Do FX traders in Bishkek have similar perceptions to their London colleagues?
Survey evidence of market practitioners' views

Andreas M. Fischer, Gulzina Isakova and Ulan Termechikov

Swiss National Bank Working Papers
2007-1
SCHWEIZERISCHE NATIONALBANK
BANQUE NATIONALE SUISSE
BANCA NAZIONALE SVIZZERA
BANCA NAZIUNALA SVIZRA
SWISS NATIONAL BANK

ISSN 1660-7716

Do FX traders in Bishkek have similar perceptions to their London colleagues? Survey evidence of market practitioners' views*

Andreas M. Fischer[1]
Gulzina Isakova[2]
Ulan Termechikov[2]

January 2007

Abstract

We ask whether FX dealers from Kyrgyzstan, a low income country, have similar perceptions to FX dealers from other international financial centers. Perceptions of Kyrgyz FX dealers in the interbank market are tested using detailed survey data against survey information from five major financial centers. The survey evidence finds that the FX dealers' responses from the Kyrgyz interbank market differ from those from other international financial centers. Stark differences arise in the perceptions concerning the effectiveness of central bank interventions and the influence of speculation.

Keywords: Foreign exchange traders, survey study, microstructure, FX interventions
JEL Classification: C42, F31, G14

1. Swiss National Bank and CEPR, Börsenstrasse 15, 8001 Zürich Switzerland.
Email: andreas.fischer@snb.ch
Telephone: + 44 41 631 32 94

2. National Bank of the Kyrgyz Republic, City of Bishkek, Umetalieva Street 101, 720040, The Kyrgyz Republic
Email: gisakova@nbkr.kg
utermechikov@nbkr.kg
Telephone: +996 312 669040, +996 312 669049

* Without implicating them, the authors would like to thank an anonymous referee, Martin Brown, Christopher Neely, and Marcel Peter for their constructive comments. The views expressed in this paper are solely the responsibility of the authors and should not be interpreted as reflecting the views of the Swiss National Bank or of the National Bank of the Kyrgyz Republic.

Introduction

Do currency traders from a low income country with a low level of financial development have similar perceptions about the influence of fundamentals on exchange rate movements to their colleagues from developed financial markets? The question's relevance stems from the common belief that currency traders in underdeveloped financial markets exhibit myopic behavior. One view is that uncertainty stemming from poor macroeconomic policy and a lack of central bank credibility is responsible for such behavior. Calvo and Reinhart (2002) provide indirect evidence using macroeconomic variables. They show that many emerging market countries resort to pegging strategies, despite counter claims by the countries' monetary authorities that the domestic currency floats freely. Currency traders in such an environment feel that (unpredictable) long-run fundamentals do not help them predict exchange rate trends. Another view emphasizes that short-sightedness stems from market structure. The microstructure view of exchange rates, advanced by Lyons (1995, 2001) and Evans and Lyons (2002), claims that currency traders are intermediaries that primarily redistribute incoming customer orders. According to this view, variables such as order flow or bid-ask spreads have a larger impact on exchange rates than do macroeconomic variables. If true, then large market spreads and exchange rate volatility in underdeveloped markets is explained by market structure (i.e., low liquidity, lack of derivate products).

The objective of this paper is to report findings from a foreign exchange (FX) survey that sheds light on whether currency traders from a low income country have similar perceptions on the influence of fundamentals, speculation, and foreign exchange interventions for exchange rate movements to their colleagues from developed financial centers. FX surveys document the extent to which FX traders are heterogeneous in their beliefs and behavior and seek to uncover various links between the microstructure of the currency market

and macroeconomic variables.[1] Perceptions of Kyrgyz FX dealers in the interbank market are tested using detailed survey data against survey information from five major financial centers: New York, London, Tokyo, Hong Kong, and Singapore. The comparative study also attempts to fill the empirical void on perceptions of currency traders in developing economies. We treat the FX traders' views from Bishkek, Kyrgyzstan as representative for an underdeveloped financial market and low income economy (Kyrgyz GDP per capita was $376.8 in 2003 and $435.0 in 2004). By underdeveloped FX market, we mean that there are no forward markets, a high level of dollarization, customer driven FX transactions (i.e., low level of speculative activity), and a low level of financial participation in the interbank market. These properties of the Kyrgyz FX market are representative for FX markets in neighbouring CIS countries and many other developing economies.

The methodological framework in this study relies heavily on the questionnaires used in Cheung and Wong (2000), Cheung et al. (2000), and Cheung and Chinn (2000). The standardized questions used in these studies are adapted to the Kyrgyz market and allow us to compare the evidence on trading behavior between developed and less developed FX markets. The survey responses find that the perceptions of FX traders from Bishkek are not consistent with the trader's perceptions from New York, London, Tokyo, Hong Kong, and Singapore. We argue that stark differences in microstructure forces (i.e., market liquidity, asymmetric information, and market dominance) account for the heterogeneous views across less developed and developed FX markets.

The paper is organized as follows. The first section describes the survey's design. The second section provides background information on Kyrgyz FX traders. The third section

[1] FX surveys are an established tool used to identify the price setting process of foreign exchange traders, see Allen and Taylor (1990), Cheung and Wong (2000), Cheung et al. (2000), and Cheung and Chinn (2000), Gehrig and Menkhoff (2004, 2005) and Menkhoff (1998, 2001), and Taylor and Allen (1992). Their acceptance in the economics profession arose because of the empirical inadequacies of exchange rate models and the need to bridge the gap between concepts forwarded by academic economists and the day-by-day concerns of currency traders.

confronts the empirical results for the Kyrgyz interbank market with stylized facts from previous studies for developed FX markets. Section four offers conclusions.

1. Survey Design

The survey's design uses the standardized questionnaires from Cheung and Wong (2000), Cheung et al. (2000), and Cheung and Chinn (2000) as a starting point. This was done intentionally to facilitate the comparison of FX dealer perceptions between international financial centers. Because of specific institutional features of the Kyrgyz FX market, not all questions used in the studies by Cheung and Wong (2000), Cheung et al. (2000), and Cheung and Chinn (2000) apply. The adapted questions to the Kyrgyz market that highlight institutional aspects of the Kyrgyz market are discussed separately in the next section. These questions relate to microstructure issues focusing on the determination of bid-ask spreads, market dominance for select cross rates, and the speed of information dissemination.

The data for this study are obtained from mail-delivered questionnaires prepared by staff from the National Bank of the Kyrgyz Republic (NBKR) between June 2005 and September 2005.[2] The survey was conducted in an environment where the macro-economic conditions in the Kyrgyz Republic may be described as stable.[3] The period since 2001 has been characterized by successful macroeconomic stabilization, with further progress on structural reform, albeit at a pace slower than hoped.[4] Underlying growth has been stable at around 5 percent per annum and overall economic activity has diversified, with less reliance on agriculture and export sales to traditional trading partners. Inflation was reduced and

[2] The survey studies by Cheung and Wong (2000), Cheung et al. (2000), and Cheung and Chinn (2000) were conducted in the second half of the 1990s. Since then, survey evidence from the Triennial Central Bank Survey of Foreign Exchange and Derivates Market Activity 2005 show that FX markets have continued to expand. This means comparative differences between Kyrgyzstan and other financial markets are understated.

[3] The Kyrgyz Republic is a small, open transition economy. The main exports are gold and agriculture. In recent years progress has been made in alleviating poverty. Kyrgyzstan is among the more advanced transition economies in Central Asia in terms of market reforms. International Monetary Fund (2003) offers an overview of the Kyrgyz financial system.

[4] The Kyrgyz Republic has experienced three distinct periods of macroeconomic development since independence. The period until 1996 was characterized by macroeconomic instability, a common development in the CIS after the collapse of the Soviet Union. The period from 1996 to 2000 saw a resumption of growth and a decline in inflation. However, the large external shock owing to the Russian financial crisis in 1998 undermined these positive developments.

sustained in the low single digits, well below than in partner countries, and thus the real effective exchange rate has not appreciated as the nominal effective exchange rate has strengthened.

Currency traders in the Kyrgyz interbank market are the NBKR and 34 active FX dealers from 19 commercial banks. Trading in the interbank market is from 8:00 am to 5:00 pm and is preformed through a platform developed by the NBKR.[5] The front-end of the trading platform (i.e., information observed by all traders) specifies the FX quote, the volume, and the commercial bank. Most often only one-sided quotes are entered in the system in order to signal the trader's willingness to buy or sell. The back-end of the trading platform (i.e., information not observed by all traders) gives information on the completed FX transaction only to the participants involved and to the NBKR. The NBRK hence has an information advantage over other market participants, because only the central bank possesses real-time information on order flow trading for the FX interbank market.[6]

The NBKR survey was sent to all FX dealers active in the Kyrgyz interbank market. All traders complied and returned their responses to the NBKR within three weeks. The 100% response rate means that our survey covers all active FX traders in Kyrgyzstan. Previous FX dealer surveys by Cheung and Wong (2000), Cheung and Chinn (2001), and Cheung et al. (2000) had response rates often below 15%.[7] Despite a high participation rate two issues need to be mentioned when we compare our results with those in Cheung and Wong (2000), Cheung and Chinn (2001), and Cheung et al. (2000). First, the low number of Kyrgyz traders in the FX market reflects the limits of financial surveys for less developed financial markets. The limited number of observations could give rise to heterogeneity problems if Kyrgyz

[5] Translated from Russian, the trading platform is called "Trade Informational System for Operations in the Foreign Exchange Market."
[6] Developed FX interbank markets that trade through trading platforms such as EBS and Reuters Dealings do not provide aggregate order flow information in real time to FX participants.
[7] The response rates were 32.15% from Hong Kong (227 survey respondents), 14.42% from Tokio (76), and 13.82% from Singapore (89) in Cheung and Wong (2000); 8.1% from the United States (142) in Cheung and Chinn (2000), and 5.8% (110) from the United Kingdom in Cheung et al. (2000). Response rates in Taylor and Allen (1992) and Gehrig and Menkhoff (2005) are higher.

dealers demonstrate a high level of diverse beliefs. Second, the responses of the NBKR survey may not be as objective as the responses given in surveys conducted by economists from academia. If Kyrgyz FX dealers feel they are not completely independent from the NBKR, there may be a tendency to give the "right" answer as opposed to the "true" answer. This issue maybe especially problematic for interpreting uniform responses that address questions related to central bank interventions.

2. Background Information on FX Trading in Kyrgyzstan

Underdeveloped FX markets provide illuminating answers for many microstructure issues on market liquidity, spread setting, asymmetric information, and market dominance. This section presents descriptive information on these issues specific to the Kyrgyz FX market. The discussion is useful for the comparative analysis between international financial centers in the next section.

Information on traders and bank structure

Table 1 summarizes information on survey respondents and their organization. The first two questions (1a and 1b) ask about the job title and the trader's experience. The distribution of job titles and years of trading experience is not identical. Almost two-thirds of the dealers are treasurers or managers. In terms of experience, a third of the FX dealers stated they have less than three years of experience. The other experience categories of 3 to 5 years, 5 to 7 years, and more than 7 years are almost equally represented. The responses find that experience however is not equated with management responsibility. A rank sum test rejects the null hypothesis that FX dealers with seven or more years of experience are

treasurers/managers. This suggests that the seniority of the survey respondents does not correspond with management responsibility.[8]

The intraday position limit is the maximum open position a dealer is authorized to assume during the day. Since in most cases, dealers square their positions at the end of the trading day, the intraday position limit can be used as a proxy for a dealer's trading capacity. Question 1c shows the responses to the position limits. The position limits for almost half of the FX dealers lies between 50'000 and 100'000 USD, a scale that is 1'000 times smaller for most experienced traders operating in developed FX centers.[9]

Questions 1d to 1g provide information on bank characteristics: staff size, presence of foreign capital, average FX turnover, and transactions type. FX dealers tend to work in small groups of two or three. Almost half of the FX dealers' banks operate with foreign capital. Kazakhstan, for example, has a financial stake in four of the nineteen Kyrgyz banks. Next, the responses for question 1f show that the average daily FX turnover for most Kyrgyz banks is between 1 and 3 million som (roughly 25'000 and 75'000 USD).

A further feature of FX trading in the Kyrgyz Republic is that it is customer driven. Question 1g shows that 94% of interbank dealers say they conduct primarily trades for customers. It is rare that the dealers engage independently in speculative trades. This feature of the Kyrgyz spot market implies that there is a shortage of stabilizing speculators, which has implications for interpreting the size of spreads and the role of fundamentals discussed in the next section.

Bid-ask spreads

Table 2 provides responses to four questions concerning bid-ask spreads offered by banks to their established clients for purposes of executing customer trades. The bank's clients

[8] Previous FX surveys did not examine the correlation between experience and management responsibility.
[9] Cheung and Wong (2000) find that a quarter of the FX dealers in their survey for Asian financial markets had limits of $55 million or higher. One way to compare internationally the position limits is to scale them by the bank's balance sheets. Such a measure shows that the Kyrgyz limits are considerably smaller than those of their foreign colleagues.

use its foreign exchange services to carry out their commercial activities (import and export of goods and services). The information on bid-ask spreads offered to customer clients acts as a proxy for interbank spreads, because of the interbank market's practice of offering only one-sided quotes. The evidence in Table 2 is thus not comparable to other FX survey studies.

The first question 2a asks: what is the typical bid-ask spread quoted to clients in customer trades? The respondents were asked to give spreads for the US dollar, the Russian ruble, euro, and the Kazak tenge. The descriptive statistics, given under the heading of 2a, show that there are large differences in spreads (as measured by their average, median, and standard deviation) across the four currencies; a result observed even in developed FX markets.[10] A surprising result is the observation that in a dollarized economy (73% as measured by deposits in 2005) the spreads are larger for the hard currencies, U.S. dollar and euro, than for the commercial activity related currencies, the Kazak tenge and the Russian ruble.

Next, the FX dealers were asked if the bid-ask spread is determined by convention or by the potential cost of making the trade. The responses to question 2b show that 81% felt habit formation determines the bid-ask spread. To gain further insights on what explains market conformity, question 2c lists five explanations: bank policy, maintain client relationship, image for the bank, profit maximization, and the practice of following other major players. The most frequently cited answer was to secure a good image for the bank. This reflects a possible sign of market infancy, because profit maximization is not frequently mentioned. The last question seeks to unfold the motives for quoting bid-ask spreads for customer trades that differ from market convention. Question 2d lists the responses for seven different market situations (i.e., thin and quiet market, thin and nervous market, an unexpected change in market trading, market news, increased market volatility, holding a

[10] Spot bid-ask spreads of the cross rates for Swiss franc, Canadian dollar, British pound, and Australian dollar are larger than the (bid-ask) spreads involving the US dollar or euro. Ma et al. (2004) show large differences in spreads for non-deliverable forwards in Asian currencies.

position against market trend, and a quote for a specific customer). The responses attempt to separate the role of liquidity, volatility, market trends from individual customer treatment. Increased market volatility and an unexpected change in market trading are the most frequent answers.

Market dominance

The influence of market dominance in currency markets can be easily tested with survey questions and acts as a consistency check on the previous results. Cheung et al. (2000) find evidence that big players in London dominate the market for the U.S. dollar/Swiss franc and the U.S. dollar/ U.K. pound. Similarly, Cheung and Chinn (2001) document evidence of market dominance in the New York market.

Table 3a shows the responses to the question whether Kyrgyz traders agree if FX markets are dominated by one or a few big players. Four currency markets are considered: the Kyrgyz som / US dollar, the Kyrgyz som / Russian ruble, the Kyrgyz som / euro, and the Kyrgyz som / Kazak tenge. FX dealers feel strongly (91.2%) that the Kyrgyz som / US dollar market is dominated by one or few big banks, whereas the market concentration is perceived to be lower for the other currencies. A high level of market dominance and dollarization may explain the large spreads for the U.S. dollar in Table 2, yet these properties are unable to account for the even larger spreads for the euro. Low commercial demand for the euro was a frequent response in follow-up interviews.

Table 3b provides responses to the sources of competitive advantage for the large players in the FX market. The survey respondents were asked to tick three answers to the eight explanations: operating costs, information, size of customer base, ability to handle large trades, influencing the exchange rate, ability to offer new FX products, and experience. The overwhelming response is customer base.

Market information

The speed with which new information is absorbed in a market reflects the degree of market liquidity. Generally in liquid FX markets, news is assimilated in asset prices in a matter of minutes, whereas in non liquid FX markets the process takes longer. Question 4 asks currency traders how fast they believe the market can digest new information when considering economic news, political news, customer information, cash market information, and news from the NBKR. The responses suggest that it takes more than 10 minutes for new information to be fully incorporated, a result at odds with many event studies for developed FX markets. Anderson et al. (2003) and others show that in developed financial markets prices respond considerably faster to new information.

Table 4 shows that news from the NBRK is assimilated the quickest. Close to 40% of the respondents said it took less than 10 minutes. In many instances, there is strong evidence that other forms of news may take considerable time (i.e., more than 30 minutes) to assimilate. Economic news appears to feed through to exchange rates just as quickly as customer information. This last result is odd because the general view is that public information should be assimilated more quickly than (private) customer-based information.

3. Survey Responses: Bishkek versus the Major Financial Centers

To answer the question whether the perceptions of FX dealers from underdeveloped markets differ from dealers from developed markets, we compare the NBKR survey responses from the interbank market in Bishkek with those from the interbank market in New York, London, Hong Kong, Tokyo, and Singapore. To do this we rely on survey responses in Cheung et al. (2000), Cheung and Wong (2000), and Cheung and Chinn (2001). Direct comparison is possible because of the standardized questions. Our criterion for comparison relies on common questions concerning economic fundamentals influencing the exchange rate, i.e., the role of PPP, exchange rate predictability, and central bank interventions.

Our comparative analysis uses independence tests to examine whether Bishkek dealers behave the same as FX dealers in the other financial centers. Rejection of the null implies evidence of incongruous perceptions between traders from the different financial centers. The tests are conducted for Bishkek dealers against two groups of homogenous financial centers. The North Atlantic group defined by FX dealers from New York (19% of global FX transactions as measured by the Triennial Central Bank Survey of Foreign Exchange and Derivates Market Activity, see BIS 2005) and London (33%) represents the largest financial centers for FX trading, whereas the Asian group defined by FX dealers from Hong Kong (5%), Tokyo (9%), and Singapore (6%) represents the second tier.[11] In Tables 5 and 6, we show that our choice of homogenous groups for the Asian and North Atlantic block is statistically supported. The p-values of the independence tests for the two groups without the Bishkek dealers are given in parenthesis. They reveal that the null hypothesis of common perceptions for the North Atlantic group is never rejected at the 5% level and that the Asian group demonstrates evidence of common beliefs except for five questions concerning speculation (5c) and central bank intervention (6b). This information serves as a reference when discussing the evidence for Bishkek.

Economic fundamentals as a predictor of exchange rate movements

Table 5 presents responses from FX traders to four questions on economic fundamentals and the exchange rate. The first question asks whether exchange rate movements accurately reflect changes in fundamentals for three time horizons: intradaily, medium run (less than six months), and long run (more than six months). The affirmative responses given in Table 5a show that there is not much disparity in perceptions between

[11] Further tests reveal that the North Atlantic and the Asian group do not have uniform perceptions. In this paper we do not investigate why this is the case. We also considered without success to group the financial centers along exchange rate regimes according to the IMF classification: independently floating (New York, London, Tokyo), managed floating with no pre-determined path for the exchange rate (Singapore, Bishkek), and currency board arrangement (Hong Kong).

Bishkek traders and those from other financial centers. They show that economic fundamentals are thought to be reflected in movements in the exchange rate in the medium and long run, a result consistent with empirical findings by Mark (1995) for several currencies and survey findings by Taylor and Allen (1992) for the London market and by Gehrig and Menkhoff (2004) for Germany. A slight difference in the response pattern between Bishkek and the other financial centers is that for the developed FX markets the number of affirmative responses increases with the time horizon, whereas for Bishkek the maximum responses are at the medium-term horizon. Greater political or economic uncertainty resulting in slightly greater myopic behavior may be one explanation for the Bishkek results, although we are unable to offer an empirical test for this claim.

The independence tests confirm the congruous perceptions of Bishkek traders with the two groups of financial centers (marked in bold are the responses to the questions listed in Table 5). The tests support the percentages of affirmative responses, revealing that exchange rate movements do not reflect changes in fundamentals at the intradaily horizon but do so at longer horizons. The p-values from the independence tests are all greater than 0.05 except for the long-run horizon with the North Atlantic group.

The affirmative responses to whether PPP is a good predictor of exchange rate movements is given only for Bishkek, New York, and London in Table 5b.[12] Again, the responses of all traders show that PPP is thought not to have much predictive power at the intradaily frequency but some at longer horizons. A statistical test of this claim is only supported for the long run. The p-values of the independence test is lower than 0.05 for the intraday and medium run horizon.

The next question on economic fundamentals asks whether excessive speculation, bank manipulation, or excessive central bank intervention account for exchange rate movements not explained by economic fundamentals. The affirmative responses, listed in

[12] Cheung and Wong (2000) did not pose this question in their study for Asian financial centers.

Tables 5c, show considerable differences between Bishkek traders and traders from developed FX markets. Traders from developed FX markets place a high weight to excessive speculation and a weight of less than 50% to bank manipulation, whereas the Bishkek traders assign a low weight to speculation and a high weight to bank manipulation and excessive central bank intervention.

The independence tests show that the perceptions of the Bishkek traders clearly differ from those held by the two groups. The p-values of the independence tests are below 0.05 in each case, despite the fact that New York and London exhibit strong evidence of homogenous beliefs. The latter result is not true for the Asian group, since all p-values in parentheses are well below 0.05.

Table 5d provides the average rank of exchange rate predictability on a scale from 1 (no predictability) to 5 (high predictability). The relative differences across time horizons for the individual markets allow us to state how confident traders are at making exchange rate predictions. Considerable discrepancy arises between Bishkek traders and the others. The Bishkek traders express high confidence in being able to predict exchange rate movements at the intradaily frequency, but this confidence wanes fast as the forecast horizon moves forward in time. The other traders (except for Tokyo) express greater confidence at being able to predict exchange rate movements at the medium-term horizon.

The Bishkek traders' responses on the ability to predict intradaily versus longer term horizons is difficult to reconcile with their answers given to questions 5a and 5b on fundamentals. They appear to go in opposite directions: yes to the importance of fundamentals at the medium to long run horizon, but no to the ability to predict at the same horizon. This conflict suggests that changes in exchange rates are due to unpredictable changes in fundamentals. The predictable changes are already impounded into the spot rate.

Speculation

Speculation can be viewed as having a stabilizing or a destabilizing influence on financial markets. Generally the latter is associated with illiquid markets. Affirmative responses to whether speculation increases volatility, moves exchange rates away from fundamentals, increases liquidity and improves market efficiency are given in Table 6a. Regarding speculation and volatility, virtually all FX dealers believe that speculation increases exchange rate volatility. This result is supported by the independence test. In terms of fundamentals, more than three-fourths of the Kyrgyz traders believe speculation moves the exchange rate away from fundamentals. The absence of forward markets and private sector agents (i.e., hedge funds) willing to hold open positions for a prolonged period in Bishkek suggests that there are few stabilizing speculators that push the exchange rate toward the fundamental price. The London and New York markets instead see speculation as beneficial in that it pushes the exchange rate towards fundamentals, whereas the Asian traders with affirmative responses of nearly 50% have no clear views. These differences in perceptions between Bishkek and the North Atlantic group and also with the Asian group are supported by the independence tests.

Although the Bishkek traders recognize the benefits of increased liquidity and improved market efficiency stemming from speculation, they are not as convinced as their colleagues from developed financial centers. Traders from developed financial centers responded consistently in the affirmative in more than 75% of the cases, whereas the Bishkek traders responded affirmatively at levels just below 60%. This disparity is reflected in the results of the independence tests for liquidity. The null hypothesis of homogenous views among FX traders is rejected for both groups. Instead the results are mixed when testing for speculation's influence on market efficiency; the null of homogeneous perceptions cannot be rejected for Bishkek versus New York/London, whereas it is rejected for the difference

between Bishkek and Hong Kong/Tokyo/Singapore. We are unable to offer an explanation for this result.

Central bank interventions

The NBRK intervenes regularly in the Kyrgyz som / US dollar spot market.[13] The NBKR's intervention rule of leaning against short-term fluctuations has been successful in keeping the som stable against the dollar in recent years. The NBKR intervenes in both directions to smooth seasonal fluctuations and to stem the volatility in the Kyrgyz som / US dollar rate. However, in recent years it has purchased more dollars than it has sold dollars.[14] Although there are no empirical studies on the effectiveness of NBRK interventions, many studies for transition and emerging economies summarized in BIS (2005) find that foreign exchange interventions are effective.[15] The survey responses on NBRK interventions confirm this view.

Kyrgyz traders perceive central bank interventions to be much more successful than FX dealers from developed FX markets.[16] This observation is true for all responses listed in Table 6b: interventions are seen as not necessarily increasing exchange rate volatility or moving the exchange rate away from fundamentals; and interventions are perceived to be conducted at the right moment and achieve their desired goal. Particularly large differences in views arise on the impact of interventions on the volatility exchange rates: an issue frequently examined in the empirical literature that remains unresolved. The responses from FX traders in developed financial markets suggest that interventions have a destabilizing influence on the

[13] Not all interventions are sterilized. For a discussion of NBRK monetary policy objectives see http://www.int.nbkr.kg/web/interfeis.builder_frame?language=ENG.
[14] NBRK exchange rate reserves in dollars increased from $24.5 million in 2002 to $71.3 million in 2005. Seasonal fluctuations in the som / dollar exchange rate occur because of tax payments and agricultural exports.
[15] For developed financial markets, the opposite views generally holds, see Sarno and Taylor (2001) and Neely (2005).
[16] Survey studies on foreign exchange interventions by Neely (2006, 2000), Lecourt and Raymond (2004), and Mihaljek (2004) cover similar issues, but investigate aggregated perceptions of central bankers. They do not examine the differing views between high and low income countries and heterogeneous perceptions among central bankers from the same institution.

exchange rate in that they increase exchange rate volatility. Many empirical studies for the major currencies by Baillie and Osterberg (1997), Beine and Laurent (2003), Dominguez (1998), Edison, Casin, and Liang (2003) and others find that central bank interventions are associated with higher exchange rate volatility. Instead, Kyrgyz traders regard interventions to be beneficial in stabilizing the exchange rate: a result that is consistent with empirical evidence from emerging markets, see Disyatat and Galati (2005). These views based on the high affirmative responses by Kyrgyz traders are supported by the independence tests in Table 6b. In each case, the null hypothesis of homogenous perceptions is rejected at the 5% critical level for both groups.

One explanation for the opposing views on the effectiveness of central bank interventions is what psychologists call social desirability bias. The Kyrgyz respondents are aware that the NBKR collected the survey data. This is in contrast to the survey information for the developed financial centers, which were collected by academic researchers. If Kyrgyz FX traders are not independent and are providing answers that the NBKR wants to hear, then clearly the effectiveness of NBKR policy is overstated.

An alternative explanation for the difference in perceptions could be microstructure issues. Let us consider the role of market liquidity and asymmetric information. In a small and illiquid FX market such as in Bishkek, the NBKR exercises considerable market power. It is argued by Sarno and Taylor (2001) and Neely (2005) that central bank interventions in liquid FX markets are too small to directly influence the exchange rate through the portfolio balance channel (i.e., the relative supply of domestic and foreign currency denominated assets affects the foreign-exchange risk premium and thereby the exchange rate). Central banks have to resort to other mechanisms such as the signalling channel that tries to influence the exchange rate through changes in exchange rate expectations, see Neely (2006 and 2005). In this context, the NBKR conducts its interventions through the interbank platform, which is visible to all market participants. Its presence is not secret because it sets and responds to quotes

when conducting an intervention. Neely's (2000) survey on central bank intervention practices, instead, finds that most central banks from developed and leading emerging market countries try to avoid the interbank trading platform (i.e., EBS or Reuters Dealings) when executing foreign exchange interventions with commercial banks. They prefer telephone communication. This means official or rumoured interventions are communicated through a newswire service and not through observed actions as is the case for the NBKR.[17] Further, the NBKR possesses order flow information of all interbank transactions. This advantage allows the NBKR to deduce the direction and volume of the intervention in real time needed to correct market imbalances. This is not the case for the five central banks of the other financial centers. Critics of central bank intervention, such as Schwartz (2000), argue that central banks do not posses an information advantage and should refrain from intervening. An additional factor for the perceived success of NBKR interventions is the recent tightening of the limits on open positions for foreign currency (i.e., the mismatch of assets and liabilities in foreign currency) for Kyrgyz commercial banks.[18] The tightening of the limits on open positions reduces the ability of commercial banks to maintain long/short positions for speculative purposes. Apart from the NBKR, there are few agents in the Kyrgyz market that are able to operate with prolonged open positions.

4. Conclusions

The principal hypothesis asks whether FX dealers from a low income country with a low level of financial development have similar views on fundamentals to FX dealers from developed financial centers. The perceptions of Kyrgyz FX dealers are tested against the beliefs of traders from five financial centers. If microstructure issues do not matter and macroeconomic developments are perceived to be stable, then FX dealers across international

[17] See Fischer (2005) for a discussion of newswire announcements of foreign exchange interventions and their transmission in the FX market.
[18] Currently, open positions in foreign currency cannot exceed 15% of total bank capital.

markets should regard similarly the importance of fundamentals for exchange rate movements.

The international evidence on FX dealers from the interbank market finds that the trading practices between Bishkek FX dealers and their counterparts from developed FX markets is not uniform. Survey responses especially from FX dealers in New York and London reveal that they have homogenous views on the role of economic fundamentals, the effectiveness of central bank interventions, and the influence of exchange rate speculation. The Bishkek traders instead express less confidence in exchange rate forecasting and in the long-run impact of economic fundamentals being accurately reflected in exchange rate movements. These near-sighted beliefs can be explained by a lack of market depth and/or greater uncertainty attributed to the domestic currency. The destabilizing impact arising from exchange rate speculation and the effectiveness of NBKR interventions from the Kyrgyz responses are contrary to views held by FX traders operating in developed FX markets. We attribute the low liquidity level and the strong presence of the central bank as important explanations for the differences in the survey responses between FX dealers from Kyrgyzstan and FX dealers from developed FX markets.

References

Allen, H., and M. P. Taylor (1990) "Charts, Noise and Fundamentals in the London Foreign Exchange Market," *Economic Journal* 100, 49-59.

Anderson, T., T. Bollerslev, F. X. Diebold, and C. Vega (2003) "Micro Effects of Macro Announcements: Real-Time Price Discovery in Foreign Exchange," *American Economic Review*, vol. 93 (2003), pp. 38-62

Baillie, R. and W. P. Osterberg (1997) "Central Bank Intervention and Risk in the Forward Market," *Journal of International Economics*, 43(3-4) 483-97.

Beine, M. and S. Laurent (2003) "Central Bank Interventions and Jumps in Double Long Memory Models of Daily Exchange Rates," *Journal of Empirical Finance* 10(5), 641-60.

BIS (2005) *Foreign Exchange Market Interventions in Emerging Markets: Motives, Techniques and Implications*, BIS papers number 24. Bank for International Settlements, Basel, Switzerland.

Calvo, G. and C. M. Reinhart (2002) "Fear of Floating," *Quarterly Journal of Economics* 117(2), 379-408.

Cheung, Y. W., and C.Y. P. Wong (2000) "A Survey of Market Practitioners' Views on Exchange Rate Dynamics," *Journal of International Economics* 51, 401-419.

Cheung, Y. W., M. D. Chinn, and I. W. Marsh (2000) "How Do UK-Based Foreign Exchange Dealers Think Their Market Operates?," NBER Working Paper Series 7524.

Cheung, Y. W., and M. D. Chinn (2001) "Currency Traders and Exchange Rate Dynamics: A Survey of the US Market," *Journal of International Money and Finance* 20, 439-471.

Disyatat, P. and G. Galati (2005) "The Effectiveness of Foreign Exchange Intervention in Emerging Market Countries: Evidence from the Czech Koruna," Working Paper 172, Bank for International Settlements.

Dominguez, K. (1998) "Central Bank Intervention and Exchange Rate Volatility," *Journal of International Money and Finance* 17(1), 161-190.

Edison, H., P. Cashin and H. Liang (2003) "Foreign Exchange Intervention and the Australian Dollar: Has it Mattered?" International Monetary Fund Working Paper, May.

Evans, M. D. D. and R. K. Lyons (2002) "Order Flow and Exchange Rate Dynamics," *Journal of Political Economy* 110(1), 170-180.

Fischer, A. M. (2005) "On the Inadequacy of Newswire reports for Empirical Research on Foreign Exchange Interventions," SNB Working Paper 2005-2, *Journal of International Money and Finance*, forthcoming.

Gehrig, T. and L. Menkhoff (2004) "The Use of Flow Analysis in Foreign Exchange: Exploratory Evidence," *Journal of International Money and Finance* 23, 573-594.

Gehrig, T. and L. Menkhoff (2005) "The Rise of Fund Managers in Foreign Exchange: Will Fundamentals Ultimately Dominate?," *The World Economy* 28(4), 519-540.

International Monetary Fund (2003) "Kyrgyz Republic: Financial System Stability Assessment, including Reports on the Observance of Standards and Codes on the following topics: Monetary and Financial Policy Transparency, Banking Supervision, and Payment Systems," IMF Country Report No. 03/52. Washington, D.C.

Lecourt, C. and H. Raymond (2004) "Central Bank Interventions in the Light of Survey Results," Mimeo, University of Namur.

Lyons, R. K. (1995) "Tests of Microstructure Hypotheses in the Foreign Exchange Market," *Journal of Financial Economics* 39(2-3) 321-351.

Lyons, R. K. (2001) *The Microstructure Approach to Exchange Rates*, Cambridge: MIT Press.

Ma, G., C. Ho, and R. N. McCauley (2004) "The Market for Non-Deliverable Forwards in Asian Currencies," *BIS Quarterly Review* 81-94.

Mark, N. (1995) "Exchange Rates and Fundamentals: Evidence on Long-Horizon Predictability, " *American Economic Review* 85(1), 201-218.

Menkhoff, L (2001) "Short-Term Horizons in Foreign Exchange? Survey Evidence from Dealers and Fund Managers," *Kyklos* 54, 27-48.

Menkhoff L. (1998) "The Noise Trading Approach – Questionnaire Evidence from Foreign Exchange," *Journal of International Money and Finance* 17, 547-564.

Mihaljek, D. (2005) "Survey of Central Bank's Views on Effects of Intervention," BIS Papers No. 24, Bank for International Settlements.

Neely, C. (2006) "Authorities' Beliefs about Foreign Exchange Intervention: Getting Back Under the Hood," Federal Reserve Bank of St. Louis, Working Paper 2006-045A.

Neely, C. (2005) "An Analysis of Recent Studies of the Effect on Foreign Exchange Intervention," Federal Reserve Bank of St. Louis, *Review* 685-706.

Neely, C. (2000) "The Practice of Central Bank Intervention: Looking Under the Hood," *Central Banking* 11(2) 24-37.

Rogoff, K. (1996) "The Purchasing Power Parity Puzzle," *Journal of Economic Literature* 34(2), 647-668.

Sarno, L. and M. P. Taylor (2001) "Official Intervention in the Foreign Exchange market: Is it Effective and, if so How Does it Work?," *Journal of Economic Literature* 39(3), 839-68.

Schwartz, A. J. (2000) "The Rise and Fall of Foreign Exchange Market Intervention," NBER Working Papers 7751.

Taylor, M. P. H. Allen (1992) "The Use of Technical Analysis in the Foreign Exchange Market," *Journal of International Money and Finance* 11(3), 304-314.

Table 1:

Background information about Kyrgyz survey respondents and their institution

1a. Your current position is?

treasurer/manager	58.82%
chief/senior dealer	14.71%
dealer/junior dealer	26.47%
other	0.00%

1b. How many years experience in currency trading do you have?

1 to 3 years	35.29%
3 to 5 years	20.59%
5 to 7 years	23.53%
more than 7 years	17.65%

1c. What is you daytime position limit?

50 000 - 100 000 USD	41.18%
100 000 - 300 000 USD	20.59%
300 000 - 500 000 USD	20.59%
500 000 - 1 000 000 USD	5.88%
1 000 000 USD and more	8.82%

1d. What is the staff size of your currency trading unit?

How many FX dealers are in your bank?

1 dealer	13.33%
2 or 3 dealers	88.24%
more than 3 dealers	0.00%

1e. Is there foreign capital invested in your bank?

Yes	47.06%
No	52.94%

If yes from where

i. Kazakhstan	17.65%
ii. Russia	5.88%
iii. Turkey	5.88%
iv. Europe	5.88%
v. Other	20.59%

1f. What is the size of bank's average daily FX turnover (in million som)?

.5 - 1.0	8.82%
1.0 - 3.0	41.18%
3.0 - 6.0	17.65%
6.0 – 10.0	14.71%
more than 10.0 million som	2.94%

1g. What types of trades do you as a dealer perform most frequently?

Customer trades	94.12%
Speculative trades	5.88%

Table 2: Information about the bid-ask spread for Kyrgyz Banks

2a. What is the typical bid-ask spread quoted to clients in customer trades?

	average	median	std
som / US dollar	0.159	(0.128)	[0.102]
som / Russian ruble	0.045	(0.020)	[0.063]
som /euro	0.352	(0.250)	[0.260]
som / Kazak tenge	0.049	(0.010)	[0.075]

2b. Under most circumstances, the bid-ask spread is determined by (indicate one)

Market convention	88.24%
The potential cost of making that quote	11.76%
Other	0.00%

2c. If most of the bid-ask spreads for customer trades conform to market convention, what is the most important reason for conformity?

Your bank's policy	20.59%
Maintain an equitable relationship with your client	11.76%
To secure a good market image for the bank	41.18%
To maximize trading profits	17.65%
To follow the practice of major players	5.88%
Other	2.94%

2d. Check the three most important reasons for quoting a bid-ask spread for customer trades that are different from market convention.

a thin and quiet market		
	most important	3.92%
	very important	2.94%
	important	5.88%
a thin and nervous market		
	most important	2.94%
	very important	6.86%
	important	1.96%
an unexpected change in market trading		
	most important	9.80%
	very important	11.76%
	important	3.92%
before and after market news		
	most important	0.00%
	very important	4.90%
	important	4.90%
increased market volatility		
	most important	13.73%
	very important	5.88%
	important	0.98%
holding a position against market trend		
	most important	0.00%
	very important	5.88%
	important	4.90%
a quote for a specific customer		
	most important	4.90%
	very important	0.98%
	important	8.82%

Table 3: Market Dominance of Kyrgyz Banks

Interbank FX market

3a. Do you agree that the following FX markets in Kyrgyzstan are dominated by one or a few "big" players?

a) som / US dollar		
	Yes	91.18%
	No	8.82%
	No Opinion	0.00%
b) som / Russian ruble		
	Yes	8.82%
	No	79.41%
	No Opinion	11.76%
c) som / euro		
	Yes	8.82%
	No	79.41%
	No Opinion	11.76%
d) som / Kazak tenge		
	Yes	2.94%
	No	85.29%
	No Opinion	11.76%

3b. Select three reasons (and rank their priority) for the most important sources of competitive advantage for the largest players in the FX market.

a) lower operating costs		
	most important	0.92%
	very important	2.78%
	important	5.55%
b) better informed about the market		
	most important	0.92%
	very important	6.48%
	important	7.41%
c) a large customer base		
	most important	22.22%
	very important	6.48%
	important	1.85%
d) ability to deal in large volumes		
	most important	3.70%
	very important	8.33%
	important	1.85%
e) ability to influence the exchange rate		
	most important	3.70%
	very important	4.63%
	important	2.78%
f) ability to offer new FX products		
	most important	0.00%
	very important	0.00%
	important	2.78%
g) accessibility to global trading networks		
	most important	0.00%
	very important	0.92%
	important	1.85%
h) experienced traders		
	most important	3.70%
	very important	5.56%
	important	5.56%
i) other (please specify)		
	most important	0.00%
	very important	0.00%
	important	0.00%

Table 4: Cash Market Information for Kyrgyz Banks

How fast do you believe the market can assimilate the new information when considering the following information?

Economic news		
	Less than 10 min	8.82%
	Less than 30 min	26.47%
	Greater than 30	52.94%
Political news		
	Less than 10 min	20.59%
	Less than 30 min	32.35%
	Greater than 30	32.35%
Customer information		
	Less than 10 min	2.94%
	Less than 30 min	20.59%
	Greater than 30	55.89%
Cash market information		
	Less than 10 min	26.47%
	Less than 30 min	41.18%
	Greater than 30	20.59%
News from the NBKR		
	Less than 10 min	38.23%
	Less than 30 min	20.59%
	Greater than 30	29.41%
Other		
	Less than 10 min	0.00%
	Less than 30 min	0.00%
	Greater than 30	0.00%

Table 5: International Comparison for Economic Fundamentals

5a. Do exchange rate movements accurately reflect changes in fundamental value? (percentage of affirmative responses)

	Bishkek	New York	London	Hong Kong	Tokyo	Singapore
Intraday	0%	1%	3%	4%	5%	6%
Medium run	68%	59%	58%	54%	50%	51%
Long run	65%	88%	87%	80%	79%	82%

Independence tests	Bishkek/New York/London	Bishkek/Hong Kong/Tokyo/Singapore
Intraday	0.484 (0.723)	0.369 (0.891)
Medium run	0.159 (0.571)	0.082 (0.512)
Long run	0.043 (0.590)	0.081 (0.698)

5b. Do you think the PPP condition can be used to predict exchange rate movements? (percentage of affirmative responses)

	Bishkek	New York	London
Intraday	9%	1%	5%
Medium run	47%	9%	16%
Long run	47%	40%	44%

Independence tests	Bishkek/New York/London
Intraday	0.011 (0.853)
Medium run	0.000 (0.111)
Long run	0.170 (0.400)

5c. If the FX market does not accurately reflect the exchange rate fundamental value, which of the following factors do you believe are responsible for this? (percentage of affirmative responses)

	Bishkek	New York	London	Hong Kong	Tokyo	Singapore
Excessive Speculation	29%	74%	87%	86%	75%	89%
Manipulation by Banks	65%	44%	41%	42%	25%	41%
Excessive central Bank interventions	65%	39%	49%	63%	49%	48%

Independence tests	Bishkek/New York/London	Bishkek/Hong Kong/Tokyo/Singapore
Excessive Speculation	0.000 (0.511)	0.000 (0.014)
Manipulation by Banks	0.011 (0.497)	0.000 (0.004)
Excess central interventions	0.005 (0.674)	0.000 (0.005)

5d. On a scale 1 to 5, please indicate if you believe the market trend is predictable
Average Exchange rate predictability: scale 1 (no predictability) to 5 (high predictability)

	Bishkek	New York	London	Hong Kong	Tokyo	Singapore
Intraday	3.97	2.31	2.20	2.97	3.08	2.97
Medium run	2.35	3.10	2.91	3.04	3.00	2.99
Long run	1.71	2.96	2.89	2.58	2.39	2.56

Note: Medium run denotes up to six months and long run greater than six months. In parenthesis is the p-value of the independence tests without Bishkek. The number of observations Bishkek 34, New York 142, Hong Kong 227, Tokyo 76, Singapore 87.

Table 6: International Comparison for Speculation and Interventions

6a. Speculation (percentage of responses given in bold)

In your opinion, speculation (circle the appropriate choice)

	Bishkek	New York	London	Hong Kong	Tokyo	Singapore
increases/decreases exchange rate volatility	91%	84%	93%	96%	91%	98%
moves ex. rate **away from** / towards fundamentals	76%	29%	33%	53%	41%	46%
increases /decrease market liquidity	59%	81%	80%	89%	89%	82%
improves / reduces market efficiency	59%	74%	71%	83%	82%	77%

Independence tests	Bishkek/New York/London	Bishkek/Hong Kong/Tokyo/Singapore
increases volatility	0.056 (0.076)	0.109 (0.099)
fundamental value	0.000 (0.768)	0.000 (0.222)
increases liquidity	0.005 (0.982)	0.000 (0.333)
increases efficiency	0.233 (0.929)	0.000 (0.413)

6b. Central bank intervention (percentage of responses given in bold)

In your opinion, central bank intervention (circle the appropriate choice)

	Bishkek	New York	London	Hong Kong	Tokyo	Singapore
increases/decreases exchange rate volatility	21%	61%	60%	72%	61%	62%
move ex. rate **away** /towards from their economic fundamentals	18%	45%	49%	29%	45%	37%
are conducted at the **appropriate**/ inappropriate time	82%	60%	48%	54%	53%	61%
achieves/ does not achieve their desired goal	94%	49%	43%	61%	23%	59%

Independence tests	Bishkek/New York/London	Bishkek/Hong Kong/Tokyo/Singapore
increases volatility	0.000 (0.988)	0.000 (0.074)
fundamental value	0.006 (0.874)	0.006 (0.041)
appropriate time	0.002 (0.192)	0.005 (0.518)
desired goal	0.000 (0.661)	0.000 (0.000)

Note: In parenthesis is the p-value of the independence tests without Bishkek. The number of observations Bishkek 34, New York 142, Hong Kong 227, Tokyo 76, Singapore 87.

Swiss National Bank Working Papers published since 2004:

2004-1 Samuel Reynard: Financial Market Participation and the Apparent Instability of Money Demand

2004-2 Urs W. Birchler and Diana Hancock: What Does the Yield on Subordinated Bank Debt Measure?

2005-1 Hasan Bakhshi, Hashmat Khan and Barbara Rudolf: The Phillips curve under state-dependent pricing

2005-2 Andreas M. Fischer: On the Inadequacy of Newswire Reports for Empirical Research on Foreign Exchange Interventions

2006-1 Andreas M. Fischer: Measuring Income Elasticity for Swiss Money Demand: What do the Cantons say about Financial Innovation?

2006-2 Charlotte Christiansen and Angelo Ranaldo: Realized Bond-Stock Correlation: Macroeconomic Announcement Effects

2006-3 Martin Brown and Christian Zehnder: Credit Reporting, Relationship Banking, and Loan Repayment

2006-4 Hansjörg Lehmann and Michael Manz: The Exposure of Swiss Banks to Macroeconomic Shocks – an Empirical Investigation

2006-5 Katrin Assenmacher-Wesche and Stefan Gerlach: Money Growth, Output Gaps and Inflation at Low and High Frequency: Spectral Estimates for Switzerland

2006-6 Marlene Amstad and Andreas M. Fischer: Time-Varying Pass-Through from Import Prices to Consumer Prices: Evidence from an Event Study with Real-Time Data

2006-7 Samuel Reynard: Money and the Great Disinflation

2006-8 Urs W. Birchler and Matteo Facchinetti: Can bank supervisors rely on market data? A critical assessment from a Swiss perspective

2006-9 Petra Gerlach-Kristen: A Two-Pillar Phillips Curve for Switzerland

2006-10 Kevin J. Fox and Mathias Zurlinden: On Understanding Sources of Growth and Output Gaps for Switzerland

2006-11 Angelo Ranaldo: Intraday Market Dynamics Around Public Information Arrivals

2007-1 Andreas M. Fischer, Gulzina Isakova and Ulan Termechikov: Do FX traders in Bishkek have similar perceptions to their London colleagues? Survey evidence of market practitioners' views

Swiss National Bank Working Papers are also available at www.snb.ch, section Publications/Research
Subscriptions or individual issues can be ordered at Swiss National Bank, Fraumünsterstrasse 8, CH-8022 Zurich, fax +41 44 631 81 14, E-mail library@snb.ch