize the authorities' commitment to low inflation over a long-term horizon**.[23] Under full-fledged IT, the ANB is expected to use an interest rate in its open market operations as the operating target, which would also require a great degree of exchange rate flexibility and significant progress in developing financial markets. At this stage, the successful implementation of such a policy framework in Azerbaijan would require further progress in a number of areas, which would allow the central bank to carry its mandate to meet its inflation targets.[24]

Central bank independence

25. **A clear *central bank mandate*, as well as legal and *operational independence* to carry out this mandate, are key elements of a full-fledged IT framework.** Countries that have successfully implemented an IT framework have provided the central bank with an implicit or explicit price stability mandate. They have also granted the central bank operational independence, and have put in place a decision-making body, such as a Supervisory Board of Directors, to establish the direction of monetary policy. Supervisory Boards can include outsiders, who may work on a full-or part-time basis, provided they are sufficiently independent and have a relevant background so as to fully avoid conflict of interest in their decision making.

26. **The 2004 national bank law provided the ANB with a clear mandate and de jure operational independence, but in practice the ANB's independence is relatively weak.** According to the law, the ANB's main objectives are to preserve the value of the national currency and to develop and strengthen the banking system, but the law did not establish price stability as the ANB's primary objective.[25] The law also granted the ANB operational independence to conduct monetary and exchange rate policies.[26] However, its operations are still subject to political interference—for example, when the government announced a return to the fixed peg in 2005. The law also has a provision for its Supervisory Board to include two independent members,[27] but these appointments have not taken place yet.

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[23] All advanced and most emerging market countries (except Mexico) using a full-fledged IT framework rely on one-day interest rates as their primary operating target (Roger and Stone, 2005).

[24] For a discussion of full-fledged IT implementation pre-conditions see IMF (2005).

[25] See the 2004 National Bank Law (NBL) Article 4.

[26] See the 2004 NBL Article 6.

[27] See the 2004 NBL Article 21.

27. **Several steps are needed to clarify the ANB's mandate and strengthen its independence.** In the short term, the authorities need to examine whether the current legal framework is consistent with the notion of the primacy of price stability among the ANB's mandates. The ANB's independence can be strengthened by improving its financial position, allowing it to conduct foreign exchange and open market operations without undue concern for its own financial results.[28] Over the medium term, an independent Supervisory Board, including at least two independent directors, would help ensure that policy implementation is free of political interference and consistent over time.

Monetary policy instruments

28. **Under full-fledged IT, a *short-term interest rate* is commonly used as the operating target.** Against this background, a well-established domestic securities market and liquidity management facilities become key elements for the implementation of monetary policy through open market operations. A liquid government securities market is required to establish a yield-curve (benchmark interest rate), which is needed for efficient pricing of funds across maturities and of intertemporal risks, and to provide consistent data on inflationary expectations. Moreover, banks need an adequate amount of low-risk government securities to use them as collateral in their interbank transactions and when accessing the ANB's liquidity facilities.[29]

29. **In Azerbaijan, the *securities market* ought to be improved before the authorities can rely on interest rates as their operating target.** The outstanding stock of securities is small and maturities are short. The stock of securities, Treasury bills (T-bills) and ANB bills, was 296 billion manat or only about 8.6 percent of manat broad money at end-2005. Two- to four-month T-bills have been issued to complement the one-month ANB bills. However, there have been instances when the ANB and the treasury competed for the same maturities at different prices, thus segmenting the market. There are other issues in the functioning of the securities market to be addressed: (i) the current yield-curve does not reflect the market price for risk-free lending because of a cut-off rate approach practiced at auctions; (ii) T-bills have non-standardized maturities and are auctioned at irregular intervals; and (iii) the use of government securities as collateral is hampered by a cumbersome and long registration procedure.

30. **Not only do technical problems with the securities market hamper the development of money markets, they also undermine the functioning of the ANB's liquidity management facilities.** At present, an interbank market is in place, and the ANB operates several liquidity management facilities, including credit auctions and a Lombard

[28] Due to its large long open position in foreign exchange, the ANB is likely to incur valuation losses that will reduce its equity.

[29] See Annex I.2 for a discussion on monetary policy instruments and the development of the securities market in Azerbaijan.

window for repurchase operations. However, these liquidity facilities have been of limited use in the absence of adequate collateral. Moreover, the ANB assists banks with liquidity shortages mainly through six-month loans at pre-determined interest rates that do not fully reflect liquidity conditions.[30] As a result, there have been substantial arbitrage opportunities between the rates on the ANB's lending to banks and those on government securities.

31. **In the short term, the authorities could make significant improvements in the securities market.** Discontinuing the cut-off rates approach that is practiced in auctions would allow interest rates to reflect market conditions and help develop a yield-curve. The securities markets will also benefit from the elimination of the maturity overlap between the T-bills and ANB bills. The treasury should concentrate on longer maturities (3 to 12 months) and the ANB on shorter maturities. Furthermore, the securities market will become more liquid if the time needed to pledge securities as collateral is reduced.

32. **The liquidity management facilities can be made more efficient through simple administrative changes.** The most important step is to restructure monetary policy instruments according to standard practice. In particular, the ANB should discontinue its six-month lending to banks and eliminate all arbitrage opportunities provided through its lending operations. In addition, its lender of last resort facility must have the highest (punitive) interest rate, while the Lombard facility should carry a lower interest rate. The ANB would then be able to change the entire structure of interest rates as needed to reflect liquidity conditions and its policy intentions.

Foreign exchange market

33. **The transition to a *floating exchange rate system*, which is essential for the successful implementation of full-fledged IT, is hampered by important institutional constraints**:

- The foreign exchange market has two large suppliers of foreign exchange—SOCAR and the government, and one large bank has significant, albeit declining, market power in the wholesale market.

- SOCAR only provides limited information to the government and the ANB regarding its operations.

- Despite recent improvements in information sharing between the treasury and the ANB, surprise treasury requests for large conversion operations are still common.

[30] Originally, these loans were to be placed among banks through competitive auctions, but instead they are available on an ad-hoc basis to a limited number of banks, and the access rules are not fully transparent.

34. **Significant improvements can be brought about in the foreign exchange market through better coordination among the key public sector players**. In the short term, the authorities need to establish clear rules on the flow of information on a real time basis among the ANB, the treasury, and SOCAR. This would allow the ANB to make a better liquidity forecast and to smooth out its market interventions. Over the medium term, it is essential to foster competition in the foreign exchange market.

Banking system soundness

35. **A sound banking system is a key precondition for establishing reliable and stable transmission channels of monetary policy**. In particular, it would allow the authorities to change their policy stance without fear of major disruptions in the payment system or of causing a systemic crisis, and it will reduce the fear of floating.

36. **The Azeri banking system has a number of weaknesses.** One of the largest banks reportedly has capital adequacy ratios below the ANB's standards, and its open position in foreign currency is larger than the one established in the regulations. In addition, several banks do not observe minimum capital requirements and risk concentration limits. Non-compliant banks are subject to transitional schedules but these are excessively long. In the recent past, banks' loan portfolios have been growing fast and they have been increasingly collateralized with real estate assets. The rapid pace of credit expansion raises questions regarding the banks' capacity to assess credit risks. At the same time, on-site inspections by supervisors have been short of legal requirements and the enforcement of the regulations somewhat lax.

37. **The banking system needs to be strengthened through better regulation and supervision and stronger competition.**[31] In the short term, improvements may include (i) tightening the regulations on asset classification, loan concentration ratios for property and consumer loans, and related-party lending; (ii) introducing shorter transition schedules for non-compliant banks in the future; and (iii) increasing the frequency of on-site inspections. Moreover, all banks should prepare and publish balance sheets and income statements that meet the International Accounting and International Financial Reporting standards. Over the medium-term, it is important to promote competition and foreign participation in the banking system (Chapter II).

Fiscal rules and policy consistency

38. **Well-defined *fiscal rules and policy consistency* would reduce the fiscal dominance of monetary policy and strengthen the central bank's ability to meet its inflation objectives.** In most countries, fiscal dominance, brought about by large levels of indebtedness that may one day be monetized, represents a risk to the central bank's ability to

[31] Cayazzo et al. (2006).

maintain price stability over the medium term. In Azerbaijan, the current debt level is moderate and a large accumulation of foreign assets is envisaged during the oil boom. Nevertheless, in an oil-producing economy like Azerbaijan, fiscal dominance can manifest itself in a different fashion. In particular, the financing of the non-oil deficit with oil revenues and fast expansion of quasi fiscal operations are normally accompanied by rising liquidity levels. This in turn can result in unmanageable monetary and exchange rate shocks, which can ultimately jeopardize the central bank's ability to meet its inflation target.

39. **The LTORMS can provide a very useful fiscal rule when fully operational**. The authorities have been analyzing its key elements with the idea of incorporating them into their budgetary process in the near future, including a medium-term path for the non-oil primary fiscal balance. An adequate conflict resolution mechanism would also be needed, if the government deviated from the fiscal rule or overrode the ANB's decisions.

Inflation data

40. **The *price index* to be used for policy purposes needs to be reliable and compiled by an independent statistical agency**. Most IT countries use a broad-based and representative CPI index to measure headline inflation, but others use a core inflation index for policy purposes. Best practices suggest that designating an independent agency, such as the Central Statistics Department, to compile the core CPI would alleviate the public's suspicion of a possible index manipulation by the central bank. The Azerbaijan authorities made improvements to their CPI methodology in 2005 but some methodological issues remain (Box I.1). The ANB has also prepared, and has been using to guide its policies, a measure of core inflation that excludes administered prices and some volatile food items from headline inflation. The authorities may wish to assign to the State Statistics Department the task of compiling core inflation in line with international best practice.

Inflation forecasting

41. **Under an IT framework, the ability to *forecast inflation* accurately is of outmost importance to anticipate its expected path, conditional on the chosen policy mix, and to implement policy changes in a timely fashion.** Econometric analysis is a useful tool to form a good judgment regarding policy, provided the underlying channels between policy instruments and macroeconomic performance are fully understood. By using leading indicator models, the ANB's staff has identified the main determinants of inflation through its econometric analysis (Annex I.1). However, more work is needed to improve its forecasting capacity.

Transparency and public accountability

42. **The ANB has enhanced the transparency of its operations, but its reporting and information provision can still be strengthened.** As discussed above, the ANB made public its 2006 monetary program, announcing its short-term inflation objective and stating the main risks to its inflation forecast. It has also been reporting on monetary and exchange

rate policies and on its financial standing through its annual report. In the near future, the ANB's reporting could be further expanded to include a monthly or quarterly report on monetary and exchange rate policy, and inflation developments and prospects.[32] These reports should provide information to a broad audience on progress toward achieving the inflation objectives, as well as identify short- and medium-term risks to the inflation outlook.

F. Main Conclusions and Recommendations

- An exchange rate peg served Azerbaijan well during 2002–03; but inflationary and appreciation pressures emerged in early 2004.

- The exit from the peg and some nominal appreciation helped reduce inflation in 2005. However, a peg was reinstated in September 2005.

- The decision to spend part of the oil wealth upfront will undoubtedly be accompanied by significant macroeconomic challenges. A more flexible exchange rate system is needed to better manage the ensuing real appreciation pressures.

- In the short term, with more exchange rate flexibility, an IT "lite" framework can effectively anchor inflation expectations while providing some room for limiting excessive exchange rate volatility.

- Over the medium term, once key reforms have been implemented, the authorities may rely on open market operations and a floating exchange rate system to control inflation under a full-fledged IT framework.

[32] Article 64 of 2004 the NBL requires that the ANB issue information bulletins about monetary and financial market developments at least once a month.

FORECASTING CPI INFLATION IN AZERBAIJAN[33]

This Annex presents an inflation forecast for Azerbaijan. Given the authorities' intention to move toward full-fledged inflation targeting in the medium term, reliable inflation forecasting becomes more important as an integral part of monetary policy formulation. At this stage, a leading indicator model provides the most realistic option for conducting short-term inflation forecasting. The Annex estimated three leading indicator models that found that the growth rates of cash in circulation, the nominal effective exchange rate, the average monthly wage, and the average CPI in trading partners had been major leading indicators of inflation in Azerbaijan since 2000. Under the baseline macroeconomic scenario presented in the staff report, two models predict double-digit inflation rates in 2006.

A. Introduction

45. **Forecasting inflation is generally considered a key task of any central bank, in particular, in the context of inflation targeting (IT).** Given typical time lags, monetary policy should be concerned with future inflation. For this reason, a successful policy requires reliable inflation forecasts that bridge the gap between future inflation and current developments. Furthermore, the authorities' intention to move toward full-fledged IT in the medium term makes it more important to develop reliable forecast models since the central bank's forecast itself often serves as a nominal anchor in many IT countries.

46. **This paper develops three leading indicator models (LIMs) and conducts a short-term inflation forecast.** LIMs generally yield a fairly accurate forecast although they are not firmly grounded in an economic model. By construction, this approach picks leading indicators that yield high forecast accuracy (Bokil and Schimmelpfennig, 2005). For this reason, LIMs are often criticized for failing to represent causal factors of inflation as part of an economic model (Sun, 2004). However, the absence of a model structure, on the other hand, allows the econometric analysis to be more flexible, which is critical in a country with a limited data availability, in particular, on real sector variables. Given the limited availability of reliable sub-annual real sector variables, a LIM would be the best econometric approach available in analyzing Azerbaijan's CPI.

B. A Leading Indicator Model

47. **A number of leading indicators were included as explanatory variables in the three LIMs.** Cash in circulation (CIC) is defined as high-powered money held outside the banking system. Historically, the CIC has a strong correlation with inflation, the lags with which it affects inflation are relatively short, and it is closely related to manat base money. Other leading indicators under consideration include (*i*) nominal effective exchange rate

[33] Prepared by Daehaeng Kim.

(NEER)[34], (*ii*) average monthly wage, (*iii*) geometric average of CPIs in trading partners, (*iv*) non-oil real GDP, and (*v*) output gap.[35] All variables except output gap were included as log differences, which proved to be stationary. A general-to-specific algorithm in PcGets is used to narrow down the set of possible leading indicators from the aforementioned variables. The regressions allowed for lags up to 9 months together with a trend and monthly dummies. The analysis is limited to the post-2000 sample to isolate the impact of the unusually volatile period right after the 1998 Russian crisis.

48. **In the post-2000 sample, strong correlations are found between CPI inflation and some leading indicators.** Inflation has a positive correlation with the CIC, average wage, and average of CPIs in trading partners. In addition, a negative correlation between inflation and NEER appreciation is observed in the sample, suggesting a relatively strong exchange rate pass-through effect. It is also noticeable that given the larger fluctuations in the average wage and the CIC compared with other variables, the effects of these variables on inflation were found to be smaller. Lastly, it is noteworthy recent inflation developments since 2004Q4 seem to have deviated from the previous relationships, which could be explained by the recent revision to the CPI compilation methodology (Box I.1).

C. Estimation Results and Inflation Forecasts

49. **Three LIMs generated consistent results.** The growth rates of the CIC, the NEER, the average wage, and the average CPI in trading partners in all three models are found to have statistically significant effects on inflation (Table I.1.1). It is noteworthy that model 1 is in line with the forecasting model of the Azerbaijan National Bank that lacks real sector variables in the model specification. The leading indicators included in each model are as follows:[36]

- Model 1: lags of inflation, the CIC, NEER, average wage, and average CPI in trading partners;
- Model 2: all variables in model 1 and output gap;

[34] In the calculation of the NEER, the old Information Notice System (INS) weights are used. They are based on the trade information from the early 1990s. The old INS weights were used for the following reasons: (*i*) recent changes in the trading partners' shares are heavily affected by oil-related exports and imports that have small shares in the consumption basket, and (*ii*) when the recent shares are renormalized after taking out all major oil trading partners, the resulting NEER index is close to the old NEER.

[35] The real GDP series is provided by the authorities, but it has not been officially published yet. The output gap is defined as a percentage deviation of quarterly real GDP from its trend. The Hodrick-Prescott filtering is used for the detrending, and a negative value of output gap implies that the economy operated below potential.

[36] All variables other than output gap are in log differences.

- Model 3: all variables in model 1 and non-oil real GDP.[37]

The signs of the estimated coefficients are broadly consistent with the predictions of conventional economic theories.[38] The main findings can be summarized as follows:

- Inflation inertia is found in all three models;
- Positive cumulative effect of the CIC: 0.12 (model 1) ~ 0.47 (model 2);
- Negative effect of the NEER: -0.23 (model 2) ~ -0.52 (model 1);
- Positive effect of the average wage: 0.42 (model 1) ~ 0.81 (model 2);
- Positive effect of inflation in trading partners: 0.41 (model 3) ~ 1.13 (model 2);
- Relatively long lags (6 ~ 9 months) in all leading indicators other than inflation in trading partners;
- In models 1 and 3, the NEER appreciation has greater impact than the CIC growth;
- Relatively modest effect of output gap and non-oil real GDP.

In addition, one can also observe the following regularity:

- In the short term, the effect of the NEER is smaller than that of inflation in trading partners.[39]

- The instantaneous effect of output gap on inflation is negative; however, it is partially reversed with a time lag.

- In the case of non-oil real GDP, only (positive) lagged effects are observed.

[37] Since monthly real GDP is not available, monthly observations of real sector variables (output gap and non-oil real GDP) in models 2 and 3 take the value belonging to the corresponding quarter.

[38] Those theories include the monetary theory of the price level and the mark-up model of inflation, together with the pass-through effect of exchange rate appreciation.

[39] They are supposed to be similar in the long term.

Table I.1.1. Azerbaijan: CPI Inflation Estimation, 2000M1–2005M10

Variables	Model 1	Variables	Model 2	Variables	Model 3
Inflation		Constant	-0.01284	Constant	-0.01116
1-month lag	0.67504	Inflation		Inflation	
3-month lag	-0.34653	2-month lag	0.30718	1-month lag	0.39386
5-month lag	0.19805	5-month lag	0.28312	4-month lag	0.05095
7-month lag	0.51605	7-month lag	0.34408	5-month lag	0.06058
8-month lag	-0.58607	8-month lag	-0.59528	6-month lag	0.06024
CIC growth		CIC growth		NEER	
5-month lag	0.06263	0-month lag	0.06623	3-month lag	-0.24625
8-month lag	-0.06472	1-month lag	0.12984	Wage	
9-month lag	0.12121	2-month lag	0.15105	1-month lag	0.20169
NEER		3-month lag	0.11858	4-month lag	0.15344
3-month lag	-0.36177	5-month lag	0.08031	5-month lag	0.07876
8-month lag	-0.16089	6-month lag	0.0897	Inflation in trading partner	
Wage		7-month lag	0.05903	2-month lag	0.4059
4-month lag	0.28441	8-month lag	-0.10887	Non-oil real GDP growth	
9-month lag	0.13316	NEER		3-month lag	0.04123
Inflation in trading partners		3-month lag	-0.19228	6-month lag	0.03405
0-month lag	0.47851	5-month lag	0.24652	Season	0.01044
3-month lag	0.44546	8-month lag	-0.15983	Season_2	-0.01237
8-month lag	-0.42043	9-month lag	-0.12592	Season_3	-0.00779
9-month lag	0.34941	Wage		Season_4	-0.00657
Season	-0.02857	0-month lag	0.10267	Season_5	-0.00778
Season_2	-0.01312	1-month lag	0.08696		
Season_3	-0.00779	2-month lag	0.17687		
Season_5	-0.01178	4-month lag	0.23889		
Season_6	-0.01926	5-month lag	0.21131		
Season_7	-0.04109	8-month lag	-0.06776		
Season_8	-0.03275	9-month lag	0.06956		
Season_9	-0.00821	Inflation in trading partners			
Season_10	-0.01667	0-month lag	0.93121		
		3-month lag	0.61551		
		4-month lag	-0.41549		
		Output gap			
		0-month lag	-0.16415		
		6-month lag	0.1449		
		Season	-0.0229		
		Season_3	-0.02503		
		Season_4	-0.02646		
		Season_5	-0.02268		
		Season_6	-0.01672		
		Season_7	-0.01892		
		Season_8	-0.04053		
		Season_9	-0.0306		
		Season_10	-0.02753		
Adj. R^2	0.81	Adj. R^2	0.93	Adj. R^2	0.81
Normality Test	$p < 0.05$	Normality Test	$p > 0.05$	Normality Test	$p > 0.05$

50. **Two models predict double-digit inflation rates in 2006 (Table I.1.2).** The inflation forecast for 2006 is conditional on the main assumptions of the 2006 baseline macroeconomic scenario presented in the staff report: (*i*) 64 percent increase in the CIC; (*ii*) some NEER appreciation; (*iii*) 25 percent increase in the average wage; and (*iv*) WEO forecasts of inflation rates in trading partners.[40] Under the aforementioned scenario, the highest inflation forecast of 15.1 percent (end-of-period) is obtained in model 2; on the other hand, model 1 that has no real sector variable yields the lowest inflation forecast of 5.3 percent.

Table I.1.2 Azerbaijan: CPI Inflation Forecasts for 2006
(Annual percentage change)

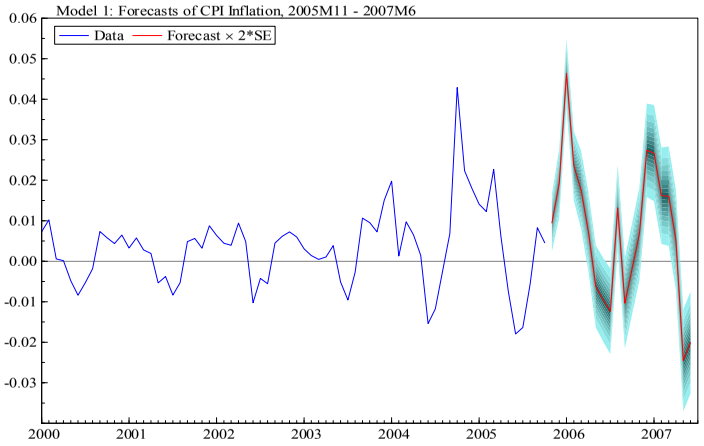
	Model 1	Model 2	Model 3	Average 1-3	Average 2-3
End of period	5.3	15.1	14.5	11.6	14.8

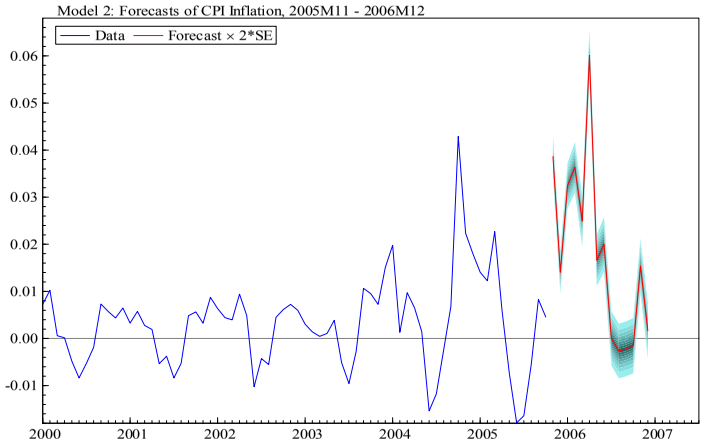
51. **However, more weight should be given to models 2 and 3 because they include a real sector variable, which most likely captures the effects of the capacity constraints and demand side pressures.** It is also noteworthy that the large difference between forecasts mainly results from the varying estimated sensitivity of inflation with respect to the NEER appreciation and the inflation in trading partners.

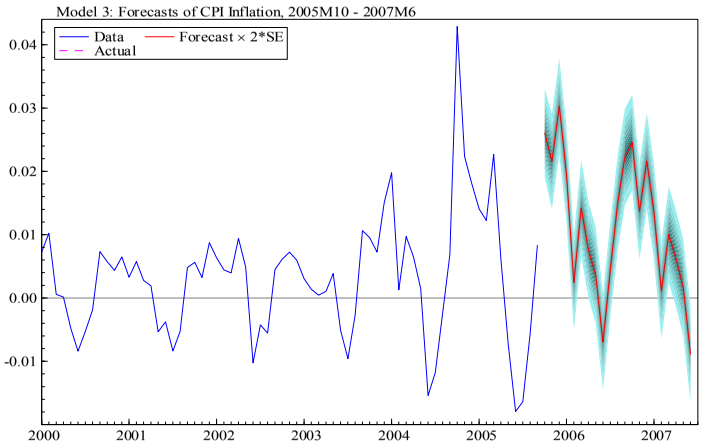
52. **These forecasts should be interpreted with caution for the following three reasons.** First, given the unprecedented size of the fiscal impulse envisaged in the 2006 budget, the linear relationship that the three econometric models assumed may fail. Second, while all of the estimates are statistically significant, large uncertainties are still involved in the forecasts as indicated by broad confidence intervals (Figure I.1.1). Last but not least, the overall disinflationary effects of the NEER appreciation may not be correctly estimated because the models do not consider an endogenous relationship between currency appreciation and base money growth.

[40] The weighted average of inflation forecasts in trading partners is 9.3 percent.

Figure I.1.1. Azerbaijan: CPI Inflation Forecasts for 2006[1/]
(Monthly percentage change)







Source: Fund staff estimates.

1/ The shaded area represents 95 percent confidence interval of the forecasts (forecast ± 2 · standard deviation).

DEVELOPMENT OF SECURITIES MARKET[41]

The current design of the securities markets in Azerbaijan has serious shortcomings and does not provide the expected benefits to a full extent. The following problems have been identified:

- Use of cut-off rates in auctions: the current yield-curve does not reflect the market prices for risk-free lending.

- The Azerbaijan National Bank (ANB) and the ministry of finance compete for the same maturities at different prices, thus segmenting the markets. The differentiated pricing of government securities with the same maturities hinders their use as collateral and makes their pricing in the secondary market more difficult. Such a situation should be avoided, and more so considering that the markets are shallow.

- The treasury bills (T-bills) have non-standardized maturities and are auctioned at irregular intervals. These features reduce the effectiveness of T-bills as instruments for an efficient asset-liability management by commercial banks.

- The use of government securities as collateral is hampered by a cumbersome and long registration procedure. Currently, pledging of securities can take up to three days, which makes government securities unusable as collateral for short-term borrowing (both from the ANB as well as from other banks through the interbank market), reducing the demand by the banking sector for such securities.

- Sub-optimal use of monetary policy instruments and an inconsistent interest rate structure give rise to arbitrage opportunities and send conflicting signals about the ANB's monetary policy stance. The ANB's lending facilities have interest rates that are well below interest rates for government securities. De facto, there are two active but rarely used ANB windows—the repo operations and the early redemption of ANB bills at a penalty discount. All other instruments are perceived by banks as too cumbersome. Banks are also reluctant to use these other instruments because of the lack of sophistication in their liquidity management.

- Large player (IBA) distorts the market: even if the IBA's share in the market is declining, it still has significant market power in the government securities market. For example, 63 percent of the competitive bidding of T-bills goes to the IBA. This predominant market power allows the IBA to set the interest rates in the auctions.[42]

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[41] Prepared by Felix Fischer.

[42] The IBA acts as a quasi-monopolist market maker. The level of interest rate in the ANB auctions is also indirectly influenced by the IBA, even if the IBA is only participating in the T-bills auctions.

The differentiated pricing in auctions also contributes by design to the marginalization of smaller banks, which, in order to participate in the auction, have to bid at a lower price than the large players.

Measures to improve the market:

- Discontinue practice of cut-off rates in auctions and let interest rates be fully determined in auctions by demand for securities. This clears the markets (supply equals demand) and develops a yield-curve (interest rate benchmark).
- The ANB should continue to issue only shorter-term bills. The ministry of finance should issue T-bills with longer maturities (with no overlap of maturities with ANB bills). As currently practiced by the ANB, both types of securities should have maturities of a multiple of 7 days, and each maturity should be auctioned regularly at predetermined intervals (shorter-term securities weekly, longer-term securities monthly or quarterly) that are communicated to the markets sufficiently in advance.[43] To help kick-start an interbank and secondary market of these securities, the ministry of finance could limit its T-bills to two or three maturities (i.e., three, six, and eventually also twelve months). Furthermore, in each auction, at least a minimum amount of securities should be issued, regardless whether there is a financing need or not.
- Restructure monetary policy instruments according to standard practice. Deposit facilities should have the lowest interest rates. The lender of last resort facility should have the highest (and punitive) interest rate, thus encouraging banks to exhaust all other sources of liquidity (e.g., in the interbank market) before borrowing from the ANB. In addition, the ANB should offer other standing facilities, such as the Lombard facility, at interest rates that are situated between the interest rates of the deposit and lender-of-last resort facilities. The efficient establishment of these instruments would provide less costly sources of liquidity than the early redemption of ANB bills—the most frequently used instrument. The ANB should shift the entire interest rate structure upward or downward according to the contemplated monetary policy stance (currently, in such a way that the base money target can be met). Repo operations should be used for the fine-tuning of liquidity. Finally, the national bank should discontinue its six-month lending facility. The ANB should not be involved in financing the real sector. Furthermore, under the current setting, the facility's interest rate is below the cut-off rates for government securities, creating arbitrage opportunities.

[43] The ministry of finance and the ANB would need to coordinate their policies and improve their liquidity forecasting in order to develop a consistent issuance schedule for government securities and to minimize roll-over risk.

- The participation of large players in the auction should be restricted to a certain percent of the amount auctioned. If necessary, large players can place additional liquidity through the interbank market. As long as the largest market player only provides one bulk bid per auction (as opposed to submitting several bids at different prices), competition can be further increased by using uniform price auctions. Under such a system, smaller banks that wish to participate in the auctions can bid a higher price while receiving the same price as larger banks.
- The time necessary for pledging securities as collaterals for the use of the ANB's standing facilities and for the interbank market should be reduced substantially. This makes securities much more liquid.

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II. Market Concentration in the Azeri Banking Sector[44]

A. Introduction

53. **In contrast to many CIS countries, a single large state-owned bank—the International Bank of Azerbaijan (IBA)—accounts for about 50 percent of the Azeri banking system**. The IBA has operated as a state-owned bank since independence (although private investors have owned 49.8 percent of its equity since 1992). Despite the large number of banks (44 as of December 31, 2005), the IBA and the banking system itself are both relatively small.[45]

54. **There is an extensive body of research which demonstrates that financial sector development is a major factor in achieving sustainable growth, and conversely, that financial repression is associated with slow growth.**[46] While Azerbaijan's real GDP growth over the past 10 years has been relatively rapid (averaging over 10 percent per annum), it has been largely fueled by investments in the oil and gas sectors and their spillover effects into the non-oil sector. Significantly, it has taken place against the background of slow progress as regards financial deepening and improvements in financial intermediation.

55. **As the Azeri oil boom is taking place over a relatively short period of time, new sources of growth in the non-oil sector will need to be developed**. Accordingly, fostering financial sector development will be a key element in Azerbaijan's reform strategy to ensure that the economy continues to grow even as oil production begins to fall. This reform strategy will need to take into account the impact of high concentration in the Azeri banking system.

56. **This chapter is structured as follows:** (i) Section B provides a historical overview of the banking system in Azerbaijan; (ii) Section C assesses the degree of concentration and contestability in the banking system; (iii) Section D discusses some theoretical considerations on possible beneficial and detrimental aspects of monopolistic banking systems and how they apply to Azerbaijan; and (iv) Section D suggests possible measures to foster greater competition in the Azeri banking system.

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[44] Prepared by Basil Zavoico.

[45] Indeed, although the IBA is the largest bank in Azerbaijan, its total equity was only US$80 million at end-June 2005. This compares, for example, to total equity of Hansa Bank, the largest bank in the Baltics, of US$1.2 billion on the same date.

[46] The landmark study is McKinnon (1973). Later work by King and Levine (1993) establishes a strong correlation between banking sector development and both long-term economic growth and improvements in economic efficiency and Roubini and Sala-i-Martin (1995) argue that financial repression has adverse effects on long-term growth.

B. Historical Overview of the Banking System

57. **When Azerbaijan became independent in October 1991, the banking system was dominated by four state-owned banks**—Vneshekonombank (Foreign Trade Bank), Sberbank (Savings Bank), Prominvest Bank (Industrial Investment Bank), and Agrobank (Agricultural Bank)—that were established on the basis of the major Soviet sectoral banks. The IBA was established in 1991 on the foundation of the Vneshekonombank. In 1992, the state divested some of its equity in all four banks while retaining a majority share in each of them (although most "private" shareholders were major clients of these banks). All four banks ran into solvency problems during the period 1994–96, following the introduction by the government of an ambitious macroeconomic stabilization program to stop hyperinflation. All but the IBA became insolvent by August 2000.

58. **The IBA emerged intact from the banking crisis precipitated by the rapid disinflation in the mid-1990s, while the other state-owned banks were merged and their operations severely curtailed**. Although in 1996 the solvency of the IBA was also in doubt, the government and the Azerbaijan National Bank (ANB) strongly supported the IBA (initially by giving state guarantees for some of its loans under the 1996 rehabilitation plan and maintaining large foreign currency deposits), as they deemed its survival essential to continue supplying vital banking services—especially foreign exchange operations—to both state-owned enterprises (SOEs) and the private sector. With lending operations at Sberbank, Agrobank, and Prominvest Bank all being constrained by their rehabilitation plans as from September 1996, the IBA quickly emerged in early 1997 as by far the largest and strongest bank in Azerbaijan, with the full financial and political support of the government and the ANB. By end-1999, the IBA had been recapitalized through the issuance of government securities to enable it to meet the ANB's prudential requirements. The IBA was recapitalized again in May 2002, May 2004, and December 2005—and total equity capital will amount to 200 billion manats (or about US$43 million) once all subscriptions are paid in. Sberbank, Agrobank, and Prominvest Bank were merged into BusBank in 1999 (as a 100 percent state-owned bank), although its lending was severely constrained until late 2004 (due to credit management deficiencies). BusBank was renamed Kapital Bank in 2005.

59. **At independence, in 1991, there were also 12 small private banks, but their share in the banking system's assets was marginal.** With low minimum capital requirements and a liberal licensing environment, the number of private banks mushroomed, reaching 210 at end-1995. Many private banks became insolvent in the mid-1990s; and by 2000 their numbers declined to 57 and by end-2005 the number fell further to 44. Of these only about 10–15 can currently be regarded as having a significant presence in the Azeri financial market.

C. Concentration and Contestability

60. **Concentration and contestability are the conventional measures of monopoly (Box II.1)**. As regards *concentration*, the value of the Herfindahl-Hirschman index (HHI) in Azerbaijan's banking market—based on individual shares at all banks in total deposits as of

December 30, 2005—was 3,922 (Table II.1). This substantially exceeds the U.S. Department of Justice threshold of 1,800 used to identify highly concentrated industries.

Box II.1. Definition and Measures of Monopoly

A monopolist is a firm that is the sole supplier in a market. In this setting, the monopoly firm is in a position to restrict output, thereby raising prices and earning profits in excess of what could be expected in a more competitive setting.

As dominance can coexist with multiple firms in the same market, there is a need to refine the definition of a dominant firm to accommodate a range of possible market environments. There are a number of numerical measures that have customarily been used to establish the extent to which a firm can be regarded as having "monopolized" a market sector. A widely used measure takes account of two dimensions that create conditions where a firm can abuse its market position—concentration and contestability.

Concentration: A favored measure of concentration is the Herfindahl-Hirschman Index (HHI)—which is defined as the sum of the square of the market share of each firm in the industry. In a market with a large number of equal-sized firms, the index could be close to zero (approximating perfect competition), while in a market with only one firm, the index is equal to 10,000. The U.S. Department of Justice uses a threshold of 1,800 to define a highly concentrated industry.

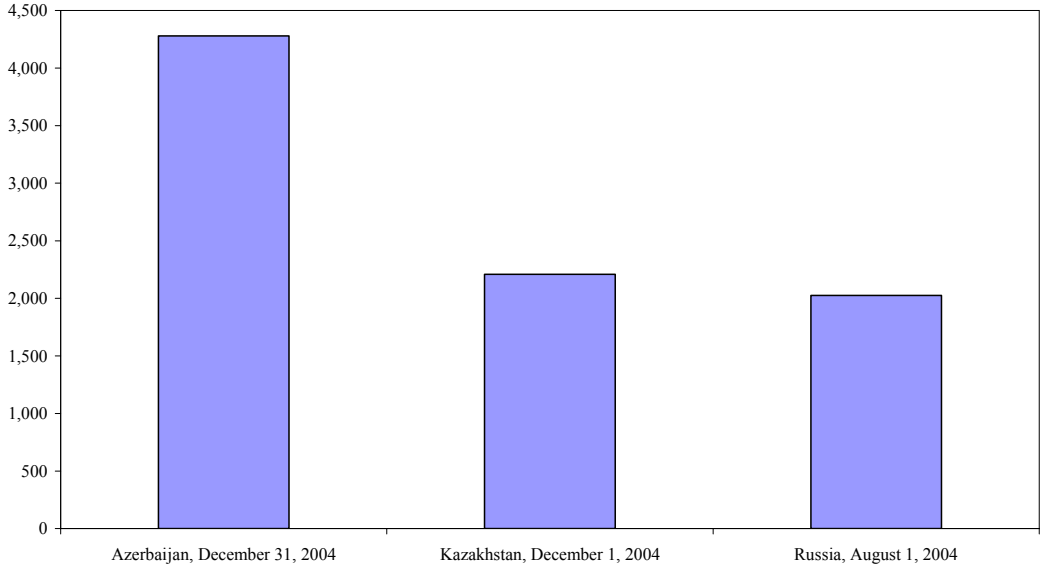
Contestability: Even where there is high concentration, firms may be limited in their capacity to abuse their market position if they fear new entrants. The concept of contestability provides an indication of the ease with which new firms can enter markets where they perceive that super-normal profits are being earned. High contestability suggests few barriers to entry while low contestability suggests that entry is difficult.

61. **The dynamics of the HHI in Azerbaijan indicates that the concentration in the banking sector may have peaked in 2004 (Table II.1).** Some modest reduction in the degree of concentration indicated in 2005 reflected the growing presence of a number of private banks. However, Azerbaijan appears to have the highest HHI in the region (Figure II.1).

Table II.1. Azerbaijan: Herfindahl-Hirschman Index, 2003–05

	December 2003	December 2004	June 2005	December 2005
Azerbaijan	4,015	4,279	4,101	3,922

Figure II.1. Selected CIS Countries: Herfindahl-Hirschman Index, 2004 1/



Source: Fund staff estimates.

1/ Herfindahl-Hirschman Index is the square of the percentage market share of each bank summed over all banks.

62. **As regards *contestability*, the Azeri banking market can be regarded as de jure exhibiting medium contestability on account of a number of legal barriers to entry:** (i) differential minimum capital requirements for new (50 billion manats) and existing (25 billion manats) banks;[47] and (ii) full government guarantee of deposits of state-owned banks reflected in the civil code. However, de facto, there are other important barriers to entry: all SOEs, including the State Oil Company of the Republic of Azerbaijan (SOCAR), and until recently, the state treasury and the social protection fund, could be regarded as the IBA's exclusive clients. Not only do these agencies maintain large interest-free deposits with the IBA, but they also engage in numerous financial operations and transactions that yield the IBA substantial fees and commissions.

63. **There are many different markets for financial services where commercial banks in Azerbaijan are active (retail, corporate, trade, factoring, trade financing, card processing, etc.)**. The IBA had a clear monopoly in one sector—**card processing**—from 1996, when it open Azericard,[48] till late 2005, when the ANB opened a new card processing

[47] This differential will persist until July 1, 2007, when the minimum capital requirement will be equalized for new and existing banks at 50 billion manats.

[48] Azericard was established in May 1996 as a joint venture with another private bank (MOST Bank) as an equal partner, but the IBA bought out MOST Bank's share in July 2003.

Table II.2. Azerbaijan, Estonia, Kazakhstan, and Russia: Bank Charges for Individuals
(As of February 28, 2005, in U.S. dollars, unless otherwise indicated)

	Azerbaijan			Estonia	Russia	Kazakhstan
	IBA	Unibank	Azerigaz-bank	Hansa Bank 1/	Moscow Int. Bank 2/	Kaz-komertzbank
Plastic Card Services						
Three ATM withdrawals of $200 each (in local currency and **from own ATM**)	6.0	0.0	6.0	0.0	0.0	6.0
One ATM withdrawal of $200 (in local currency and **from another bank's ATM**)	3.0	4.0	3.0	0.8	3.0	3.0
Classic VISA Card Charges for:						
Issuing card	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Fee (pro-rated if paid annually)	4.6	3.3	3.8	0.0	2.1	0.7
Monthly Interest - $1,000 balance	15.0	20.0	25.0	12.5	16.7	15.0
Annual Interest Rate (in percent)	18.0	24.0	30.0	15.0	20.0	18.0
Sub-total - Card Services	***28.6***	***27.3***	***37.8***	***13.3***	***21.7***	***24.7***
Current Account (individual) *Charges for:*						
Opening Account	10.0	0.0	0.0	0.0	0.0	0.0
Monthly Fee 3/	0.0	0.0	0.0	-0.2	0.0	0.0
One cash withdrawal in local branch ($200)	2.0	2.0	0.5	1.7	3.0	1.4
One local currency transfer to account in other bank ($200)	1.0	10.0	10.0	1.3	3.0	1.0
One transfer to bank in the United States ($1,000)	10.0	10.0	15.0	8.3	5.0	20.0
Sub-total - Account Services	***23.0***	***22.0***	***25.5***	***11.1***	***11.0***	***22.4***
Total Fees	**51.6**	**49.3**	**63.3**	**24.3**	**32.7**	**47.1**
Memorandum Items:						
Shareholder Equity-2003 (US$million)	36.3	6.1	3.6	293.0	198.0	316.0
Share of fee income in total income (in percent, in 2003) 4/	77.4	41.0	56.7	33.0	39.9	40.0

Sources: Bank annual reports and income statements.

1/ Data for Hansa Bank in Estonia only (the Group serves all three Baltic states).
2/ For a "Class" account, servicing mid-range individual clients.
3/ Hansa Bank pays interest on current account, hence monthly fee for current account is negative.
4/ Net income from fees and commissions as a percentage of net fee income plus net interest income (after provisioning).

center. Table II.2 compares bank charges for individuals using plastic cards at the IBA and two competing banks in Azerbaijan, as well as for banks in Estonia, Russia, and Kazakhstan—regional comparators, with relatively well-developed financial markets. It shows that the average charges across the three Azeri banks in the sample are higher than in Estonia, Russia, and Kazakhstan.

64. **Concentration in the market for deposits and loans remains high (Tables II.3–4)**. As regards the markets for deposits, as mentioned earlier, banks with a state share in excess of 50 percent are provided with a de jure 100 percent guarantee on their deposits—irrespective of the size of deposit.[49] However, as there is no general deposit insurance scheme in place, private banks are put at a competitive disadvantage vis-à-vis the IBA in competing for deposits. It is thus not surprising that the IBA enjoys substantial dominance in the deposit market. However, in the lending market where the playing field is more level, it has a somewhat less overbearing presence. While the IBA has a virtually total monopoly on lending to the public sector, it is significantly less dominant in the private sector; and in the case of lending to individuals—it enjoys a market share only slightly exceeding one third (Table II.4). Although this market is relatively small—representing only about one quarter of total credits—it is nevertheless growing rapidly.

Table II.3. Azerbaijan: Bank Concentration—Assets and Deposits, 2003–05
(In percent of total)

	Assets			Deposits		
	2003	2004	2005	2003	2004	2005
IBA	52.2	52.1	50.9	62.7	64.9	61.9
Kapital Bank	4.0	4.0	4.4	5.0	4.0	4.5
Standard Bank 1/	7.5	5.4	4.2	4.6	3.3	3.5
All Others	36.3	38.5	40.5	27.7	27.8	30.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Azerbaijan National Bank.

1/ Largest private bank.

[49] Article 950 of the Civil Code provides for a guarantee that depositors losing access to their deposits at banks with over 50 percent of their shares or chartered capital belonging to the Republic of Azerbaijan can, through application to the courts, fully recover their investments. The only banks that qualify for this coverage are the IBA and Kapital Bank.

Table II.4. Azerbaijan: Bank Loan Concentration 1/
(As of June 30, 2003)

	Loans
Total	65.5
of which:	
Public Sector	98.6
Private Sector	65.0
Individuals	36.7

Source: Azerbaijan National Bank.

1/ Defined as the combined market share of the four largest banks in each sector (expressed as a percentage of total).

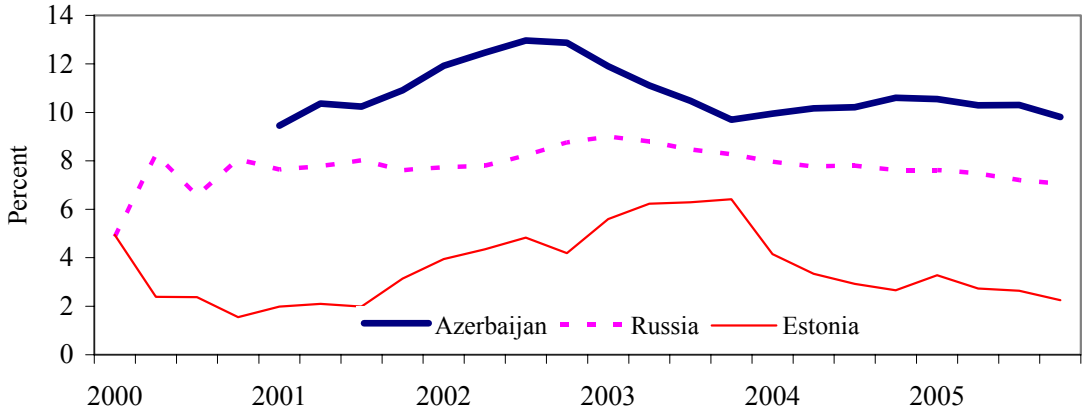
65. **While interest rate spreads are high, net interest income of large banks is relatively modest.** An important potential indicator of the extent that monopoly power is exercised in a financial market is the spread between deposit and lending rates. The deposit and loan market in Azerbaijan is characterized by relatively high interest rate spreads. As illustrated in Figure II.2, at about 10–13 percentage points, these are substantially higher than in other financial markets in transition economies that are characterized by greater competition (e.g., Estonia and Russia). Figure II.2 also shows that over the past three years spreads in Azerbaijan have trended down, which suggests that increased competition may have resulted in an erosion of the IBA's ability to maintain such wide spreads.[50] Despite the relatively high market concentration in the loan/deposit niche, the IBA failed to earn large net income from financial intermediation. This reflects poor performance of its loan portfolio (net interest income is substantially offset by provisioning), which is in part attributable to insufficient capacity for risk assessment and, possibly, directed lending to SOEs.[51]

[50] Official data on spreads are only an approximate guide to actual spreads in the market. This is because they are based on average deposit and loan rates, which are calculated using all outstanding deposits and loans at all banks as of the reporting date; and, in Azerbaijan, these may include deposits and loans offered by the IBA on nonmarket terms. Moreover, many banks often quote low official lending rates, but charge additional fees.

[51] In 2004, despite large lending margins, the IBA's net interest income (after provisioning)—at only US$7 million—was almost identical to income from plastic card operations alone. The Fitch Report on the IBA (February 2006) alludes to the IBA's appetite for high-risk lending combined with relatively undeveloped risk management capacity.

Figure II.2. Azerbaijan, Estonia, and Russia: Interest Rate Spreads—6-9 Month Maturities, 2000–05 /1 /2

In foreign currency



Sources: Web sites of Central Banks of Azerbaijan, Estonia, and Russia.

1/ Spreads are calculated as the difference between the average loan and deposit rates for maturities in the 6-9 month range.
2/ In Azerbaijan, as of end-December-2004, foreign currency-denominated loans and deposits made up about 2/3 of the total in each category. For Russia and Estonia, this proportion was much lower.

66. **Even in markets for financial services where there is greater apparent competition—for example, in the provision of current account services for individuals—there is evidence that the IBA has managed to maintain an elevated price structure.** Table II.2 illustrates how prices for maintaining current accounts for individuals in the IBA (and two competing banks) compare with the cost of comparable services offered by leading commercial banks in Estonia and Russia. This shows that for the sample of services analyzed, the costs in Azerbaijan are about twice those for the other two countries.

67. **The IBA's strong market power in fee-based activities is reflected in an extraordinarily high ratio of fees and commissions to operating income—in the order of 80 percent in 2003 (Table II.2)**.[52] However, it is reported that strong competition from more customer-focused private banks in offering financial services to private sector firms and individuals has led to a reduction in fees in 2005 and a drop in IBA's fee income as a share of operating income (and also in its overall profitability).[53]

[52] Commercial banks in well developed financial markets will typically have fee and commission to operating income ratios in the order of 30–35 percent.

[53] Fitch (2006).

68. **The interbank market in Azerbaijan is underdeveloped**. During 2005, there were on average only about 2½ transactions in the interbank market per month and each transaction averaged about 1.5 million manats. This lack of activity is due in part to cumbersome procedures for collateral registration (Chapter I, Annex I.2). However, the lack of interest on the part of the IBA in providing liquidity to this market—it typically holds large inactive balances with the ANB—may also be a factor. In addition, the large margins associated with traditional fee-based operations has tended to diminish the importance of active liquidity management in the overall profitability of Azeri banks with the result that interest in this market has not developed.

D. Theoretical Considerations and Their Relevance for the Azeri Banking System

69. **Theoretical work on the benefits of high concentration in banking systems arrives at mixed conclusions**.[54] The conventional arguments regarding the mechanisms by which monopolies reduce overall social welfare apply equally to financial markets. Thus, a banking system characterized by high concentration would be expected to exhibit higher interest rates, spreads, and service fees. By charging higher prices and fees for providing financial intermediation services, the volume of such services is reduced below the competitive equilibrium level. The resultant distortions may reduce capital accumulation and growth.

70. **However, the conventional arguments about the costs associated with monopolies are predicated on a number of critical assumptions, including complete information**. As this condition is not satisfied, its relaxation gives rise to the possibility that the conclusions relating to the detrimental impact of monopolies may be weakened. Petersen and Rajan (1995) argue that monopolistic banking systems may in fact make a positive contribution to economic growth. They maintain that monopolistic banks are more willing to finance new entrant firms from which they will be able to extract rents once they mature. Their work finds empirical support for this effect in the U.S. small, nonfarm sector. Overall, it is conjectured that in assessing the impact of monopolization in the banking sector, these benefits may in certain cases outweigh the costs associated with conventional monopolies.

71. **Although a basis may exist for the argument that monopolization of the banking system may yield benefits, the case is much less persuasive for Azerbaijan**:

- As noted above, there is evidence that the IBA's market power is in part reflected in high margins and fees charged for providing financial intermediation services (representing the conventional costs of monopolization);

[54] Guzman (2000).

- The theoretical benefits of a banking monopoly accruing via the Petersen and Rajan (1995) mechanism depend on the monopolistic bank operating as a dynamic financial intermediary as regards lending to new entrant enterprises. However, the IBA presumably has fewer incentives to innovate because of its preferential treatment by the government and SOEs and because a substantial part of its lending has been to large SOEs (in a market where it has no competitors);[55]and

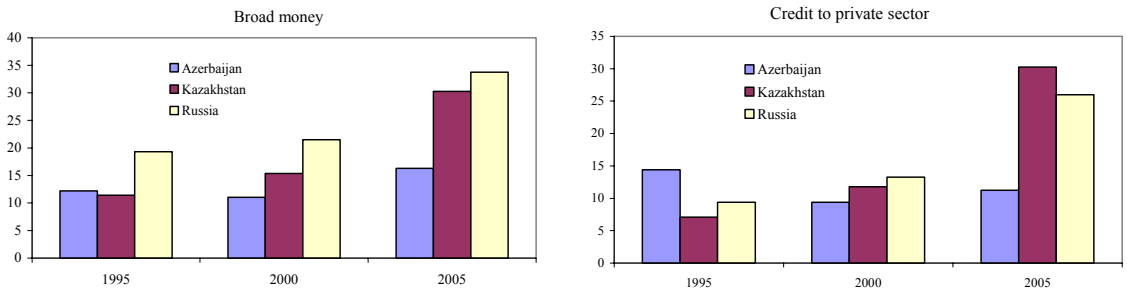
- International experience suggests that the links between the state and state-owned banks may become blurred so that state-owned banks can no longer be effectively regulated, creating substantial systemic risk. These considerations apply to the IBA which has had a poor track record of compliance with prudential regulations and was able to negotiate lengthy transition schedules with the ANB.

72. **The high concentration in the Azeri banking market, on balance, appears to have had negative effects on Azerbaijan's financial and economic development.** These effects appeared to be compounded by the IBA's privileged position as a state-owned bank, which could be considered a manifestation of financial repression.[56] The latter is commonly associated with slow financial sector development and this has been evidenced in Azerbaijan by the exceptionally low degree of monetization. Indeed, Azerbaijan is one of the least monetized transition economies—ranked at about the same level as Uzbekistan. Azerbaijan's monetization ratio stood at 15 percent at end-2005 (i.e., the ratio of broad money to GDP), which compares to 30 percent and 34 percent of GDP in Kazakhstan and Russia, respectively at end-2005 (Figure II.3). And this is notwithstanding a relatively friendly macroeconomic environment in Azerbaijan for the development of banking, including relatively low inflation, a stable and convertible currency, and the absence of official controls on interest rates. But the high concentration is not the only issue; poor enforcement of contracts, weaknesses in the judicial system, and a generally unfavorable business environment are also important impediments to the faster development of the banking sector and are also important factors in the low degree of financial intermediation in Azerbaijan (Chapter IV).

[55] As the capital of other banks in the system is too small to support lending to these SOEs (due to appropriate prudential limits on large exposures).

[56] Financial repression is defined in Roubini and Sala-i-Martin (1995) as the set of policies, laws, regulations, taxes, distortions, qualitative, and quantitative restrictions, and controls imposed by governments which do not allow financial intermediation to operate at their full technological potential.

Figure II.3. Selected CIS Countries: Monetary Indicators, 1995–2005
(In percent of GDP)



Source: Fund staff estimates.

E. Measures to Foster Competition

73. **The authorities have recently undertaken a number of measures to level the playing field in the banking system**:

- Barriers to entry were reduced by eliminating limits on foreign ownership of banks on January 1, 2004. The provision that newly licensed banks may not accept deposits for two years was rescinded in March 2004;

- The treasury has started to tender its banking service contracts;

- The recent opening of the ANB's credit card processing center has created some competition to the IBA in this market niche;

- The EBRD has actively been purchasing minority equity stakes in private banks—at end-2005 it had interests in three such banks and was completing negotiations with a fourth. In addition to providing funding support, these partnerships have also led to significant improvements in corporate governance in these banks and the introduction of innovative customer-oriented financial products—all of which have helped make these banks more competitive;[57] and

- In December 2005, the ANB adopted a resolution that will equalize minimum capital requirements between new and existing banks in mid-2007. This measure should help ease entry of new banks into the Azeri market.

[57] This also may partially offset the advantage the IBA has with its explicit deposit insurance guarantee, as the public perceives that the EBRD stake reduces the riskiness of holding deposits with these private banks.

74. **While these measures have contributed to some reduction in market concentration, a more tangible improvement in competitiveness requires additional steps**.

Building up the capacity of smaller private banks

75. Private banks have already started to take the initiative to capture a larger share of the private sector's rapidly growing appetite for financial services—which has been spurred over the past several years as the oil sector's rapid growth spilled over into the non-oil sector. This process should be facilitated by (i) encouraging mergers of existing banks so as to create private banks with more substantial capital that can compete with the IBA in the mid-sized corporate market; and (ii) promoting the entry of new foreign banks into the Azeri market. The EBRD in particular has been actively supporting new mergers as a cornerstone of its strategy to foster the development of the Azeri financial sector.

Further leveling the playing field

76. Measures in this area include (i) ensuring that all banks comply with prudential regulations; (ii) creating incentives for SOEs to shop for the best possible banking services;[58] (iii) implementing a deposit insurance mechanism, provided supervision has been suitably strengthened and the full government guarantee on the state-owned banks' deposits has been removed; and (iv) actively engaging the official anti-monopoly unit in areas where the IBA has significant market power.

Ensuring that privatization of the IBA and Kapital Bank under the March 1, 2005 Presidential Decree meets international standards

77. To realize any improvement in the role played by the IBA and Kapital Bank in the Azeri banking system, it is critical that any further sale of their shares be handled in an open and genuinely competitive fashion and that any new investors meet international "fit and proper" standards.

[58] Another approach, followed in some oil-producing countries with large state-owned energy companies, would be to channel all SOCAR financial operations through the ANB so as to encourage greater financial dynamism at the IBA by taking away a large pool of low-cost financial resources for which it does not need to compete.

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III. Long-term Fiscal Sustainability in Azerbaijan[59]

A. Introduction

78. **Over the forthcoming two decades, Azerbaijan is expected to benefit from a substantial, but short-lived, oil and gas-related revenue boom.** The realization of sizeable foreign investment projects in the hydrocarbon resources sector will enable Azerbaijan's oil production to increase from 0.4 million barrels per day in 2004 to 1.4 million barrels per day in 2010, with a subsequent rapid decline in production levels to zero by 2025.

79. **The design of sustainable fiscal policy in view of the expected large, albeit temporary, hydrocarbon revenue increase has been at the center of the Fund's policy dialogue with the government of Azerbaijan for the last three years.** The Long-Term Oil Revenue Management Strategy (LTORMS), signed by the President of Azerbaijan in September 2004, laid a sound foundation for effective management of the forthcoming surge in hydrocarbon revenue. The document targets constant real expenditures out of oil wealth to enable all generations to benefit from oil wealth and calls for limiting large annual fluctuations in the non-oil deficit to ensure high efficiency of expenditures and macroeconomic stability. It also mandates regular updates of the hydrocarbon wealth estimates in light of new discoveries of oil and gas deposits, fluctuations of world market oil prices, as well as other major developments in the energy sector.

80. **While the LTORMS clearly identifies the principles of oil wealth management, it is not yet fully operational.** The State Oil Fund of the Republic of Azerbaijan (SOFAZ), in cooperation with the Fund staff, undertook useful preliminary work on estimating the oil wealth, but these estimates have not been taken into account in the formulation of long-term fiscal policy yet. There is a consensus among the government agencies that the Ministry of Economic Development (MOED) should take the lead in estimating oil wealth in coordination with the ministries of finance, taxes, and energy and industry. The MOED will also need to closely cooperate with the Azerbaijan International Oil Company (AIOC) and the State Oil Company of the Republic of Azerbaijan (SOCAR) to receive the necessary data.

81. **This chapter updates the fiscal sustainability analysis presented in the study of "Managing Oil Wealth: the Case of Azerbaijan" prepared by the Fund staff in 2003.**[60] It is organized as follows: Section B updates the estimates of the hydrocarbon wealth based on the latest profile of the expected oil and gas production, and projections of world market oil and gas prices. Section C refines the definition of the non-oil primary deficit for monitoring

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[59] Prepared by Koba Gvenetadze.

[60] Wakeman-Linn et al. (2004).

purposes and proposes a broader definition of the non-oil primary deficit for assessing long-term sustainability. Section D assesses long-term fiscal sustainability based on two approaches: (i) constant real expenditures; and (ii) constant non-oil primary deficit relative to non-oil GDP. Section E concludes that the current level of spending and implicit subsidies in Azerbaijan, if not reduced in the coming years, would not be sustainable in the long term, even if world market oil prices were to remain as high as currently projected.

B. Updating the Estimates of Hydrocarbon Wealth

82. **Estimating a country's hydrocarbon wealth is the first step in assessing long-term fiscal sustainability.** The value of the wealth is derived, among other things, from the amount of total proven oil and gas reserves, the production profile, costs related to the extraction of the resources, the prevailing tax system, assumptions on the long-term world market oil prices, the discount rate, and the real rate of return on financial assets.

83. **At present, the government receives its oil and gas revenue through two different channels—the state budget and SOFAZ.** *Profit oil* from crude oil exports from new fields under the Profit Sharing Agreements (PSAs) with international partners is directly transferred to SOFAZ. *Personal income tax* and *profit tax* for the exploitation of the new fields are channeled to the state budget, as defined in the tax code and the PSAs. Revenue from the old oil fields operated by SOCAR also accrues to the state budget in the form of a *profit tax* and an *export tax*.[61]

84. **The estimates of Azerbaijan's hydrocarbon wealth for 2005–24 provided in this chapter are based on the following updates and assumptions:[62]**

- Total oil production: 6,029 million barrels.
- Total gas production: 472 billion cubic meters.
- Crude oil prices: World Economic Outlook (WEO) oil price projections[63] in constant 2004 U.S. dollars. Since WEO provides oil price projections for the next seven years, it is assumed that starting from 2013 oil prices remain constant in real terms at their 2012 level.

[61] For more details see Wakeman-Linn et al. (2004).

[62] Previous estimates can be found in Wakeman-Linn et al. (2004).

[63] Defined as the simple average of West Texas Intermediate, Brent, and Dubai oil prices, the average annual crude oil price for 2006–12 is projected at US$58.2 per barrel.

- Gas prices are assumed at half of the WEO gas prices, which is broadly consistent with the price of currently imported gas by Azerbaijan,[64] in constant 2004 U.S. dollars.

- SOFAZ inflows reflect the staff's estimates of *profit oil* accruing to the government, SOCAR, and the AIOC based on the PSAs, and excludes revenues from asset management (i.e., interest).

- SOCAR's tax payments are calculated based on WEO oil price projections in constant 2004 U.S. dollars adjusted for transportation and extraction costs. Excises and VAT on domestic sales of energy products are excluded from calculations since they will continue to accrue to the government even when the country runs out of hydrocarbon resources. All oil extracted by SOCAR is valued at export prices. Estimates also take into account a new progressive structure for SOCAR's *export tax*, which was introduced in 2006.

- Real discount rate: 1.89 percent, calculated based on U.S. Treasury Inflation-Indexed Securities.

- Real rate of return: 2.5 percent, calculated as the current yield on 10-year U.S. treasury bonds (4.6 percent), plus adjustment for portfolio diversification (0.4 percent), and minus U.S. inflation (2.5 percent).

85. **Table III.1 presents the estimates of total hydrocarbon wealth based on the WEO oil prices at constant 2004 U.S. dollar and a flat US$40 per barrel price.** These estimates show that even under a conservative assumption about world market oil prices, the government of Azerbaijan is expected to receive substantial hydrocarbon revenue over the next two decades—around $133 billion, or about 11 times the size of 2005 GDP.

C. Redefining the Non-Oil Primary Balance

86. **This section proposes two definitions of the non-oil primary deficit for a fiscal analysis in Azerbaijan.** The first definition is designed for short-term monitoring purposes. The second definition, including estimates of implicit subsidies, is to provide a broader measure of long-term fiscal sustainability.

[64] Azerbaijan is expected to import around 4.5 billion cubic meters of natural gas from Russia in 2006 priced at US$110 per thousand cubic meters.

Table III.1. Azerbaijan: Oil and Gas Wealth, (2005–2024)

	WEO oil prices 1/	$40 pb oil prices 2/
Total Gross Oil and Gas Wealth (US$ mln.)	221,832	159,718
Of which:		
Oil Fund inflows 3/	192,072	138,526
PSA profit tax	12,481	8,672
SOCAR tax payments 4/	17,278	12,520
Discounted Oil and Gas Wealth (US$ mln.) 5/	187,274	133,430
Constant Expenditures (in 2004 US$ mln.) 6/	4,666	3,320
Constant Expenditures in 2005 (in 2004 dollars relative to non-Oil GDP)	65.3	46.5
Memorandum items:		
Total oil production (mln. barrels)	6,029	6,029
Of which:		
Oil production by SOCAR	860	860
Oil production by AIOC	5,170	5,170
Total gas production (billion cubic meters)	472	472
Of which:		
Gas production by SOCAR (billion cubic meters)	63	63
Gas production by AIOC (billion cubic meters, including liquid gas)	409	409
Average crude oil price (US$/pb)	51	41
Average gas price (per thousand cubic meters) 7/	104	104
Oil Fund assets at end-2004 (US$ mln.)	972	972
Public and publicly guaranteed debt at end-2004 (US$ mln.)	1,610	1,610
Average real non-oil GDP growth 8/	8.0	8.0
Real rate of return 9/	2.5	2.5
Real discount factor	1.89	1.89

Sources: The Azeri authorities; and Fund staff estimates and projections.

1/ December 2005 WEO crude oil prices in constant 2004 dollars.

2/ Starting from 2006.

3/ Assumes the profit sharing among the government, SOCAR, and AIOC based on PSAs; excludes revenue from asset management (i.e., interest).

4/ SOCAR budget payments based on WEO oil price projections in constant 2004 U.S. dollars adjusted for transportation and extraction cost. All oil extracted by SOCAR is valued at export prices; estimates also reflect the prevailing tax regime: a progressive export tax on the excess of the actual price over the domestic crude oil price (US$7.9) and a 22-percent profit tax rate. VAT and excise taxes on energy products are not included.

5/ Calculated as U.S. Treasury Inflation-Indexed Securities adjusted for a risk premium and inflation.

6/ Calculated as discounted oil and gas wealth plus Oil Fund assets, minus total public and publicly guaranteed debt, and multiplied by the real rate of return on financial assets (2.5 percent).

7/ Half of the WEO projection prices per thousand cubic meters in constant 2004 dollars.

8/ Assuming 5-percent growth at constant prices and a 3-percent real appreciation.

9/ Current yield on 10-year U.S. Treasury bonds (4.6 percent), plus adjustment for portfolio diversification (0.4 percent), and minus U.S. inflation (2.5 percent).

87. **In the short term, the fiscal stance in Azerbaijan is assessed in terms of the non-oil primary balance—a direct measure of the level of activity that is financed out of oil revenue—which is a useful indicator for fiscal analysis in oil-exporting countries.**[65] This chapter suggests refining the definition of the non-oil primary balance presented in Wakeman-Linn et al. (2004) in light of better data availability. This revision reflects the

[65] For more details see Wakeman-Linn et al. (2004).

following adjustments: (i) classify tax credits granted to SOCAR (explicit subsidies)[66] as oil revenue; (ii) exclude VAT and excise taxes on domestic sales of oil products from hydrocarbon revenue for the reasons explained in Section B; (iii) exclude government's interest payments from expenditure;[67] and (iv) classify the AIOC withholding tax on subcontractors as non-hydrocarbon revenue.[68] Table III.2 presents Azerbaijan's non-oil primary deficit based on the previous and new—refined—definitions. The suggested refinements to the definition do not result in material changes: the path for the newly defined non-oil primary deficit for 2002–2004 trails very closely the previous indicator (Figure III.1).

Table III.2. Azerbaijan: Fiscal Indicators, 2002–06
(In percent of non-oil GDP)

	2002	2003	2004	2005 Prel. Est.	2006 Proj.
Long-run sustainability					
Implicit subsidies	17.3	17.7	20.1	20.0	21.5
Broader non-oil primary deficit (for assessing long-run sustainability)	34.4	35.2	33.5	32.2	46.3
Memorandum items:					
Non-oil fiscal deficit (old definition)	14.9	14.9	12.1	13.3	25.7
Total adjustments:	2.2	2.7	1.3	-1.2	-0.9
Explicit energy subsidies	7.7	7.9	6.5	4.8	4.0
VAT and excises on oil and gas	-4.3	-4.1	-3.5	-4.2	-2.5
Interest paid by the budget	-0.4	-0.3	-0.3	-0.2	-0.5
AIOC withholding tax on subcontractors	-0.8	-0.8	-1.4	-1.5	-2.0
Non-oil primary deficit (new definition for monitoring purposes)	17.1	17.5	13.4	12.1	24.8

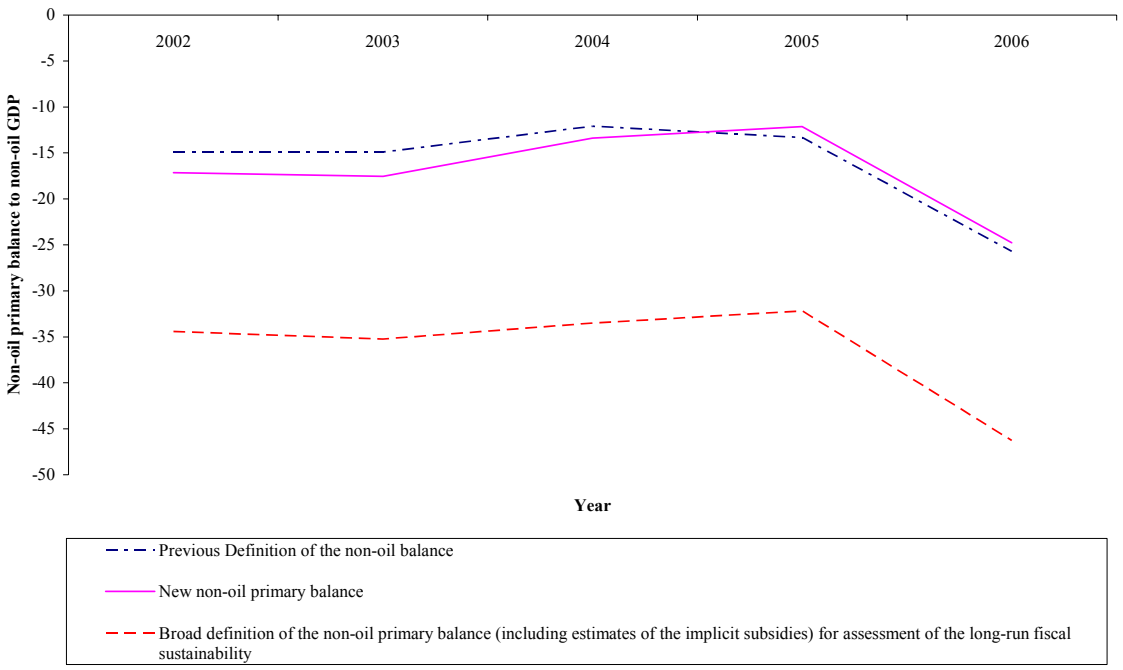
Sources: Azeri authorities; and Fund staff estimates and projections.

[66] These relate to the subsidies and the offsetting tax credits for underpayments for energy product deliveries from SOCAR to Azerenergy, Azerigas, and Azerchemia, which have been disclosed in the budget documents since 2002. These subsidies represent foregone oil revenue, and should be classified as such.

[67] Interest income from investing SOFAZ assets was excluded from previous calculation of the non-oil deficit.

[68] This tax represents a tax withheld by the AIOC from its contractors; hence, it should not be classified as oil revenue.

Figure III.1. Azerbaijan: Definition of Non-Oil Balance, 2002–06
(In percent)



88. **It is also important to account for implicit energy subsidies in the analysis of fiscal policy.** Table III.3 shows the magnitude of differences between the domestic and import reference world market prices for selected energy products in Azerbaijan.[69] Based on import reference prices, implicit energy subsidies, on average, are estimated at around 18 percent of non-oil GDP for the 2002–04 period (Table III.4).[70] They are estimated at 20 percent in 2005, and are projected to increase further to 21 percent in 2006, as annual revisions to domestic energy products prices lagged behind rapid increases in world market oil prices. Currently the Azeri authorities do not estimate the implicit energy-related subsidies; the calculations provided in this chapter are prepared by the Fund staff.

[69] Scope and consequences of underpricing of domestic energy products in Azerbaijan are discussed in detail in IMF Country Report No. 05/17.

[70] For details of the calculation see footnotes in Table III.4.

Table III.3. Azerbaijan: Prices of Selected Oil Products 1/
(In U.S. dollars per ton)

	Naphtha	Fuel Oil 2/ (Mazut)	Gasoline 96	Diesel	Jet Fuel	Kerosene
Wholesale price 3/	183	85	527	432	305	448
Import reference wholesale price 4/	595	322	676	623	692	683
FOB Mediterranean price, August 12, 2005 5/	463	228	523	484	548	533
Cost to Baku's port (US$/ton) 6/	41	39	42	38	39	39
Delivery cost (US$/ton) 6/	0	6	8	6	0	7
VAT (18 percent)	91	49	103	95	106	104
Current wholesale prices in Azerbaijan in percent of import reference wholesale price	31	26	78	69	44	66

Sources: Azeri authorities; and Fund staff estimates and projections.

1/ Defined in Cabinet of Ministers' decree # 165 of November 1, 2004, except for Jet Fuel, Kerosene, and Diesel, for which the prices were revised on January 6, 2006, and using manat/U.S. dollar exchange rate of 4,596 as of December 31, 2005.
2/ Fuel Oil corresponds to the 3.5 percent sulfur type.
3/ Including VAT and delivery costs.
4/ Derived by applying VAT (18 percent) to the sum of FOB Mediterranean price, costs to Baku's port, and delivery costs.
5/ From Bloomberg as of December 30, 2005.
6/ Sunley et al. (2003).

Table III.4. Azerbaijan: Explicit and Implicit Energy Subsidies, 2002–06 1/

	2002	2003	2004	2005 2/	2006 2/
	Estimates				Proj.
	(In billion manats)				
Explicit energy subsidies in the budget 3/	1,603	1,972	1,896	1,686	1,677
Electricity	1,462	1,820	1,530	1,686	1,677
Gas 4/	142	152	272	0	0
Azerchemia (estimates) 5/	0	0	94	0	0
Implicit subsidies	3,613	4,423	5,893	6,976	8,915
Fuel oil (mazut)	1,290	1,619	1,243	1,873	2,248
Oil products other than fuel oil (mazut)	972	1,261	2,636	4,165	3,394
Natural gas	1,284	1,507	2,014	937	3,273
Azerchemia (estimates) 5/	68	35	0	0	0
	(In percent of non-oil GDP)				
Explicit energy subsidies in the budget	7.7	7.9	6.5	4.8	4.0
Electricity	7.0	7.3	5.2	4.8	4.0
Gas	0.7	0.6	0.9	0.0	0.0
Azerchemia	0.0	0.0	0.3	0.0	0.0
Implicit subsidies	17.3	17.7	20.1	20.0	21.5
Fuel oil (mazut)	6.2	6.5	4.2	5.4	5.4
Oil products other than fuel oil (mazut)	4.6	5.0	9.0	12.0	8.2
Natural gas	6.1	6.0	6.9	2.7	7.9
Azerchemia	0.3	0.1	0.0	0.0	0.0
Memorandum items:					
Domestic consumption of gas (mln. cubic meters)	9,100	9,300	9,900	10,890	11,979
Average tariff for gas (US$, thousand cubic meters)	19.0	19.0	20.6	43.8	48.0
Price of imported gas (US$, thousand cubic meters)	48.0	52.0	62.0	62.0	110.0
GDP (nominal, bln. manats)	30,312	35,732	42,651	59,379	89,181
Non-oil GDP (nominal, bln. manats)	20,901	24,987	29,291	34,828	41,462

Sources: Azeri authorities; and Fund staff estimates.

1/ Implicit subsidies for oil products are estimated using import reference prices derived by applying VAT (18 percent) to the sum of FOB Mediterranean price, costs to Baku's port, and delivery costs. Price for imported gas from Russia is used as a reference price for gas.
2/ Some of the assumptions include: import reference prices for oil products in 2005-06 change according to WEO (December 2005 round) crude oil average price projection; authorities' projection for consumption of domestic oil products (except fuel oil).
3/ As allocated by the decisions of the Cabinet of Ministers of Azerbaijan.
4/ According to the available information, actual collection on gas payments amounted to 49.1 percent of deliveries for the first half of 2005. This may require allocation of expli subsidies for gas sector in excess of the amount approved by the 2005 budget law.
5/ Nonpayments by Azerchemia for naphtha supplied by SOCAR in 2002-03 are included in fiscal (implicit) subsidies since they were not included in tax credit allocations to SOCAR for this period.

89. **Reflecting implicit subsidies in the non-oil primary balance for short-term fiscal analysis may have some shortcomings.** For example, the non-oil primary deficit may improve if the world market oil prices fell and domestic energy product prices were kept unchanged. In reality, though, the country's fiscal position may be less sustainable because the lower world market oil prices would result in lower-than-previously-projected export revenue and, respectively, lower total hydrocarbon wealth.

90. **However, there are several important factors that explain why a long-term fiscal sustainability analysis should account for implicit energy subsidies.** First, implicit energy subsidies may become explicit once oil resources have been depleted. In other words, if the gap between the world market and domestic energy product prices remains large by the time hydrocarbon resources are exhausted, the country will need to import oil products at world reference prices, thus turning previous implicit subsidies into additional explicit expenditures. Second, selling energy products domestically at a lower price than could have been obtained by exporting these products results in a loss of valuable revenue for the government. In light of this, it would be conceptually incorrect to value the future cashflow from hydrocarbon resources on the basis of market prices while not realizing this value because of underpricing. Third, an exclusion of implicit energy subsidies could result in a somewhat imperfect measure of the long-term fiscal position. For example, a reduction of the subsidies by active government policies—that is, upward adjustment of domestic prices of oil products, while world market prices are unchanged, would reduce fiscal stimulus and improve fiscal sustainability. However, this improvement would not be reflected in the non-oil primary deficit if implicit subsidies were not accounted for. (Table III.2 and Figure III.1 present the broad definition of the primary non-oil deficit—including estimates of energy-related implicit subsidies—for the period of 2002–06.)

D. Assessing Long-Term Fiscal Sustainability

Constant real expenditures approach

91. **A sustainable non-oil primary deficit ceiling shows how much the government can afford to spend over the long term without exhausting its assets, and corresponds to a constant real expenditure amount that can be financed out of hydrocarbon wealth.**[71] This approach to defining fiscal sustainability is reflected in the government's LTORMS. In order to determine a sustainable constant real expenditure level, the discounted government's net worth[72] should be multiplied by the assumed real rate of return. By doing so, one determines the appropriate path for net interest income, which is supposed to gradually replace the stream from hydrocarbon revenue and finance the constant real expenditures. The

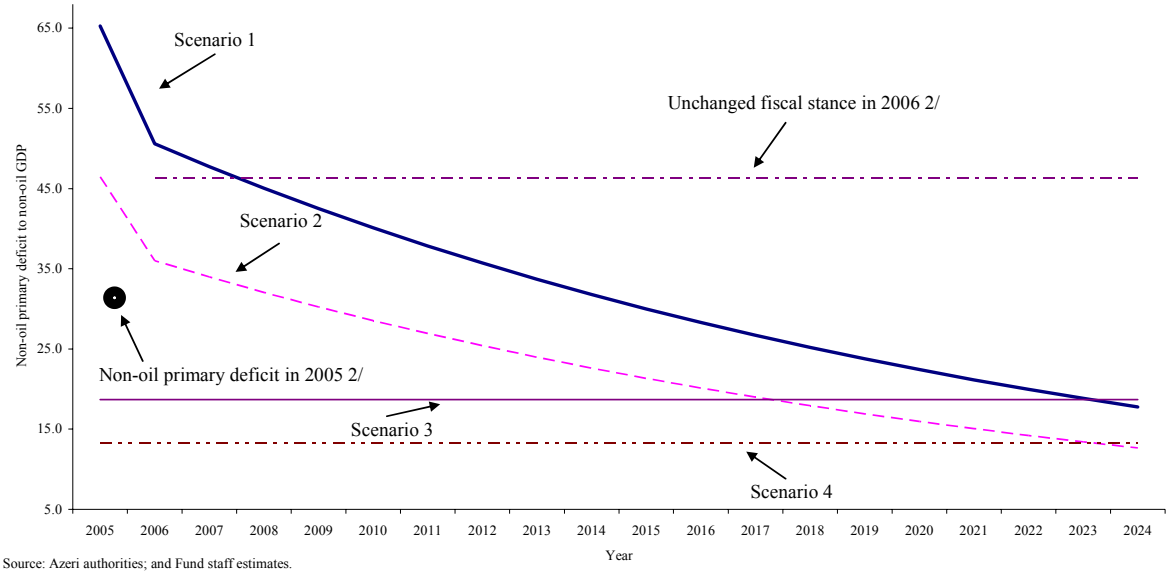
[71] This approach is based on Friedman's permanent income hypothesis, according to which, individuals are forward-looking and optimally smooth their consumption over time, in line with permanent income.

[72] In the case of Azerbaijan, it is defined as assets of SOFAZ at the beginning of the period minus total public and publicly guaranteed debt, and plus the discounted value of the expected income from oil and gas.

latter will represent a fixed annual amount in constant U.S. dollar terms that can be spent indefinitely without ever running out of oil wealth.

92. **The level of constant real expenditures per year during 2005–24, based on the latest WEO projection of world market oil prices in constant 2004 U.S. dollars, is $4.7 billion (65 percent of non-oil GDP in 2005) (Table III.1 and Scenario 1 in Figure III.2).** This amount will decline gradually relative to non-oil GDP, as the non-oil sectors grow over time while the fixed annual dollar amount of spending out of hydrocarbon wealth stays constant indefinitely. As Scenario 1 of Figure III.2 shows, constant real expenditure, which corresponds to the sustainable primary non-oil deficit, is gradually declining to reach about 18 percent of non-oil GDP in 2024.

Figure III.2. Azerbaijan: Sustainable Primary Non-Oil Deficit, 2005–24
(In percent of non-oil GDP) 1/



Source: Azeri authorities; and Fund staff estimates.

1/ **Scenario 1**: Sustainable primary non-oil deficit to non-oil GDP consistent with constant real expenditure (WEO, Dec. 2005 oil prices in constant 2004 dollars for the period of 2005-2024 and a real rate of return of 2.5 percent).
Scenario 2: Sustainable primary non-oil deficit to non-oil GDP consistent with constant real expenditure (US$40 pb. oil prices for the period of 2006-2024 and a real rate of return of 2.5 percent).
Scenario 3: Sustainable constant non-oil primary deficit in percent of non-oil GDP (WEO, Dec. 2005 oil prices in constant 2004 dollars and a real rate of return of 2.5 percent) in 2005.
Scenario 4: Sustainable constant non-oil primary deficit in percent of non-oil GDP (US$40 pb oil prices for the period of 2006-2024 and a real rate of return of 2.5 percent) in 2005.
2/ According to a broader definition of the sustainable primary non-oil deficit (including explicit and estimates of implicit subsidies).

93. **A non-oil primary deficit at the projected 2006 level is not sustainable in the long term (Scenario 1 in Figure III.2).** Given the projected increase in production and high WEO oil prices, Azerbaijan would accumulate large fiscal surpluses in the medium term. However, the projected non-oil primary balance of 46 percent in 2006, if not reduced by 2008, would start deviating from the estimated long-term sustainable path under WEO oil prices (Scenario 1 in Figure III.2). A drop in oil prices from the current level to US$40 per barrel would have lowered affordable constant real expenditure level by 10 percentage points of non-oil GDP in 2006 and 5 percentage points by 2025 (Table III.1, and Scenario 2 in Figure III.2).

Constant non-oil primary balance approach

94. **An alternative to the fiscal rule targeting constant real expenditure could be to target a constant non-oil primary deficit as a percentage of non-oil GDP.** This would require that, as incomes grow, the amount of oil wealth spent would also grow in real terms, and richer future generations would presumably benefit more from oil wealth than the more needy current generation. However, in the case of Azerbaijan, under the constant non-oil primary deficit approach, even current generations would be able to have a smoother consumption profile, given the relatively short duration of the resource boom. In addition, this alternative approach would imply a less rapid real effective exchange rate appreciation, thus potentially limiting the impact of the "Dutch disease." This chapter does not advocate changing the approach to determine the path of optimal consumption out of hydrocarbon wealth reflected in the LTORMS. It rather aims at presenting an alternate measure of fiscal sustainability that is based on stricter oil wealth accumulation rules.

95. **The sustainable constant non-oil primary deficit relative to non-oil GDP is significantly lower than the one consistent with the rule embedded in the LTORMS.** Based on the WEO oil price projections, the sustainable non-oil primary deficit amounts to 19 percent of non-oil GDP over the period of 2005–24 (Scenario 3 in Figure III.2). The constant non-oil primary deficit would need to shrink to 13 percent of non-oil GDP over the same period if oil prices were to fall to US$40 per barrel (Scenario 4 in Figure III.2).

E. Conclusions

96. **The government of Azerbaijan will receive substantial revenue from development of its hydrocarbon resources in the coming two decades.** The LTORMS lays a sound foundation for the transparent and efficient use of hydrocarbon revenue, but it needs to be operationalized. The Azeri authorities need to undertake regular estimates of the country's hydrocarbon wealth, which is essential for formulating a medium-term fiscal strategy. Moreover, implicit energy subsidies would need to be fully reflected in the long-run fiscal sustainability analysis.

97. **This chapter estimated four sustainable paths for the non-oil primary deficit.** These estimates indicate that while the country will accumulate large fiscal surpluses in the medium term, a substantial adjustment from the current spending levels would be required to bring the fiscal position in line with these sustainable paths in the long term.

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IV. Developments in the Real Effective Exchange Rate and External Competitiveness in Azerbaijan[73]

A. Introduction

98. **Azerbaijan has experienced very robust growth over the past ten years, but the performance of non-oil exports has only improved in recent years.** Over the period 1996–2005, benefiting from substantial oil-related FDI in a benign external environment, real GDP growth averaged 9.5 percent. Oil production started to increase sharply in 2005, boosting real GDP growth to 24 percent. While non-oil exports had declined by 9.4 percent on average during 1996-2001, their performance picked up in the last four years, reaching an average growth rate of 33 percent. In view of large-scale external inflows from oil exports, Azerbaijan shares with other resource-based economies the challenges of minimizing the Dutch Disease phenomenon and developing a competitive non-oil sector of the economy.

99. **This chapter analyzes developments in Azerbaijan's external competitiveness against the background of selected price- and cost-based, and institutional indicators.** Section B comprises an analysis of developments in the CPI-based real effective exchange rate (REER), constituting one measure of an economy's external competitiveness,[74] as well as an assessment of Azerbaijan's export position. In resource-based transition economies, REER developments are of particular importance as these economies face potentially large shocks to fundamentals.[75] Section C focuses on key elements of Azerbaijan's institutional framework, defined by progress with the transition process, the business climate, the trade regime, the quality of governance, and the level of corruption. Section D summarizes the conclusions and provides policy recommendations.

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[73] Prepared by Katrin Elborgh-Woytek. In the context of the 2005 Article IV consultation discussions, the paper was presented at a workshop for policy makers, as well as in a seminar for students at the State Economic University in Baku.

[74] The REER is calculated as the average of major bilateral exchange rate changes with weights based on trade shares (as a proxy for the relative importance of each currency in the exchange rate basket), adjusted for inflation differentials vis-à-vis the economies, the currencies of which are included in the basket. For a background on REER methodology, see Chinn (2005). For the purposes of this paper, Direction of Trade statistics, INS and EMED data, and country desk data, based on submissions by the Azerbaijan authorities, have been used. REER calculations are based on the most recent INS weights (Appendix IV.1).

[75] See Edwards and Savastano (1999) and Ito et al. (1997) for an analysis of exchange rate developments in emerging markets.

B. Macroeconomic Indicators of Competitiveness

The real effective exchange rate and its determinants

100. **During 1995-2005, three different periods in the REER series can be distinguished:**

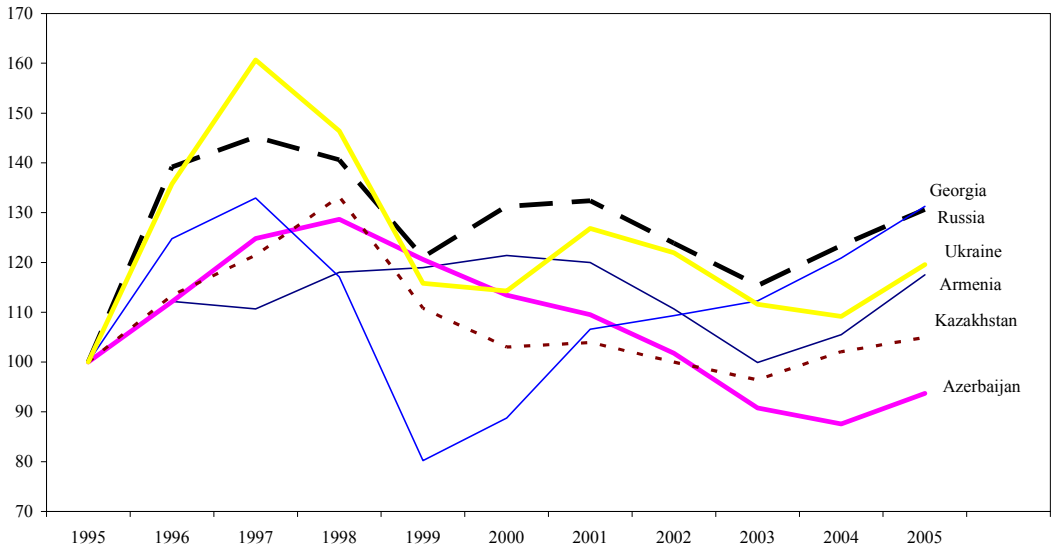
- The REER appreciated steeply, by 46 percent, between January 1995 and September 1998.

- In the immediate aftermath of the 1998 Russian crisis, the REER began a depreciation that lasted until July 2004, as a result of which it had fallen to a level 36 percent below its peak of September 1998, and 7 percent below that of January 1995.

- Between July 2004 and November 2005, the REER appreciated by 14 percent, however remaining 27 percent below its peak.

In comparison with other countries in the region—for illustrative purposes, Armenia, Georgia, Kazakhstan, Russia, and Ukraine were selected as regional comparators—Azerbaijan's REER has remained the most depreciated in the region since 2002 (Figure IV.1).

Figure IV.1. Selected CIS Countries: Real Effective Exchange Rates for the Region 1/, 1995–2005, (1995=100)

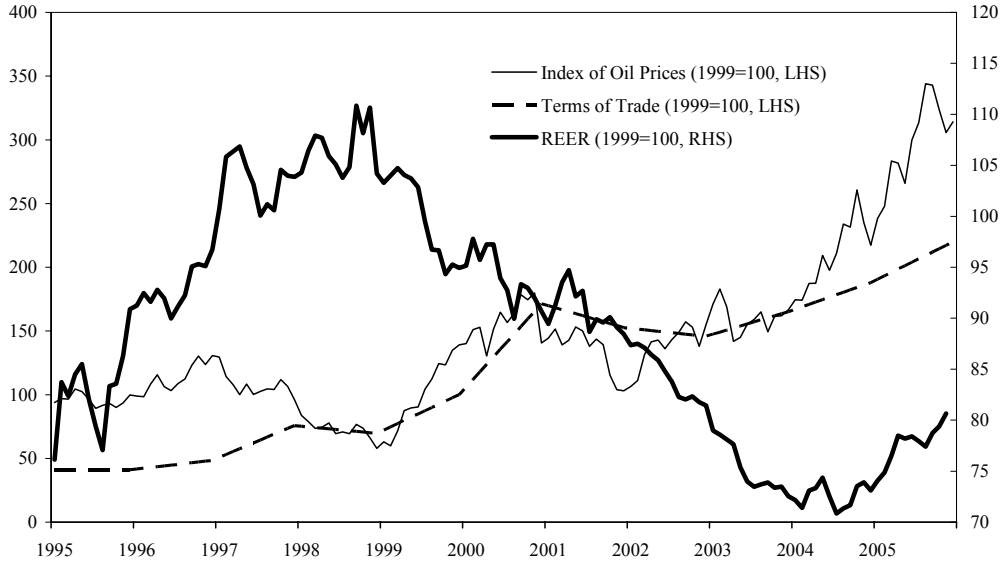


Sources: INS; and Fund staff estimates.
1/ Data for 2005 through November.

101. **In line with the literature and experiences in other countries, the key macroeconomic and productivity-related forces causing medium- to long-term changes in the level of Azerbaijan's REER were the following:**

- **Terms of trade developments:** Income effects resulting from an increase in the terms of trade usually exceed substitution effects, causing higher demand and prices for nontradables, and subsequently an appreciation of the REER. In Azerbaijan, the terms of trade effect on the REER through high oil prices led to an increase in foreign exchange inflows to the public sector. To the extent terms of trade gains were spent, they were a driving force for real exchange rate appreciation. Azerbaijan's terms of trade rose substantially between 1995 and 2005 (with periods of minor decline during 1998–99 and 2001-03; Figure IV.2), largely as a result of oil price developments, causing pressure for REER appreciation.

Figure IV.2. Azerbaijan: Oil Prices, Terms of Trade, and REER, 1/
1995–2005



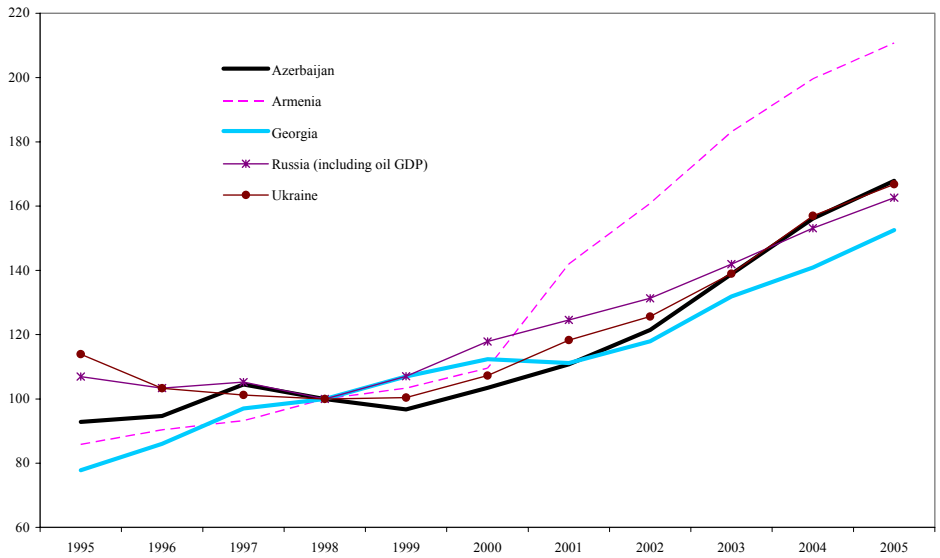
Sources: Azeri authorities; and Fund staff estimates.
1/ 2005 REER is the average of the first 11 months of 2005.

- **Productivity dynamics:** [76] The Balassa-Samuelson effect implies that when productivity gains in the tradable sector exceed those of the non-tradable sector, compared with trading partner countries, non-tradable prices increase faster, causing

[76] The internal REER (proxied by the CPI/WPI ratio) constitutes a measure of the relative prices of the tradable and non-tradable sectors in a given economy. In the case of Azerbaijan, due to lack of reliable WPI data, internal REER dynamics can not be estimated.

the REER to appreciate.[77] As data for sectoral productivity in Azerbaijan and its trading partners are not available, a comparative analysis of per capita non-oil GDP growth is presented. As shown in Figure IV.3, Azerbaijan's non-oil per capita GDP increased at a higher pace than that of the regional comparator countries (except Armenia), pointing to faster productivity growth. This may have been the case because non-oil growth was driven by construction closely associated with the oil investment boom. Accordingly, the share of construction in non-oil GDP at constant prices increased from 7 percent in 1999 to 18 percent in 2005. However, non-oil exports growth, which lagged behind non-oil GDP growth during 1995–2005, was likely to have been affected to a larger extent by the quality of the business climate (Section C) than the non-tradable sectors that benefited from oil-related FDI.[78] Agriculture, another important tradable sector, also posted a decline in its share in non-oil GDP.

Figure IV.3. Selected CIS Countries: Index of Non-Oil Real Per-Capita GDP in Local Currency, 1995–2005
(1998=100)



Source: Fund Staff estimates.

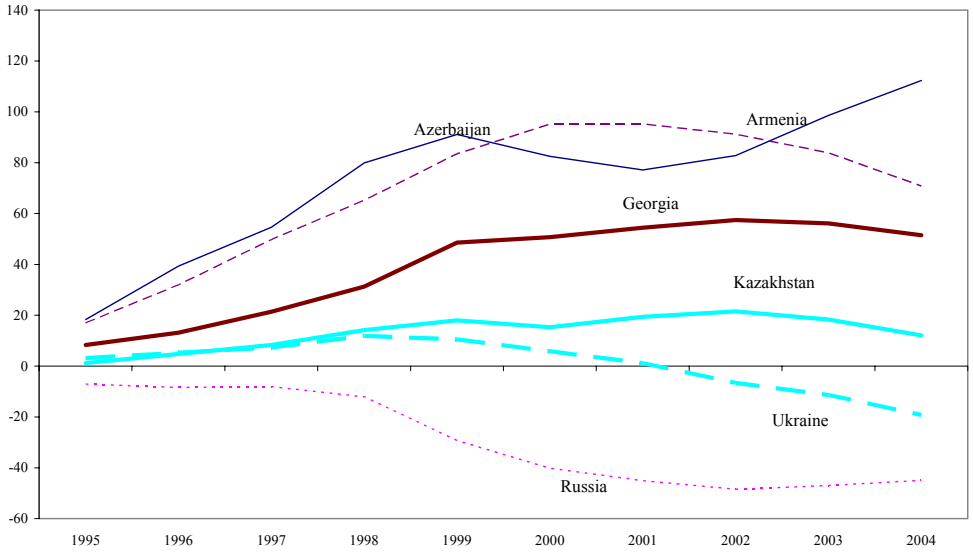
- **The net foreign asset position:** External wealth has been found to be a fundamental driver of the real exchange rate (conditional on investment returns and output

[77] Khan and Choudhri (2005) provide strong verification of the Balassa-Samualson hypothesis (BSH) in developing countries. Koranchelian (2005) confirms the validity of BSH for a commodity-exporting country, such as Algeria. By contrast, Miyajima (2005) contests the predictions of the BSH for growing economies as total factor productivity (TFP) growth in the nontradables sector has been shown to be equally strong as or to exceed TFP growth in the tradable sector.

[78] Oil-related FDI benefits from protection under production sharing agreements (PSAs).

growth), as positive net external wealth enables countries to run persistent trade deficits, in turn associated with long-run REER appreciation. In a multilateral context, long-run REER evolution depends on the pace of net foreign asset (NFA) accumulation relative to the trading partners.[79] Azerbaijan's negative net foreign asset position (i.e., net foreign liabilities), proxied by cumulative current account deficits, shows an increase that exceeds those recorded for regional comparators (Figure IV.4). However, it is not expected that the faster accumulation of net foreign liabilities in Azerbaijan than in trading partner countries would cause long-run real depreciation pressures, because income outflows related to these liabilities would be more than offset by a large increase in hydrocarbon exports. It appears that short-term effects associated with capital inflows played a more important role than long-term effects. Indeed, in the short term, an increase in unsterilized net international reserves (NIR) of the central bank, accommodating capital inflows, contributes to the appreciation of the real exchange rate by increasing money supply and, thereby, inflationary pressures.[80] Azerbaijan's NIR continuously increased during 1995–2004 with the pace of accumulation accelerating significantly by 2003–04.

Figure IV.4. Selected CIS Countries: Net Foreign Liabilities, 1995–2004
(Proxied by cumulative current account deficit; in percent of GDP)



Sources: Azeri authorities; IMF statistical databases, and Fund staff estimates.

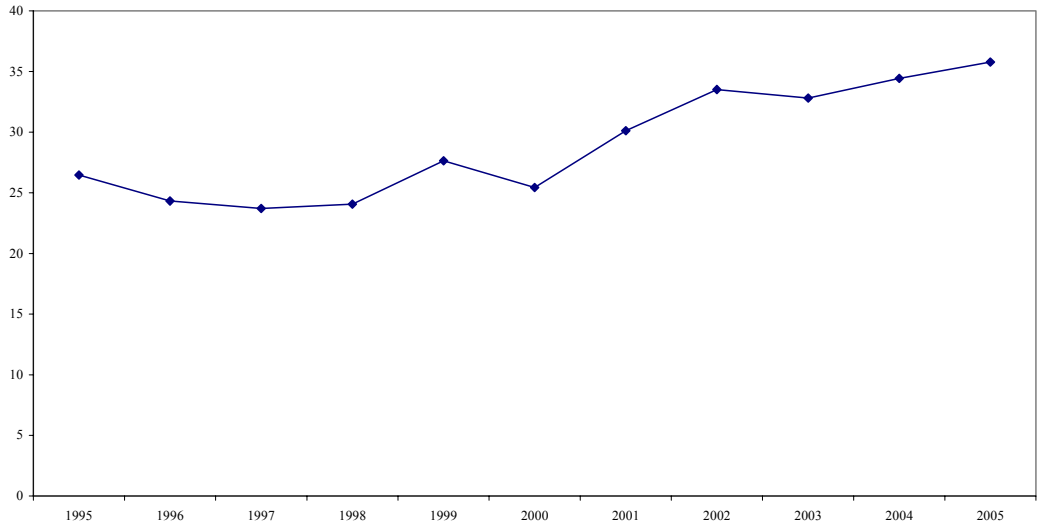
- **Fiscal policy and the fiscal balance**: Government expenditures are assumed to be channeled in large part toward nontraded goods, causing the demand and prices for

[79] Lane and Milesi-Ferretti (2002) and Alberola et al. (1999).

[80] Reliable International Investment Position data, in particular data on non-sovereign external debt, for Azerbaijan are not available.

these to rise.[81] Higher government demand also results in inflationary pressures through wage increases, leading to an appreciation of the REER. In the case of Azerbaijan, a significant share of spending by government and the State Oil Company of the Republic of Azerbaijan (SOCAR) is derived from oil revenue, the conversion of which into manat exerts additional upward pressure on the exchange rate. Following a period of initially stable government expenditures through 1998 and their minor increase in 1999 (reversed the following year), spending rose in the later years of the period under review, with the exception of a minor decline in 2003 (Figure IV.5).

Figure IV.5. Azerbaijan: Total Government Expenditure/Non-Oil GDP, 1995–2005 1/
(In percent)



Sources: Azeri authorities; and Fund staff estimates.
1/ Government expenditure equals general government expenditure, in addition to SOCAR oil exports, but excluding explicit energy subsidies, SOCAR tax payments, and government expenditure on the BTC.

102. **The analysis of the impact of fundamentals on Azerbaijan's REER during 1995–2005 is rendered complex by several specific factors.** These include (i) possibly incorrect CPI weights (Chapter I, Box I.1); (ii) regulated and administered prices, namely in the energy sector (Chapter 3) that could artificially generate a real depreciation through a decline in relative prices; (iii) a significant depreciation of the U.S. dollar in the later part of the period under analysis; and (iv) the ANB's explicit policy of managing a monotonic and gradual depreciation of the manat during the period 1998–2002 as a means of promoting the non-oil sector. Against this background, the analysis of fundamentals explaining the development in Azerbaijan's REER should be interpreted with caution:

[81] In the Caucasus countries and Kazakhstan, higher domestic expenditure was found to have been of minor importance as a source of pressure on the real effective exchange rate, compared with foreign exchange inflows during 2003–04 (IMF 2005).

- The observed REER appreciation during 1995–98 is explained by rising oil prices,[82] large capital inflows arising from oil sector investment, and a pick-up in non-oil growth. Since the authorities allowed the exchange rate to appreciate in nominal terms, there was no perceptible delay in the REER adjustment to changes in fundamentals.

- During 1998–2001, a decline in the terms of trade and their subsequent volatility, together with lower capital inflows, in part related to the 1998 Russian crisis, appear to explain the observed REER depreciation, as the fiscal stance and productivity dynamics appear to have had a broadly neutral impact. The initial real depreciation occurred through severe deflation against the background of limited exchange rate flexibility.

- Between 2002 and mid-2004, fundamentals warranted some real appreciation, but this appears to have been delayed by about 24 months.[83] The accommodating monetary policy stance in the context of price rigidities, together with significant political tensions in the run-up to the 2003 presidential elections, might have been at the origin of this delay.[84]

- The real appreciation from mid-2004 appears to have been reinforced by additional pressures from all fundamentals.

Relative wage costs

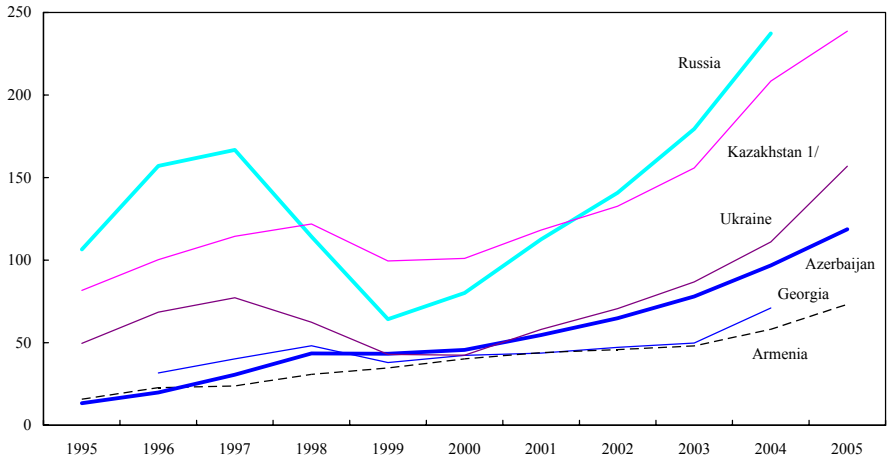
103. **The wage level in Azerbaijan remains below the average attained in regional comparator countries.** While wages have increased significantly in Azerbaijan in recent years, wage rises have also been high in trading partner countries. It is difficult to judge the competitiveness of the wage level in Azerbaijan due to lack of data on unit labor costs. However, it seems that the current wage level is not out of line with regional comparator countries (Figure IV.6).

[82] Cointegration tests suggest the existence of a long-term relationship between the REER and oil prices in Azerbaijan, albeit with considerable lags and a persistent impact of shocks.

[83] Such delays do not seem to be exceptional, as empirical evidence for countries with commodity-based currencies suggests comparable adjustment periods (Cashin et al., 2002).

[84] Although money tends to be neutral in the medium term, the REER could be affected by the monetary stance in the short term.

Figure IV.6. Selected CIS Countries: Dollar Wages
1995–2005



Sources: Authorities; and Fund staff estimates.
1/ First 8 months of 2005.

Trends in Azerbaijan's exports

104. **Trends in Azerbaijan's non-oil exports seem somewhat delinked from REER developments, in particular in the later years of the period under analysis.** During 1995–2001 (the first two periods in the evolution of the REER), non-oil exports had declined almost continuously, while growing significantly during 2002–05 (the latter two periods).

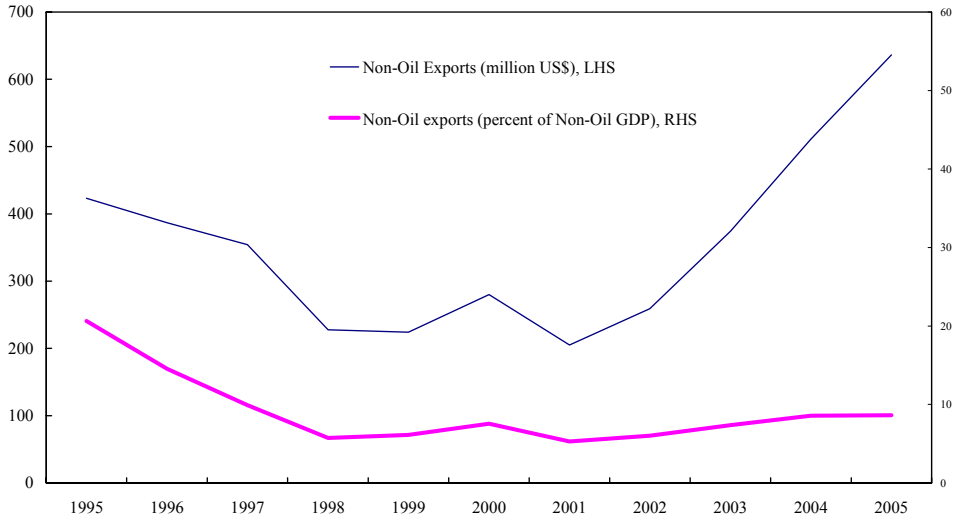
105. **While REER trends were not favorable to the development of the non-oil tradable sector for the most part of the period 1995–2001, the main reasons for the collapse of non-oil exports were one-off events.** Initially, these included the interruption of Soviet production and distribution links and the erection of physical and administrative barriers to trade in the wake of the establishment of independent countries.[85] Moreover, exports of cotton fell by 86 percent during this period, also in response to declining world market prices. The 1998 Russian crisis led to a significant decline in external demand for products from Azerbaijan, contributing to a further decline in non-oil exports.

106. **Azerbaijan's non-oil exports have increased significantly since 2002, by 33 percent per year on average in U.S. dollar terms (Figure IV.7).** However, they represented only 9 percent of non-oil GDP in 2005, despite a significant real depreciation and low domestic prices for crude oil, electricity, and diesel that provided essential support to the competitiveness of the chemicals, metals, and agricultural sectors. Implicit subsidies

[85] Azerbaijan's slow recovery from the disruptions caused by the break-down of the Soviet Union can be attributed to the length of Soviet rule and the prevalence of armed conflict during the early transition phase (Berengaut and Elborgh-Woytek, 2005).

have grown in importance since 2002, as readjustments to domestic energy prices have not kept pace with the rapid ascent of oil prices (Chapter III).

Figure IV.7. Azerbaijan: Non-Oil Export Trends
1995–2005



Sources: Azeri authorities; and Fund staff estimates.

107. **The destination and composition of Azerbaijan's exports have undergone major changes.** The importance of other CIS countries as export destination has declined, as indicated by a fall in the share of exports to these countries from 39 percent in 1995 to 18 percent in 2004. During this period the share of Azerbaijan's exports directed toward EU member countries increased from 14 percent to 68 percent, largely on account of hydrocarbon exports.[86] The share of non-hydrocarbon exports in total exports declined markedly over the ten-year period beginning in 1995, from 62 percent to 17 percent, and the share of cotton, in particular, declined from 16 percent to 1 percent. While the shares of machinery and equipment, cotton, and tobacco in total non-oil exports declined between 2002 and 2005, the contribution of metals, chemicals, vegetable oil, and fruits increased (Table IV.1).

[86] Direction of Trade statistics do not provide a breakdown of non-oil exports by destination.

Table IV.1. Azerbaijan: Composition of Non-Oil Exports, 2002–05 1/
(In millions of U.S. dollars)

	2002	2003	2004	2005
Chemical products	58.9	85.1	144.3	143.3
Machinery and equipment	43.9	46.9	50.8	29.2
Raw cotton	22.7	33.3	35.6	22.2
Other goods	133.6	208.8	280.2	303.4
of which:				
Vegetable oil	3.9	41.1	48.3	54.0
Non-ferrous and ferrous metals	21.6	55.1	97.1	82.8
Electricity	18.9	11.3	4.7	20.2
Tea	5.6	3.9	18.6	10.0
Tobacco and cigarettes	20.0	8.7	12.4	14.5
Nuts	14.2	21.3	10.1	33.5
Alcoholic beverages	1.4	3.4	4.1	5.6
Sugar beet/cane	1.3	4.1	5.0	2.1
Caviar	...	...	...	4.9
Liquorice	...	...	...	0.8
Fresh vegetables	...	...	...	25.2
Fruits	5.5	22.0	23.6	10.6
Fruit juice	...	...	...	7.5
Leather	...	...	...	1.6
Other	46.7	31.9	51.7	30.1
Total non-oil exports	259.1	374.1	510.9	498.1
Annual growth rate (in percent) 2/	26.3	44.4	36.6	43.8

Source: Azerbaijan authorities.

1/ 2005: January-September.
2/ 2005: compared to January-September 2004.

C. Institutional Indicators of Competitiveness

108. **Institutional indicators could provide the missing link in explaining the relatively slow response of Azerbaijan's non-oil exports to a continuous REER depreciation during 1998–2004.** The following section analyzes a range of indicators relevant for the assessment of the quality of Azerbaijan's institutions. Indicators include those for progress in transition, the business climate, the trade regime, and governance. Beyond these, the regulatory framework, the state of development of the banking system,[87] and the quality of infrastructure have an immediate impact on the cost of investing and conducting business. The overall picture emerging from this analysis points to the distinctly low quality of Azerbaijan's institutional framework.

[87] The weak fundamentals of Azerbaijan's banking system are highlighted in FitchRatings (2006).

Transition indicators

109. **Azerbaijan ranks below the average of comparator countries with regard to structural indicators of transition.** On the scale of the EBRD transition indicators ranging from 1 to 4+, Azerbaijan was assigned an average of 2.7 in 2005 (EBRD 2005; Table IV.2).[88] In particular, the country was found to lag regional comparators in the areas of small- and large-scale privatization, the development of non-bank financial institutions, and telecommunications. While indicators for de jure price liberalization and the trade and foreign exchange regime were near the top of the range (together with those for the comparator countries), a particularly low ranking was assigned to infrastructure. In line with developments in other countries in the region, the trend over the past four years (2002–05) demonstrates only marginal improvements in structural indicators.

Table IV.2. EBRD Transition Indicators for Azerbaijan and Comparator Countries, 2005 1/

	Average	Large scale priv.	Small scale priv.	Enter-prise restr.	Price liberali-zation	Trade and for. exchange	Compe-tition policy	Banking reform	Non-bank fin. inst.	Infra-structure	Telecom	Railways	Electric power	Roads
Azerbaijan	2.7	2.0	3.7	2.3	4.0	4.0	2.0	2.3	1.7	2.0	1.7	2.3	2.3	2.3
Armenia	3.1	3.7	4.0	2.3	4.3	4.3	2.3	2.7	2.0	2.3	2.3	2.0	3.3	2.3
Georgia	3.0	3.7	4.0	2.3	4.3	4.3	2.0	2.7	1.7	2.3	2.3	3.0	3.0	2.0
Kazakhstan	2.9	3.0	4.0	2.0	4.0	3.3	2.0	3.0	2.3	2.3	2.3	3.0	3.3	2.0
Russia	3.0	3.0	4.0	2.3	4.0	3.3	2.3	2.3	2.7	2.7	3.0	2.7	3.0	2.3
Ukraine	2.9	3.0	4.0	2.0	4.0	3.3	2.3	2.7	2.3	2.0	2.3	2.0	3.3	2.0

Source: EBRD.

1/ The index ranges from 1 (no transition) to 4.3 (equal to a developed market economy).

Business climate indicators

110. **World Bank research points to an unfavorable business and investment climate.** In the World Bank's 2005 ranking of countries by quality of their business climate, Azerbaijan takes the 98th place out of the 155 countries assessed.[89] While Azerbaijan's business climate is perceived as being friendlier than the one prevailing in Georgia and Ukraine, the ranking remains below that of the other regional comparator countries (Table IV.3). On several sub-indicators, Azerbaijan's ranking is comparable to indicators for the region. However, on other important dimensions, Azerbaijan is ranked considerably lower

[88] The indicators range from 1 (no change from a rigid centrally planned economy) to 4.3 (equivalent to the standards of a developed market economy). Azerbaijan's overall transition indicator for 2005 is slightly higher than the average of all CIS economies, as Belarus and some of the Central Asian economies were assigned very low ratings.

[89] http://www.doingbusiness.org. A ranking of 1 is assigned to the country with the best business climate. In the framework of the World Competitiveness Indicators, compiled by the World Economic Forum, Azerbaijan is ranked somewhat better, attaining rank 69 out of 117 countries; with the exception of Kazakhstan, the comparator countries are ranked lower, with an average ranking of 77.

than other countries in the region and in the OECD, in particular in cross-border trade, dealing with licenses, tax payments, and the protection of investors. Detailed measures pointing toward Azerbaijan's unfavorable business climate indicate that (i) starting a business takes 115 days; (ii) the cost of dealing with licenses is equal to 1,326 percent of annual per capita income; and (iii) a total of 55 signatures are needed for imports.

Table IV.3. Business Climate Indicators for Azerbaijan and Comparator Countries, 2005

Indicator	Azerbaijan	Armenia	Georgia	Kazakhstan	Russia	Ukraine	Region	OECD
Starting a business (number of procedures)	14	10	8	7	8	15	10	7
Starting a business (number of days)	115	25	21	24	33	34	37	20
Cost of dealing with licenses (percent of income per ca	1,326	65	145	68	354	229	669	75
Time needed to pay taxes (hours per year)	756	1,120	448	156	256	2,185	432	197
Signatures for export (number)	40	12	35	15	8	9	11	3
Time for exports (days)	69	34	54	93	29	34	32	13
Signatures for import (number)	55	15	42	17	10	10	15	3
Time for imports (days)	79	37	52	87	35	46	43	14
Overall ranking	*98*	*46*	*100*	*86*	*79*	*124*	...	...

Source: World Bank, http://www.doingbusiness.org.

Trade regime

111. **While Azerbaijan maintains a formally liberal trade regime, substantial institutional and bureaucratic obstacles to smooth trade flows remain.** The simple average tariff amounts to 8.7 percent, but some seasonal tariffs are imposed. There are no major non-tariff barriers in place. Azerbaijan applied for membership in the WTO in 1997 and is party to the Black Sea Economic Cooperation treaty, as well as to several bilateral trade agreements. However, trade transactions are hampered by excessive red tape that increases the potential for corruption: the time and the number of signatures needed for both import and export transactions substantially exceed the regional average and the requirements in OECD countries (Table IV.3). Moreover, transportation costs are higher than in neighboring countries, possibly reflecting the costs of circumventing red tape. The costs of shipping a 40ft container from Norfolk port to Baku amount to US$ 3,800, exceeding the costs for a similar shipment to Yerevan (Armenia) and Tbilisi (Georgia) (placed at roughly the same distance from the origin of the shipment) by 52 and 36 percent, respectively.[90]

Governance indicators

112. **Azerbaijan ranks low in international comparisons of the quality of governance and the control of corruption (Table IV.4)**. A comprehensive assessment of institutional quality is provided by Kaufmann et al. (2005), based on a composite index of institutional

[90] Fund staff estimates, based on information made available by major shipping companies. Transport to both Armenia and Azerbaijan requires transshipment through Georgia with the last leg completed by railway.

development, which aggregates a large number of individual variables for perceptions of governance along six basic dimensions:[91] voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and the control of corruption, resulting in a rating on a scale of -2.5 (low quality of governance) to 2.5 (high quality). In this framework, Azerbaijan is rated -0.96 on average, below the average for the comparator countries. Azerbaijan's indicators for government effectiveness and regulatory quality improved markedly between 1996 and 2004, while the indicator for control of corruption deteriorated during this period.

Table IV.4. Governance Indicators for Azerbaijan and Comparator Countries, 2004

	Average	Voice and accountability	Polilitical stability	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
Azerbaijan	-0.96	-0.97	-1.52	-0.81	-0.57	-0.85	-1.04
Armenia	-0.43	-0.66	-0.51	-0.34	0.05	-0.58	-0.53
Georgia	-0.80	-0.34	-1.26	-0.80	-0.64	-0.87	-0.91
Kazakhstan	-0.82	-1.21	-0.11	-0.63	-0.89	-0.98	-1.10
Russia	-0.63	-0.81	-0.85	-0.21	-0.51	-0.70	-0.72
Ukraine	-0.63	-0.62	-0.27	-0.67	-0.48	-0.83	-0.89

Source: http://www.worldbank.org/wbi/governance/govdata/

1/ The indicator ranges from -2.5 (low quality of governance) to 2.5 (high quality of governance).

113. **In the somewhat narrower assessment of the perceived prevalence of corruption by Transparency International, Azerbaijan is ranked 137 out of 158 countries.** Corruption, which constitutes a tax on investors—both domestic and foreign—is perceived to be more widespread in Azerbaijan than in all other CIS countries, with the exception of Tajikistan and Turkmenistan (Table IV.5). Corruption can be expected to have a negative effect on competitiveness, also by lowering investment (Wei, 1997 and Mauro, 1996).

[91] The authors estimate the quality of six dimensions of governance for 209 countries and territories for 1996, 1998, 2000, 2002, and 2004, utilizing several hundred individual measures from 37 different sources, compiled by 31 different organizations. These include international organizations, rating agencies, think tanks, and nongovernmental organizations, such as the Economist Intelligence Unit, the World Bank's Country Policy and Institutional Assessment, Gallup International, World Economic Forum's Global Competitiveness Report, Millennium Challenge Account, and the World Bank's business environment surveys. The number of surveys/polls for each country and dimension has increased steadily throughout the different stages of this survey. (Governance Matters IV: Governance Indicators for 1996–2004, http://www.worldbank.org/wbi/governance/govdata/)

Table IV.5. Selected CIS Countries: Corruption Perceptions Index, 2005 1/

Country	Score	Rank
Armenia	2.9	88
Moldova	2.9	88
Belarus	2.6	107
Kazakhstan	2.6	107
Ukraine	2.6	107
Russia	2.4	126
Georgia	2.3	130
Kyrgyz Republic	2.3	130
Azerbaijan	2.2	137
Uzbekistan	2.2	137
Tajikistan	2.1	144
Turkmenistan	1.8	155

Source: Transparency International.

1/ The index ranges from 10 (highly clean) to 0 (highly corrupt).

D. Conclusions and Policy Recommendations

114. **The analysis of stylized facts indicates that the observed REER dynamics is broadly in line with several fundamentals, including the terms of trade and the size of expenditure, during 1995–2005, but there were periods when deviations from the REER equilibrium appear to have been significant.** Looking forward, similar fundamentals will likely cause strong real appreciation pressures. In fact: (i) oil exports are projected to increase by 45 percent per year on average during 2006–09, reaching about 1.4 million barrels per day toward the end of the decade; (ii) the external environment is assumed to remain favorable; (iii) investment inflows are expected to continue against the background of Azerbaijan's ongoing transition to a market economy; (iv) substantially higher government expenditures are expected to lead to demand and inflationary pressures;[92] and (vi) large-scale wage increases, induced by government-led increases in the minimum wage, will continue to exert cost pressures.

115. **Azerbaijan's experience also suggests that monetary policy was not successful in offsetting the impact of fundamentals on the REER dynamics for prolonged periods.** Therefore, as the appreciation of the REER can likely not be avoided, the authorities would

[92] The staff estimates that in 2006, government expenditures will rise by about 62 percent over the previous year. See Annex I.1 for a discussion of the 2006 inflation forecast.

be well-advised to allow the nominal exchange rate to appreciate rather than opting for a higher inflation rate.

116. **In view of the likely increase of competitiveness pressures, the authorities need to implement productivity-enhancing structural reforms.** Measures of critical importance include improvements to the business and investment climate through enhanced governance in both the private and the public sectors, as well as efforts to reduce corruption, also in the context of the existing anti-corruption legislation. While the oil sector is afforded some legal protection through its overall clout and the specific PSAs, the non-oil sector lacks this protection and is thus particularly vulnerable. The overall efficiency of the economy needs to be supported by financial sector strengthening and by fostering competition. Trade liberalization at both the formal and the informal levels would also support Azerbaijan's integration into the global economy.

Table IV.1.1. New INS Weights of Partner Countries for Azerbaijan
(In percent)

Singapore	1.3
Georgia	1.3
Poland	1.6
United Arab Emirates	1.6
Belgium	1.6
Sweden	1.3
Switzerland	2.1
Netherlands	2.2
Turkmenistan	2.5
China	2.6
Ukraine	3.3
Italy	3.5
France	3.6
Tajikistan	4.2
Japan	5.1
United Kingdom	6.3
Germany	7.7
Iran, Islamic Rep. Of	10.0
Turkey	11.8
United States	12.9
Russia	13.5
Sum	100

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