THE DEVELOPMENT OF COMMODITY EXCHANGES IN THE FORMER SOVIET UNION, EASTERN EUROPE, AND CHINA

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The virtual collapse of the centrally planned economies of the countries of the former Soviet Union (FSU) and the more gradual transition from central planning to a market-oriented economy in China were both accompanied by the opening of hundreds of exchanges trading many agricultural, resource, and other physical commodities. Although many viewed them as harbingers of full-fledged market-based economies, most of the new exchanges in fact have since closed either for lack of activity or by government intervention, a history that this paper documents. New exchanges faced numerous obstacles in sustaining interest, from developing standardised contract terms to establishing effective self-regulation and state regulatory oversight. In several countries, the transparency of transactions on exchanges attracted governments interested in collecting taxes and customs duties which only drove trade away from the exchanges or turned them into little more than state agencies. In China, regulators struggled with duplicative exchanges and products, price volatility, large speculative interest, and several manipulations and have recently reduced the number of exchanges to just three and severely limited the commodities traded. There have been some successes too, including (at least prospectively) the three remaining exchanges in China, the Budapest Commodity Exchange in Hungary, and the Poznan Commodity Exchange in Poland. For all, identifying the terms to create standardised contracts has been (and continues to be) a major challenge.

I. Introduction

The virtual collapse of the centrally planned economies of the countries of the former Soviet Union (FSU) and the more gradual transition from central planning to a market-oriented economy in China were both accompanied by the opening of hundreds of commodity markets and exchanges. In Russia, the first commodity exchange was registered in May 1990 and by mid-1992, some 278 were registered (Sedaitis, 1994). Actual numbers of exchanges were undoubtedly greater, with one estimate suggesting there were more than 600 exchanges in Russia in 1991 (Davis, 1998). In Kazakhstan, reports indicated that more than 100 exchanges had emerged in the capital city alone during 1992, the first full year of independence (Peck, 1996). In Poland, over 200 commercial entities registered formally as exchanges in the 1990s (Borsdorf et al., 1998). In June 1992, 67 of the largest exchanges in the FSU were named members of the Congress of Exchanges at a convention in Dushambe, Tajikistan (Cohen, 1994). Although none of these exchanges were of the sort recognisable as

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a fledgling Chicago Board of Trade (CBOT) or a London Metals Exchange, trading virtually anything and everything that was for sale from refrigerators to privatisation vouchers to steel pipe, a few did develop into more organised markets with somewhat standardised contracts for specific commodities. Almost all are now closed, although a few remain open primarily as wholesale markets. By contrast, the exchanges that developed in China in the early 1990s were very like established, Western-style exchanges, with trading of standardised contracts of specific commodities through electronic trading systems. But, although more than 40 futures exchanges opened in 1993, the first year they were permitted (Peck, 2000), most are now closed or have been merged with others. Only three futures exchanges remain in China and the items approved for trading have been greatly reduced.

The initial explosion in new exchanges in economies where there had been little if any market trading in decades attracted much attention. In the financial press, the exchanges were heralded as the forerunners of real market economies. Reporting for *Forbes*, Klebnikov (1992) summarised: ‘Spontaneously created commodity exchanges . . . are generating free markets . . .’ Representatives of the new exchanges travelled to exchanges around the world seeking advice and training and traders and officials from the established exchanges were welcomed in the FSU and China. In a report of one such visit, a trader from Chicago concluded ‘that while it may take a year or two for futures trading to catch on in Russia, now was the time to be investing in seats in the new exchanges in Moscow (McInerney, 1992, p. 47).’ Not surprisingly, one consequence of the enthusiasm with which new exchanges were welcomed was that a number of projects supporting their continued development received financing from a variety of sources.

Although agricultural and natural resources remain important to the economies of all these countries (commodities for which exchange-based trading has proven to be of great value around the world), commodity exchanges and the promise they held for the development of market-based economies in these countries are almost never mentioned today. This paper asks the question: ‘What has happened?’ In the next section, the history of exchange development in Russia is described, identifying where there were early successes and discussing common difficulties. If the early exchanges were to evolve into more organised markets trading a standardised set of commodities, whether as wholesale markets or futures exchanges, standardised terms of trade would be needed and the third section discusses the difficulties two exchanges encountered in developing wheat futures contracts. The transparency of market trading was attractive to new governments too and in a few countries, especially in Central Asia, exchanges evolved explicitly to facilitate control of trade (and hence tax collection and/or currency flows). Two of these are described in the fourth section. In Eastern and Central Europe, a number of the original exchanges have survived, a few have developed futures trading, and these are described in the fifth section. The experience of commodity exchanges in China is described in the next section. The final section summarises and identifies factors that are shared by those exchanges that have survived.1

1 The paper draws on a number of sources, including personal visits to and interviews with exchange officials in China, Kazakhstan and Kyrgyzstan over the last four years. Professor William Wilson, who worked with several agricultural exchanges in Russia, generously shared his materials, contacts, and impressions. The China Zhengzhou Commodity Exchange provided information and data about futures trading in China. Finally, a number of the exchanges provide a significant amount of information on their websites.

II. The Development of Commodity Exchanges in Russia

Table I identifies the leading commodity exchanges in Russia and Central Asia. The sample is by no means scientific – these are exchanges which developed significant amounts of trading, were involved in collaborative activities with Western exchanges, were visited by an individual who subsequently wrote about them, and/or provided price and other information to reporting services. That is, they are exchanges about whose activity there were reports of some kind. In Russia, the more prominent exchanges date to the opening of markets in 1989 and 1990. With the failure of the exchanges to sustain trading generally but especially in agricultural commodities, there were additional, later attempts to open grain exchanges in grain producing areas like, for example, the exchanges in Rostov and Saratov, although neither of these appears to have attracted much trading. Most recently, various groups have announced their intention to organise electronic trading of specific commodities and two examples, the Zerno Grain Exchange and the Metals Exchange, are also listed in the table. Exchanges also opened early on in St. Petersburg where trading developed to levels rivalling trade in Moscow (Cohen, 1994; Belozertsev, 1998). Cohen (1994) indicated that the Asian Exchange in Siberia was once the second largest exchange in Russia, important for its role in connecting with countries in the Pacific region and facilitating trade. Exchanges were also important in Vorkuta (lumber, coal, and other raw materials), Barnaul (the Altai Commodities Exchange), and Rostov (grains). Finally, Table I includes three exchanges opened in Central Asian countries, two of which remain open today. In all, it is worth reiterating that the table (and this paper) includes only information about commodity exchanges. Numerous financial exchanges opened as well and some have attracted substantial trading interest as both privatisation of industrial assets and government borrowings in individual countries have grown. For the most part, however, these exchanges have not attempted to develop commodity trading although some commodity exchanges have developed trading in financial products.

Early observers of trading on the new Russian exchanges provide remarkably consistent descriptions of trading. The exchanges were of two types, universal and specialised. Universal exchanges like the Russian Exchange (originally named the Moscow Raw Materials and Commodity Exchange) and the Commodity Exchange (originally named the Moscow Commodity Exchange) sold a vast array of goods, from helicopters to computers to clothes to wheat. Specialist exchanges like the Nonferrous Metals Exchange and the Moscow Oil Exchange focused on specific commodities for example oil or metals. The Moscow Grain Exchange traded grains. Trading on the universal exchanges in particular grew very rapidly. One estimate of trading on Moscow’s many goods exchanges in 1991 suggests that transactions accounted for nearly 50 per cent of the entire trade turnover in the city (Dagaev, 1993, p. 138). There were some 943 goods auctions on the Moscow exchanges in 1991, accounting for some 23,000 actual transactions and 24.8 billion rubles. The Russian Exchange and the Commodity Exchange were the largest of the Moscow goods exchanges – in 1992 the Russian Exchange registered some 12,000 deals at a value of 15.5 billion rubles while trade at the Commodity Exchange amounted to some 20.6 billion rubles (Frye, 1997, p. 125).


3 Estimates of the amount of trading and the number of exchanges vary considerably among sources. Figures reported here are intended only to be indicative.
Table I The Development of Commodity Exchanges in Russia and Central Asia

<table>
<thead>
<tr>
<th>Region/Country Exchange</th>
<th>Date Opened</th>
<th>Commodities Traded</th>
<th>Futures Contracts Developed or Traded</th>
<th>Trading in 2000?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moscow Commodity Exchange</td>
<td>1989/90</td>
<td>Ag; Universal</td>
<td>‘Some Reported’</td>
<td>Yes</td>
</tr>
<tr>
<td>Russian Exchange</td>
<td>1989/90</td>
<td>Ag; Universal</td>
<td>Financial</td>
<td>Yes</td>
</tr>
<tr>
<td>Nonferrous Metals Exchange</td>
<td>1989/90</td>
<td>Metals</td>
<td>Metals</td>
<td>Yes</td>
</tr>
<tr>
<td>Ferrous Metal Exchange</td>
<td></td>
<td>Metals</td>
<td>Metals</td>
<td>Yes</td>
</tr>
<tr>
<td>Moscow Oil Exchange</td>
<td></td>
<td>Petroleum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moscow Grain Exchange</td>
<td>1989/90</td>
<td>Grain</td>
<td></td>
<td>Yes, but less than once per month.</td>
</tr>
<tr>
<td>Russian Exchange (Siberia)</td>
<td>1990</td>
<td>Lumber, Oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Petersburg Exchange</td>
<td></td>
<td>Universal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vorkuta Exchange</td>
<td></td>
<td>Lumber, Coal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnaul Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Russian Grain Exchange (Rostov)</td>
<td>2000</td>
<td>Grain</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Russian Grain Exchange (Saratov)</td>
<td>1998</td>
<td>Grain</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Zerno Grain Exchange (Electronic)</td>
<td>2000</td>
<td>Grains</td>
<td>‘Planned’</td>
<td>Yes</td>
</tr>
<tr>
<td>Metals Exchange (Electronic)</td>
<td>2000</td>
<td>Metals</td>
<td>‘Planned’</td>
<td></td>
</tr>
<tr>
<td>Central Asian Countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kazakhstan Internat’l AgroIndustrial Exch.</td>
<td>1994</td>
<td>Raw Materials</td>
<td>Wheat; Bonds</td>
<td>No</td>
</tr>
<tr>
<td>Turkmenistan Raw Materials &amp; Commodity Exchange</td>
<td>1994</td>
<td>Universal (export)</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Uzbekistan Raw Materials &amp; Commodity Exchange</td>
<td>1997</td>
<td>Universal (export)</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

The last column reports whether any information indicated there was trading at the exchange in 2000. A ‘Yes’ indicates that there was spot market trading in 2000, a ‘Yes*’ indicates trading in 2000 included futures, ‘No’ indicates there was no trading, and a blank indicates no information was located about current trading.
The development of so many exchanges virtually overnight was due in part to government withdrawal from a variety of economic activities (Sedaitis, 1994). Early reform policies began a shift from central to local planning and disbanded state supply coordination at both the federal and local levels. In 1990, for example, some government departments were ordered transformed into wholesale ‘firms’ while 13 local organisations were ordered to transform into commodity exchange markets. In addition, the development of many exchanges owed much to the entrepreneurial activities of a wide variety of individuals, many from academia and scientific research groups where salaries and opportunities were rapidly disappearing. Then, when initial reform policies failed to liberalise prices of most items, a two-tier pricing system emerged which created extremely remunerative arbitrage opportunities between controlled and uncontrolled portions of the market, opportunities which drew many more into market trading activities.

Overall, organisers of exchanges were varying combinations of former Communist Party officials, private entrepreneurs, government ministries, and the state supply agency. As might be expected, specialist exchanges were much more closely linked with the ministries and suppliers that specialised in the particular goods (Frye, 1997). Among goods exchanges, however, there were also pronounced differences in organisation, especially in the degree of connection with/to government agencies. ‘Some markets were beehives of communication and energy while others were models of quiet and order only occasionally punctuated by flurries of activity (Sedaitis, 1997, p. 147).’ Based on a survey of a dozen exchanges, Sedaitis (1994, 1997) found that the more active, entrepreneurial exchanges had been organised by individuals from comparatively diverse backgrounds, including but not limited to individuals from government agencies. They were likely as not to have had little prior contact with each other and hence could not rely on past connections for survival. They and their markets were continuously engaged in building contacts and finding ways to respond to market needs. By contrast, organisers of bureaucratic exchanges were from related ministries and agencies, had often worked closely together before and knew each other well. Their market knowledge and experience overlapped substantially and there was much less felt need to develop new links. Not surprisingly, entrepreneurial exchanges were found to be much more successful than bureaucratic exchanges.

Visitors to Russia’s new exchanges also provided quite similar descriptions of the early trading. Exchanges had one or more trading floors (e.g. the Russian Exchange had 7 trading floors) to accommodate a quickly growing trade. Brokers representing buyers and sellers populated the floors. Brokers bought seats on the exchange that, along with transaction fees, was a main source of income for the exchange. Products on offer at an exchange varied significantly from day-to-day and could include almost anything from airplanes to flour, from whole factories to electronic equipment. Goods would be offered for sale at a price set by the seller that was good for a pre-specified period, perhaps a trading session, a day, or even a week depending on the exchange. If there were no takers after the set period, the

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4 According to Davis (1998), the state ministries were required to dispose of their interests in commodity exchanges in 1992.

5 Both the Russian Exchange and the Commodity Exchange were included in Sedaitis (1994) 1992/93 survey, but she does not identify individual exchanges in presenting results. Separately, Cohen (1994) described the Russian Exchange as an entrepreneurial exchange while the Commodity Exchange had ‘evolved from the state and economic apparat (p. 118).’ Its founders included the Association of Young Managers, the Main Supply Directorate of the Moscow City Council, and others. As both exchanges were successful, at least initially, some caution is needed in relying solely on organisational differences to explain specific successes or failures.
seller had to either lower the price or remove the goods from offer. If there were more takers
than goods at the offer price, bidding would occur among potential buyers until price rose
enough to balance supply with demand. Davis (1998) applied the descriptor ‘matching
market’ to the trading, identifying it as a combination of both Dutch and English auctions.

With such a diversity of goods (each seller was required to provide a description of their
merchandise), it is hardly surprising that brokers did not trade for their own accounts in the
manner of floor traders on Western-style exchanges. Contracts were for immediate delivery
(at most a few days) and terms not standardised. Moreover, there was little information on
supply or demand for any one commodity and, with such a vast and changing array of
commodities on offer, no trader could be expected to feel comfortable knowing market
conditions. There were also concerns about contract reliability, discussed more below.

Brokers obtained the right to trade through the purchase of a seat on the exchange. In
February 1991, seats on Moscow exchanges sold for some $4,700 (Kolosov et al., 1993). In
June 1992 a seat on the Alsya exchange (a computerised network linking several individual
trading floors and exchanges throughout Russia) was reported to cost $50,000 (Klebnikov,
1992). In early 1991, 14 foreign firms had become members of the Russian Exchange at
$60,000 each while a Russian broker/member paid 150,000 rubles (Cohen, 1994).

As might be expected, the fledgling exchanges faced a number of problems developing
trading, many having to do with contract enforcement. With such a variety of commodities
listed for trading, individuals were left to describe their goods, descriptions that were not
always accurate. Virtually all visitors to the exchanges in Russia reported hearing of
numerous instances where sellers defaulted, not delivering the goods listed on offer even
after having been paid in full. Even if the payment was eventually returned, the seller often
delayed repayment for weeks, a practice which was extremely costly in the high inflationary
environment of the early years of the transition. Relying on laws passed in 1991 and 1992,
many exchanges developed formal arbitration commissions to resolve disputes among
brokers on the exchanges (Frye, 1997). Some exchanges had a committee to deal with minor
disputes among members and an ethics committee to review more serious offenses (Kolosov
et al., 1993). A finding against an accused party was then published and enforcement of
trading sanctions left to traders on the exchange’s floor. These were similar in character to
trading bans observed on many exchange floors when a consensus is reached among brokers
that a particular individual trader cannot be relied upon to complete deals or to honour terms
as previously agreed. In such cases, brokers simply refuse to deal with the offending
individual, no matter the prices or terms offered. In practice, the duration of the trading ban
on the Moscow exchanges was determined by the severity of the individual’s offense.

With so many new exchanges opening at once, another priority was attracting and training
new member/brokers. The new exchanges looked to established exchanges for assistance
and many responded. There were visits and seminars by established traders at the new
exchanges and personnel from the new exchanges and (former) government agencies
travelled to the major exchange centres for visits, training courses, and the like. As but one
example, a member of the Ministry of Grain Procurement, Alexander Belozertsev, spent
1991 in Chicago to ‘learn everything he could about Western methods of distribution’
(McInerney, 1992). Belozertsev split his stay between the Chicago Mercantile Exchange
(CME) and the CBOT, spending 6 months at each. Returning to Russia, he found his
ministry had been closed and so he became a consultant, working directly with many of
the new exchanges. The exchanges also sought assistance from established exchanges.
McInerney (1992) reported that delegations were sent to Chicago by the Commodity
Exchange on fact-finding missions while Cohen (1994) noted the Russian Exchange

contracted with the New York Mercantile Exchange to train oil brokers and a St. Petersburg exchange looked to exchanges in both Europe and the US for aid. The Foreign Agricultural Service of the USDA sponsored the Russian Agricultural Commodity Exchange Program beginning in 1994, providing expert assistance directly to exchanges as well as offering several short courses and developing a trading manual (USDA, 1996). Although undoubtedly useful, these exchanges and training projects were also haphazard and not linked in ways that might have been useful in building permanent infrastructure.6

Then, almost as quickly as it had begun, trading on Russian exchanges declined precipitously and more and more deal-making occurred off the floor. One report indicated that by June 1992 only one in twenty deals were concluded on exchanges (Frye, 1997). Among the causes of the decline were the end of two-tier pricing, the changing legal definitions of exchanges, and the imposition of high taxes on trading profits. When prices were finally liberalised in early 1992, easy arbitrage profits declined and little advantage remained in trading through the exchange. Indeed, firms found it advantageous once again to establish direct connections with their regular suppliers and their regular markets, thereby avoiding exchange and broker fees and commissions (Maksimov, 1992). Second, although early exchange development occurred with virtually no state regulation, in February 1992 the law ‘On Goods Exchanges and Exchange Business’ was passed which strictly limited the sorts of organisations which would be considered to be exchanges and restricted the activities in which exchanges could engage (Maksimov, 1992; Yakovlev, 1992). Third, the imposition of extraordinarily high tax rates on broker profits – as high as 70 per cent – led many brokers to keep their trading away from the exchange floors.7 Thus, while the exchange organisation had been useful for establishing contacts, traders had few incentives to keep their trading on the exchange once those contacts were established. The services of private protection agents were increasingly relied upon to assist in contract enforcement. Trading on the exchanges in Russia never really recovered. By 1993/4, Wilson and Belozertsev (1995) estimated that only 1 of 100 deals were consummated on exchanges and that, for agricultural commodities, only 1–1.5 per cent of the grain produced in Russia was traded through exchanges.

Several exchanges did try to develop standardised contracts and trading, some even offering futures contracts, as discussed in the next section, but there is little evidence that any attracted significant amounts of trading. The Moscow Grain Exchange still exists but it is reported to be open only once a month or so (Wall Street Journal, October 2, 2000). A few exchanges developed futures contracts for metals products. The weekly Interfax Metals and Mining Reports from 1998 and early 1999 occasionally mention trading of futures contracts on the Ferrous and Non-ferrous Metals Exchanges in Moscow and continue to report spot market prices for a variety of metals and metal products. However, their prices frequently remain unchanged for substantial periods, suggesting that actual trading is minimal at best. A survey by the US Commodity Futures Trading Commission (CFTC) in 1997 of exchange-traded derivatives markets in emerging economies listed neither of the metals exchanges in Moscow but did report the trading of currency and treasury bond futures at the Moscow Interbank Currency Exchange and trading in unspecified derivatives contracts at the St.

6 Contrast these with the multi-year, multi-million-dollar support programs of the US Agency for International Development (AID) to develop securities exchanges throughout the FSU which have included support for everything from computer trading systems to accounting to developing regulatory structures to training broker/dealers.

7 And, as trading moved off the floor of exchanges, contract enforcement problems rose as well leading to the rise of private protection organisations. Frye (1997) describes these in detail.
Petersburg Futures Exchange, the Commodity Exchange and the Russian Exchange. According to Belozertsev (1998), the two leading futures exchanges in Russia in 1997 were the Russian Exchange that did $25 billion in trading and the Moscow Central Stock Exchange. Both traded futures on financial products. He also noted that although there were efforts to trade futures on several agricultural products, none were successful. Whatever progress was made in contract development, all trading evidently stopped in the turmoil associated with the financial crisis of August 1998 (Caglioti and Burt, 1999).

Even with the failure of the Moscow exchanges to develop successful commodity contracts, new agricultural exchanges opened from time to time. For example, the Russian Grain Exchange opened in Saratov in the Volga Region in late 1998 (Interfax Food and Agricultural Report, November 28–December 4, 1998). The exchange was organised by the regional government with the SBS-Agro banking group and was designed to improve the domestic grain market. Representatives from 12 Russian regions and Kazakhstan were expected to take part in trading. In so far as can be determined, trading never occurred. More recently, the new Zerno Grain Exchange is attracting much interest with its electronic trading platform and potential linkages through the internet (Wall Street Journal, October 2, 2000; Interfax Food and Agriculture Report, July 8–14, 2000). Opened in July 2000, by mid-October, it had some 319 members and sales of about $1.5 million and, although buyers and sellers were still required to physically meet in order to conclude a transaction, the exchange was developing plans to permit direct internet-based trading. Similarly, the UK firm Europe-Steel.com announced the launch of an internet trading system to enable steel makers in Russia and the CIS to sell their products throughout the world (Interfax Metals and Mining Report, March 17, 2000).8 Electronic markets are also being developed in oil and oil products as well as for several other agricultural products (St. Petersburg Times, August 22, 2000). Whether any of these ventures will succeed in developing trade in standardised commodities in Russia remains to be seen.

III. Developing Standardised Contract Terms for Agricultural Products

As all exchanges know well, developing the standardised terms for contracts is not easy even in circumstances where markets and established trade patterns have developed. The task confronting new exchanges in all the transition economies was even more daunting, developing markets, trading, and contract specifications together. Notwithstanding these problems, several exchanges did try to develop trading in specific, more standardised commodities and some even offered futures contracts as summarised in the next to the last column in Table I. Wilson and Belozertsev (1995) describe well the difficulties facing Russian exchanges trying to develop grain markets – essentially none of the provisions of the typical grain futures contract from a Western exchange were easy to adopt. While government grain standards per se existed, each transaction involved a unique lot of grain and neither producers nor consumers were accustomed to think in terms of premiums or discounts from the standards. Warehouses were generally still owned by the state and, even if

8 Europe-Steel.com is a joint venture of GazProm, Middlesex Holding, and Interfax Information Services Group. With GazProm, Middlesex Holding owns a large stake in the most modern steel mill in Russia, Oskol Electrometallurgical Combine. GazProm also owns a majority stake in Russia’s largest iron ore producer. Middlesex Holding is one of the leading traders in Russian steel while Interfax is a leading provider of information about the metals and mining industry in Russia and the CIS.

they had been privately owned, warehouse receipts did not exist. Nor had regular patterns of trade developed so locations where supplies would be regularly transiting and accumulated were not known. Absent the usual features of grain trading from which contract terms could be drawn, they proposed a model wheat contract drawn as a shipping certificate for wheat in any location with rail freight paid to Moscow. In the highly inflationary environment of Moscow in the mid-1990s where the timing of actual delivery took on added significance, the contract also included price incentives to insure prompt shipment.

Interestingly, when the grain exchange in Kazakhstan (formally, the International Kazakhstan Agro-industrial Exchange (IKAE)) developed its wheat futures contract in 1996 it arrived at quite similar terms.9 In 1996, the vast majority of grain deals in Kazakhstan were barter trade, exchanging wheat for electricity or fuel for example. Nevertheless, there were some cash deals, principally for export, and because IKAE also registered all wheat export transactions, it was aware of the terms of many of these deals and their terms became the basis of the specifications for the exchange's fledgling wheat futures contracts. Par delivery was to be of #3 soft wheat, free-on-track at production centres with freight paid to Akmola, the major transshipment centre in the northern wheat production area of Kazakhstan (and subsequently the new capital of the country, renamed Astana). #3 soft wheat was the most common grade of wheat in the registered export transactions at the exchange. The freight-paid to Akmola provision converted what were sales at the former collectives (or 'ex-works' prices, the state farm equivalent to the farm gate) to a central price. There were even provisions to share freight costs if the actual buyer and seller were situated in such a manner that shipment through Akmola was not the most direct means of transport. In total, sales of #3 wheat 'ex-works' comprised 62 per cent of registered export transactions at the time exchange officials were developing the contract.

In conversation with IKAE officials, it was clear they would have preferred to begin trading with a contract calling for delivery of grain in storage. Officials indicated there was a significant amount of elevator storage space in Akmola, clearly enough to accommodate the delivery requirements of a futures market. Storage delivery was not possible for two reasons. First, elevator ownership was still highly concentrated and, although in the midst of substantial reorganisation via privatisation initiatives, it was expected to be some time before ownership was significantly less concentrated. By all accounts, elevators simply were not yet active middlemen in the buying, selling and storage of grain. Second, warehouse receipts were not as yet recognized as legally binding documents in Kazakhstan. Indeed, the absence of warehouse receipts throughout the FSU and China was a major problem inhibiting the development of both financing of grain storage as well as trading. Not surprisingly, among the programs devoted to developing grain trading were those to develop warehouse receipt mechanisms and to develop standards by which elevators would be certified.10

Trading was launched in May 1996 and drew some interest. In the end, however, IKAE was unable to sustain interest in and trading of its new futures contract. The fault was not necessarily the exchange's — before the contract and trading were allowed time to develop, the exchange became a pawn in a re-balancing of interests controlling securities trading in

9 Additional information about the experience of Kazakhstan's fledgling grain exchange is available in Peck (1996, 2000).
10 Examples include the ACDI-VOCA program funded through US-AID in Poland and Hungary (Borsdorf et al., 1998) and programs of the European Bank for Reconstruction and Development (EBRD) in Bulgaria, Russia and Slovakia (EBRD, Project Summary Documents, www.ebrd.org). In 1998, ACDI-VOCA proposed to develop a warehouse receipts program in Kazakhstan but failed to receive funding.
Kazakhstan and, along with an exchange at the central bank, was folded into the development of a new securities exchange. Derivatives trading in agricultural products was then and is not now a priority.

IV. Exchanges in Turkmenistan and Uzbekistan

Since the distribution of goods was controlled by the state, it was inevitable that former government departments and ministries responsible for marketing and distribution would be represented in the founding of exchanges. It was perhaps inevitable as well that some exchanges would be little more than the government agencies to which they were often closely linked when founded. For example, when the agro-industrial exchange in Kazakhstan was first formed in 1994, it was given responsibilities for the registration and licensing of export transactions for a wide range of commodities, and, for the grains, for ensuring that minimum price targets for exports were being met. In addition, when export quotas were in effect, the exchange was charged with conducting auctions for quota sales. As noted in the prior section, however, this exchange then tried to organise cash markets for its principal items as well as a futures market in wheat. The other leading exchanges in Central Asia shown in Table I, those in Turkmenistan and Uzbekistan, were also organised by the state to regulate trade but, unlike the exchange in Kazakhstan, have remained essentially state agencies. It is undoubtedly not mere coincidence that these are two countries of the FSU that have retained the strongest central governments and have permitted the least amount of economic change.

Founded in August 1994, Turkmenistan’s State Commodity and Raw Materials Exchange (TSCRME) ‘was established to regulate foreign and domestic trading and partially insulate the internal market from foreign competition (US Dept. of State, 1999, Chapter 4).’ All external trade transactions must be registered on the exchange, a process that typically takes a week. The exchange collects a fee of 0.2 per cent of the value of the transaction (shared equally between the exchange and the government budget). The exchange reviews all transactions, checking prices against world market prices and assuring that all documentation of the deal is in order. TSCRME also conducts auctions of goods available for sale, evidently much like the auctions on the early exchanges in Moscow. The exchange does not act as an intermediary or a trader in the auctions, providing only the location for trading and infrastructure though which goods are listed and then subsequent services to complete deals. Goods produced locally for domestic consumption are not included in the commodities listed on the exchange; instead, they are distributed through the state wholesale network.

In the report of a typical week’s activity at Turkmenistan’s exchange, it is impossible to distinguish those deals concluded at the exchange from those for which the exchange is merely serving as the registry. However, it does provide a sense of the diversity of goods involved as well as of its virtually exclusive concentration on external trade dealings:

Last week, 116 external trade contracts were registered at the TSCRME, 11 of them were for export and 105 were for import. [Export deals included] diesel fuel L-62 produced by the Turkmenbashi refinery, gasoline produced by the Seidi refinery, knitted fabric ‘Supreme,’ raw silk, wet-salted pelts of cattle, and industrial carbon. The total amount of export transactions was $512,250 . . .

Furniture, computer equipment, spare parts, polypropylene film, detergents, con-
sumer goods, foodstuffs, and many other products totalling $8,159,269 ... will be imported to Turkmenistan (The Times of Central Asia, Feb. 10, 2000, p. 9).

The Republican Commodity and Raw Material Exchange in Uzbekistan (URCRMIE) was founded in 1997.\textsuperscript{11} In appearance, it looks like commodity exchanges everywhere – a trading floor with rows of computer terminals (68 in all) arranged in a horseshoe around a central pulpit area. On the wall behind the pulpit is a large electronic screen where images of the actual items available for purchase were displayed along with price information. The floor was said to be connected electronically to all regions in Uzbekistan as well as to similar exchanges in Russia and Belarus. Trading occurred daily in two separate sessions. It was unclear how much actual trading occurred on the floor, or whether trading sessions were simply periods in the day when trades could be registered. In any event, bargaining over posted prices was not mentioned; rather, the descriptor applied was a sort of permanent wholesale fair. Among other things, the exchange requested documentation from sellers to assure that items offered were actually available. Items for sale included Russian-built tractors, cars, furniture, machinery, fruit, textiles, and an Uzbek airplane.

Although initially established to become a source of raw materials to the private sector of the Uzbek economy, URCRMIE became an almost exclusively trade-oriented exchange enabling importers and exporters to meet the many government requirements, including currency restrictions, associated with external commerce (UNDP, 1997). Contracts concluded on URCRMIE entitled sellers to export products without licenses and customs duties. In addition, they were entitled to retain hard currency earnings and did not have to remit a share to the banking system. The exchange’s clearinghouse handled the financial arrangements, including the necessary customs and currency arrangements. For deals conducted through the exchange, buyers were required to post only a 15 per cent deposit while the paperwork was completed, whereas full payment was otherwise required in advance. The exchange’s fee was 1 per cent of the value of the deal – 0.4 per cent for clearing services, 0.3 per cent for the exchange, and 0.3 per cent for the broker handling the deal.

The development of exchanges like those in Turkmenistan and Uzbekistan confounds discussion of the role of exchanges and makes true change difficult to identify. To the visitor, they look like exchanges. In the taped interview, officials at the Uzbek exchange also talked knowledgeabley about a clearinghouse and margins and about electronic connections with exchanges throughout the FSU. In conversation about this exchange, comparisons were made to the exchanges in Chicago and New York. Yet, there was in fact no real trading on these exchanges; their principal role was to expedite trade dealings, insuring that items on offer were available as described, reports were in order, currency dealt with correctly, and taxes paid. Elsewhere, where deal-making has moved behind closed doors to escape tax and currency controls, the development of similar ‘exchanges’ will surely be hard to resist. In Kyrgyzstan, for example, discussions were underway in early 2000 to license a state exchange with the principal goal of regulating trade. The exchange would include offices to handle customs and currency requirements. In addition, such an exchange might be given an exclusive export license for the most important trade commodities, in effect re-creating a

\textsuperscript{11} Except as noted, information about the exchange is from discussions with Mr. Dmitri Usupov, President of the Exchange ‘EKU’ in Bishkek, Kyrgyzstan in February 2000. He had been involved in the development of the Uzbek exchange before moving to Kyrgyzstan and the discussions included viewing video-taped interviews with various exchange officials as well as footage of the exchange itself.

state export agent. It goes without saying that such arrangements do not contribute to the development of markets or market-based economies.

V. Commodity Exchanges in Central and Eastern Europe

In contrast to the experience of Russia and the Central Asian countries, exchange-based trading of commodities has developed in several Eastern European countries. The most developed exchange is the Budapest Commodities Exchange (BCE) in Hungary, but exchanges in Bulgaria, Poland, and Romania appear to have developed standardised contracts for a number of commodities and have (or are planning) futures trading as well. More generally, exchange-based trading has developed much more in Central and Eastern Europe than elsewhere, often drawing on traditions of trading in the 1920s and 30s. For example, all countries have reopened national stock exchanges and many even use the building in which trading formerly occurred. Some of the stock exchanges also have developed trading in financial derivatives, with products which sometimes compete with those on the commodity exchanges.

Table II identifies the main commodity exchanges in Central and East European countries and their principal cash and futures contracts. Securities exchanges that trade derivative products in competition with the commodity exchanges are also listed. Two of the exchanges – the Tblisi Universal Exchange in Georgia and the Transylvania Commodity Exchange in Romania – are universal exchanges like those opened in the early days of exchange development in Russia. The two commodity exchanges in the Czech Republic – the Brno Commodity Exchange and the Czech-Moravian Commodity Exchange at Kladno – are also similar to the Russian universal exchanges, listing a variety of products available for trading, although both of these also reported plans to develop cash and futures trading in more standardised agricultural products. There are undoubtedly many additional commodity exchanges of the ‘universal’ or ‘raw material and commodity’ variety where a range of products are offered for sale, none of which has attracted enough trading or other attention to have been noted in reports and the like.12

As is evident from the lists of products traded on several of the individual exchanges in Table II, standardising of the items on offer developed much further on these exchanges than on universal exchanges. For example, for the week of May 22–26, 2000, spot market trading on the Sofia Commodity Exchange was listed for just 21 items: 2 types of wheat, feed barley, malting barley, 2 types of flour, bran, sugar, sunflower oil, tomato paste, 5 iron and steel products, 2 jet fuels, polyethylene, coal, timber, and truck tires.13 Trading sessions were twice weekly – one session for non-food items and one session for foods. In 1996–97, a news report indicated non-food commodities, metals, chemicals and detergents, and timber dominated trade on the Sofia Exchange.14 Sugar was the leading food commodity traded, accounting for 66 per cent of trading in food commodities. White beans accounted for 85 per cent of the trading in the grain ring. Similar detail in items for trade is evident on the Warsaw Board of Trade and the Poznan Commodity Exchange in Poland, the Maritime and

12 For example, several agricultural exchanges in the Ukraine have provided prices for the Interfax Food and Agricultural Reports from time to time. Reports were sporadic at best, however, and no other mention of or reports about the individual exchanges could be found. Thus, they are not included in the table or discussion.


14 Bulgarian Telegraph Agency, 97-01-16, ‘Turnover 40% Up at Sofia Commodity Exchange.’

### Table II  The Development of Commodity Exchanges in Central and Eastern Europe

<table>
<thead>
<tr>
<th>Exchange (Country)</th>
<th>Date Opened</th>
<th>Commodities Traded</th>
<th>Futures Contracts Developed or Traded</th>
<th>Trading in 2000?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofia Commodity Exchange (Bulgaria)</td>
<td>1991</td>
<td>Food and Industrial Products</td>
<td>Wheat, Barley, Corn, Sunflower, Beans</td>
<td>Yes*</td>
</tr>
<tr>
<td>Brno Commodity Exchange (Czech Rep.)</td>
<td>1993</td>
<td>Grains, Oilseeds, Livestock, Sugar</td>
<td>‘Planning to develop’</td>
<td>Yes</td>
</tr>
<tr>
<td>Czech-Moravian Commodity Exchange</td>
<td>1996</td>
<td>Raw Materials</td>
<td>Trading for Term Delivery available</td>
<td>Yes</td>
</tr>
<tr>
<td>Tblisi Universal Exchange (Georgia)</td>
<td>1989</td>
<td>Universal</td>
<td>Corn, Wheat, Barley, Etc., Currency</td>
<td>Yes*</td>
</tr>
<tr>
<td>Budapest Commodity Exchange (Hungary)</td>
<td>1989</td>
<td>Corn, Wheat, Barley, Livestock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budapest Stock Exchange (Hungary)</td>
<td>1989</td>
<td>Precious Metals, Bonds, Equities, Currency</td>
<td>Indices, Currency, Bonds</td>
<td>Yes*</td>
</tr>
<tr>
<td>Poznan Commodity Exchange (Poland)</td>
<td>1991</td>
<td>Cereals, Livestock</td>
<td>Wheat, Live Hogs</td>
<td>Yes*</td>
</tr>
<tr>
<td>Warsaw Commodity Exchange (Poland)</td>
<td>1991</td>
<td>Wheat, Corn, Rye, Meats</td>
<td>Wheat, Currency</td>
<td></td>
</tr>
<tr>
<td>Maritime and Commodities Exchange of Constanta (Romania)</td>
<td>1993</td>
<td>Grain, Oilseeds, Metals, Oil, Freight</td>
<td>‘Have discussed developing’</td>
<td>Yes</td>
</tr>
<tr>
<td>Romanian Commodities Exchange</td>
<td>1992</td>
<td>Grains, Petroleum, Electricity, Currency</td>
<td>Currency</td>
<td></td>
</tr>
<tr>
<td>Sibiu Financial and Monetary Exchange (Romania)</td>
<td>1994</td>
<td>Equities, Bonds, Currency</td>
<td>Bonds, Indices, Currency</td>
<td>Yes*</td>
</tr>
<tr>
<td>Transylvania Commodity Exchange (Romania)</td>
<td>1994</td>
<td>Universal</td>
<td>‘Thru Sibiu FME’</td>
<td></td>
</tr>
<tr>
<td>Ljubljana Stock Exchange (Slovenia)</td>
<td>1989</td>
<td>Precious Metals, Bonds, Equities, Currency</td>
<td>Yes, but now closed</td>
<td>Yes</td>
</tr>
<tr>
<td>Commodity Exchange of Ljubljana (Slovenia)</td>
<td>1989</td>
<td>Corn, Barley, Hogs, Other Ag and Industrial Products</td>
<td>Corn, Barley, Bonds, Indices</td>
<td>Yes*</td>
</tr>
</tbody>
</table>

The last column reports whether any information indicated there was trading at the exchange in 2000. A ‘Yes’ indicates that there was spot market trading in 2000, a Yes* indicates trading in 2000 included futures,’No’ indicates there was no trading, and a blank indicates no information was located about current trading.
Commodities Exchange and the Romanian Commodities Exchange in Romania, and the Commodity Exchange of Ljubljana and the Futures and Options Exchange in Slovenia.

Not surprisingly, more regularity in the organisation of trade and standardisation of the commodities on offer has also stimulated the listing of contracts for trading for future delivery. At the Sofia Commodity Exchange, futures contracts on seven standardised commodities were available for trading once a week (milling wheat, feed wheat, feed barley, malting barley, corn, black sunflower, and white beans) and, judging by weekly market reports, trade occurred in at least the wheat and flour contracts. The Warsaw Board of Trade also appears to have developed standardised contracts for several grains and has offered futures trading on wheat but there have been no reports of trading. Trading of agricultural products on the Poznan Commodity Exchange opened in June 1991, some options contracts were offered in 1995, and futures contracts for its two main products – wheat and live hogs – began trading in 1998 and 1999 respectively.\(^\text{15}\) The Ljubljana Exchange in Slovenia once offered futures but trading was halted, at least temporarily, in 1996.

Finally, the Budapest Commodities Exchange (BCE) is the most active exchange among those in Central and Eastern European countries with daily trading of futures contracts on numerous agricultural products as well as currencies and interest rates. The first trading session took place in October 1989 and, in November, the first futures contracts in corn (six contracts with a March 1990 delivery) were traded.\(^\text{16}\) Trading sessions were held once a week. In 1990, the exchange held its first training sessions for new brokers and the 5 most successful students participated in visits to the CBOT and the CME. BCE was assisted by the Chicago exchanges in other ways as well, from their participation in conferences held in Budapest in 1990 to a formal agreement the following year to assist the exchange assess its needs for equipment, services and technology.\(^\text{17}\) In 1991 the exchange added livestock contracts and, by 1992, trading occurred twice weekly. The exchange signed a Memorandum of Understanding with the New York Mercantile Exchange to establish an energy exchange, an agreement that appears not to have led to any contract development. Also in 1992, the exchange decided to introduce a financial products section and trading in currency contracts began in 1993. In 1998, it ranked 22nd among all futures exchanges in the world according to trading volume (\textit{Central European}, September 1998, p. 86–9). The final important elements in the development of exchange trading at BCE were the creation of a clearing-house jointly with the stock exchange in 1993 and the passing of regulatory legislation in 1994. The Central Clearing House and Depository Ltd. (KELER) is styled after clearing associations everywhere. All exchange trading is cleared and settled by KELER which operates all relevant margin accounts, securities collateral accounts and has a collective guarantee fund in order to secure settlement.\(^\text{18}\) The exchange is regulated by Hungarian Banking and Capital Markets Supervision, which also regulates the securities exchange.

Today, trading occurs daily and the exchange has become one of the two principal

\(^{15}\) Like many Eastern European exchanges, the exchange in Poznan continues a tradition of commodity trading dating to 1921. In 1939, the exchange had 2900 members and the annual turnover of wheat amounted to 1.5 million tons (www.pgse.com.pl).

\(^{16}\) See the BCE website (www.bce.hu) for additional information on the history of the exchange. Anderson and Powell (1993) also describe the development of agriculture in Hungary, thereby providing a context for the development of the exchange. Murphy and Sabov (1994) test for pricing efficiency in early trading of wheat and corn.

\(^{17}\) The US State Department funded a $420,000 grant to the CBOT and CME in a joint agreement to ‘help develop a fledgling commodities exchange in Budapest (\textit{Wall Street Journal}, Sept. 5, 1991).’

\(^{18}\) The CFTC (1997) report provides many additional details of clearing arrangements as well as a summary of the legislative history of market regulation in Hungary.
financial futures exchanges in Hungary with its very successful currency futures markets in addition to its continuing importance as a commodity exchange. Overall, trading volume peaked in 1998 at nearly 8.5 million contracts and trading in financial contracts like currencies and short-term interest rates accounted for nearly 99 per cent of that total.\(^{19}\) In 1999, however, trading in virtually all the exchange’s financial contracts declined dramatically, resulting in an overall decline of more than 80 per cent in trading volume. BCE ceased trading interest rate contracts in 1999, perhaps because of successful competitive futures contracts at the Budapest Stock Exchange. BCE’s currency contracts also required substantial adjustments in 1999 with the introduction of the Euro. Overall, currency trading declined but then recovered significantly in 2000 with trading in the Euro futures amounting to some 1.3 million contracts. Trading in the US dollar and the yen contracts was also important. Meanwhile, trading in agricultural contracts actually increased overall in 1999 compared to 1998, to represent a little more than 8 per cent of total trading (though these levels are themselves below the level of trading achieved in 1997). Trading in grains in 2000 set new records – exceeding 5 million tons, an amount that represented ‘more than half the Hungarian crop (www.bce-bat.com/news).’

Not surprisingly, the agricultural contracts have required several adjustments since their introduction, a process which while necessary undoubtedly has affected the volume of trade. For example, the exchange introduced four different wheat contracts in just four years. It has added contracts for products like soybeans, rapeseed and sunseed, as it perceived both need and opportunity and delisted its once successful contract for black seed. A livestock division was also opened, but so far its hog contracts have not attracted much trading. For its wheat market, the exchange initially offered two contracts, a milling wheat contract and a feed wheat contract. In 1997, the Euro-wheat contract was introduced to adjust the feed wheat contract to meet EU standards and in 1998 trading in the Euro-wheat surpassed levels achieved earlier in the feed wheat contract (Kazsa, 1998). Nevertheless, the Euro contract evidently did not entirely meet trader’s needs and problems emerged with the specifications. At the same time, the government began subsidising farmers’ storage of grain, paying a subsidised rate for storage of 6 months or more against warehouse receipts and, whereas merchandisers had been the major users of warehouse receipts in 1996 and 1997, by the end of 1998 farmers would be the principal users (Borsdorf et al., 1998). Undoubtedly the program also affected the suitability of warehouse receipts as the delivery mechanism. In 1998, the exchange was considering establishing its own warehouses to effect deliveries so that it could better control the process. Kazsa (1998) reported that anomalies and problems with the contract emerged in 1998, mentioning in general terms that delivery problems included adequate identification of the grain shipment, standardised sampling, and late delivery. Borsdorf et al. (1998) reported that the exchange discontinued use of warehouse receipts as the delivery instrument in 1998 because of these problems. They also report that the arrangement by which transport costs were divided between buyer and seller in determining the actual delivery price was not transparent, resulting in an indeterminate or uncertain price for some deliveries. In the event, the feed wheat and the Euro-wheat contracts were abandoned in October 1998 in favour of a so-called unified wheat contract. In 1999, trading in the new wheat contract exceeded 65,000 contracts. In 2000, the size of both the corn and wheat contracts has been increased from their initial amounts of 20 metric tons

\(^{19}\) Data on trading volume are from the Futures Industry Institute Factbook, (www.fiiweb.org/factbook).

to 100 metric tons in 2000.\textsuperscript{20} Judging by news reports, the changes have been successful and trading in BCE’s grains division continues to grow.

There is little in the written history of BCE’s development which would explain its comparative success. It is of course tempting to conclude that it received especially good advice from the many individuals and organisations it consulted during its formative years. This may be true, but it is important to note that many other exchanges in the FSU also received assistance, many from the same people and groups. As noted earlier, most Moscow exchanges received visits, personnel exchanges, and training initiatives from major US and European exchanges in the early 1990’s. Similar initiatives at other exchanges in Central and Eastern Europe have also been mentioned. In addition, the CBOT not only assisted but also became a partner in the development of the Warsaw Board of Trade.\textsuperscript{21} Numerous US-AID projects supported the development of warehouse receipts, recognition of which would not only facilitate agricultural lending but also the specification of futures contracts. A Chemonics project to develop exchange trading was based at a Ukrainian exchange. Thus, it seems external support can hardly be the explanation for the success of the Budapest exchange. A much more likely reason is the leadership of the exchange itself. As will be seen in the development of exchanges in China, the difference between success and failure there seems also to lie much more in the quality of the exchange’s management.

VI. CHINA’S EXPERIENCE WITH COMMODITY FUTURES EXCHANGES

Of all the transition economies, China has had perhaps the strongest focus on encouraging (albeit cautiously) the development of markets, especially in the agricultural sector. As early as 1979, with the introduction of the household responsibility system, farmers were given some control over the production and marketing of many agricultural products.\textsuperscript{22} In 1985, authorities recognized a dual-pricing system whereby the price of products sold to the state under official production plans was set by the state but the price of products sold in excess of planned production was allowed to be determined by market forces. Simultaneously, authorities began investigations of the dynamics of markets, including futures markets. Outside experts were consulted and the Chinese government signed a preliminary agreement with the CBOT affirming China’s interest in developing a futures market. After an exchange of visits, including training of a group of Chinese economists at the CBOT, the government signed a Memorandum of Understanding in 1990 with the CBOT according to which the CBOT undertook to assist China in the development of its first agricultural exchange.

Among the CBOT’s advice to the government was that China needed to develop cash (or wholesale) market trading of sufficient size and efficiency in order to support the development of futures markets. Accordingly, the China Zhengzhou Commodity Exchange (CZCE) opened a wholesale market in October 1990 and planned futures trading for later. In fact,

\begin{itemize}
  \item The wheat contracts were modified effective with the August 2000 delivery while the corn contracts change with the November 2000 delivery. These changes make it difficult to compare figures on the reported volume of trade between 1999 and 2000 when they are both in contract terms.
  \item The Chicago Board of Trade acquired a 15% equity participation in the Warsaw Board of Trade and payment for specific services to provide technical assistance (CBOT, ‘CBOT to Assist in the Creation of Warsaw Commodities Exchange’, Press Release, November 10, 1994).
  \item See Yao (1998, Chapters 5 and 6) for a detailed history of the development of futures markets in China in the context of the much longer transition of the economy.
\end{itemize}

CZCE began futures trading not much later, in May 1993. CZCE initially listed only five commodities: wheat, corn, soybeans, sesame, and mungbeans. Although wheat was expected to be its principal contract given Zhengzhou’s location in the wheat belt of north-central China, trading in mungbeans soon dominated. Mungbeans remained its principal contract until recently although the exchange experimented with numerous products including a new wheat contract in 1996. Trading in wheat futures peaked in 1998 at 190,700 contracts per day and then declined (CZCE, 1998). Trading in 1999 was mostly of mungbeans and peaked in the first half of the year (for example, the volume of trading in the May mungbean future reached 354,792 contracts, a record, in January) and declined through to the end of the year (CZCE, 1999). An attempted manipulation threatened the market again in late January 1999 and exchange officials imposed emergency measures to close out trading in the three nearby contracts. Margins were also increased. Although total levels of trading in mungbeans recovered by June, they declined thereafter. In late 1999, China’s market regulators again strongly encouraged CZCE to focus on the development of a wheat market and discouraged emphasis on mungbean trading. With the much tighter regulatory oversight, trade at CZCE declined some in 1999 but plummeted in 2000.

Like all futures exchanges in China, trading at CZCE is by means of an electronic trading system developed at the exchange. CZCE nevertheless retained a trading floor, believing that the commotion provides a useful sense of the market’s tenor. With the growth in trading, the CZCE added three more trading floors within Zhengzhou, plus nineteen smaller remote sites, before building new facilities that could accommodate all trading at one location. A CZCE trading floor comprised rows of terminals, variously 50 to 100 in total, where the equivalent of floor brokers took orders by telephone, accessed their computer screens for the desired commodity and delivery month, observed the prevailing bid and ask, and executed the order with several keystrokes. Trading is continuous over each of two daily trading sessions, morning and afternoon. CZCE’s new floor is similarly designed though much larger, accommodating some 300 trading terminals in a single room, arranged in rows around a central pulpit area. Electronic screens summarising trading information are on the walls surrounding the floor.

Having authorised futures trading at the Zhengzhou exchange on an experimental basis, China’s reformers found the door to new exchange development had been opened very wide. More than forty organisations in various localities began calling themselves futures exchanges and at the end of 1993, there was actual trading at 33 such exchanges, with a total turnover of more than 715 billion yuan, some $90 billion (Wall and Wei, 1994; Fry, 1994). In 1994, total turnover had grown to 3,800 billion yuan, even with a decline in the number of exchanges. As trading proliferated, with multiple exchanges in individual cities and much duplication of products on offer, Chinese officials retained a healthy skepticism about the role of commodity exchanges generally. They were often concerned about the pricing of individual commodities on some of the exchanges as well. For instance, in 1994, the government, concerned at the rise in the price of rice as recorded on the Shanghai Cereals & Oils Exchange and the absence of exchange monitoring of trading, imposed regional price ceilings, thereby reducing trading volume to minimal levels for many months. Similarly in 1994, the government, viewing the base metals sector as overheated, applied price ceilings and tighter import controls; consequently, the Shanghai Metal Exchange saw volume fall precipitously. Steel, sugar, raw silk, and soybean oil all had trading suspensions because of rising prices (Wu, 1996).

In early 1995, two major scandals in the treasury bond futures market on the Shanghai Securities Exchange led authorities to permanently close trading in Treasury bonds and to
announce the formal review and reorganisation of all futures markets. In mid 1995, the government officially limited trading to those exchanges with sufficient membership—at least fifty members—and sufficient volume in at least one listed contract—at least 5,000 contracts per day—classifying those that passed the standards as ‘experimental’ markets. By the end of 1995, the fourteen experimental exchanges listed in Table III remained, including CZCE. All were commodity futures exchanges. Figure 1 shows the growth in the total value of futures trading in China from 1993–2000 and the growth in the value of trading at CZCE. As is evident, the value of trading peaked in 1995 with a total turnover of nearly 10 trillion yuan and has declined steadily since as regulators took increasing control of trading. In something of a contrast, CZCE continued to see a growth in the value of trading through 1998 with only a modest decline in 1999.

Even with just 14 exchanges, there were still duplicative contracts among them and at least one city, Shanghai, had three exchanges. Reports of trading difficulties on some of the exchanges continued to surface as well. Self regulation was sporadic at best at most exchanges and, in spite of numerous new rules and pronouncements, regulators remained very concerned. In 1998, Chinese authorities again moved to dramatically reduce the exchanges, merging the three Shanghai exchanges into the Shanghai Futures Exchange and closing all other exchanges except the Zhengzhou Exchange and the Dalian Commodity Exchange. On the now three exchanges, only 12 commodities were permitted for trading and there were to be no duplications of products on exchanges. As shown in Table III, the Shanghai Futures Exchange was permitted to trade copper, aluminum and rubber and it was to develop futures markets in rice and in plywood. CZCE could continue to trade mungbeans, redbeans, corn, and peanuts, but was given clear direction to develop a wheat futures market. The Dalian exchange continued trading its soybean contract and a hops contract and began developing a soybean oil contract. As shown in Figure 1, the total value of trading in 1999 was greatly reduced, of course, although trading at CZCE was only slightly reduced. Then in 2000, trading on CZCE’s mungbean contract was suspended for three months (after another attempted manipulation) and, although the market reopened, margins, capital requirements, and the like were all increased to the point very little trading resumed (Wall Street Journal, June 20, 2000). Meanwhile CZCE worked to develop again trading in wheat futures and officials are reportedly looking into developing futures contracts in cotton and sugar. Trading at CZCE was reported to be recovering somewhat by the end of 2000 but the value of trading for the year was just 160 billion yuan in 2000, less than 7 per cent of its earlier peak in 1997 and only 10 per cent of the value of all futures trading in China.

Hopefully, CZCE and the other two remaining exchanges will have the opportunity to develop trading again. That they can play an important role in the development of markets in China has already been amply demonstrated by CZCE’s success with its mungbean futures contract. The success of this contract has permitted the exchange to invest heavily in the development of the wholesale market, for example by installing computer reporting stations all across the producing area. It has invested as well in storage capacity, creating delivery capacity at 32 registered warehouses across eastern and central China. Its contracts have relied on China’s national standards for terms of delivery thereby providing incentive for

23 Yao (1998) provides details of the two scandals in financial markets (Chapter 4, p. 103–109).
24 For example, during one visit to CZCE, exchange officials there were following closely a manipulation attempt in the mungbean contract at the Beijing Commodities Exchange in order to prevent any untoward effects on its own contract.
Table III  The Development of Commodity Exchanges in China

<table>
<thead>
<tr>
<th>Exchange</th>
<th>Date</th>
<th>Commodities Traded</th>
<th>Futures Contracts Traded</th>
<th>Trading in 2000?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing Commodity Exchange</td>
<td>1993</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>China Zhengzhou Commodity Exchange</td>
<td>1993</td>
<td>Mungbeans; Redbeans; Peanuts; Corn; Wheat</td>
<td>All—Planning Cotton &amp; Sugar</td>
<td>Yes*</td>
</tr>
<tr>
<td>Chongqing Commodity Exchange</td>
<td>1993</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Chengdu United Futures Exchange</td>
<td>1994</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Dalian Commodity Exchange</td>
<td>1993</td>
<td>Soybeans; Soymeal; Soyoil; Hops</td>
<td>All-soyoil to be developed</td>
<td>Yes*</td>
</tr>
<tr>
<td>Guangdong United Futures Exchange</td>
<td>1994</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Hainan China Futures Exchange</td>
<td>1993</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Shanghai Futures Exchange</td>
<td>1999</td>
<td>Aluminum; Copper; Rubber; Rice; Plywood</td>
<td>All – Plywood and Rice to be developed</td>
<td>Yes*</td>
</tr>
<tr>
<td><em>Shanghai Cereals and Oils Exchange</em></td>
<td>1993</td>
<td>Merged to form SFE</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>*Shanghai Commodity Exchange</td>
<td>1995</td>
<td>Merged to form SFE</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>*Shanghai Metals Exchange</td>
<td>1993</td>
<td>Merged to form SFE</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Shenyang Commodity Exchange</td>
<td>1993</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Shenzhen Mercantile Exchange</td>
<td>1993</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Suszhan Commodity Exchange</td>
<td>1995</td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Tianjing United Futures Exchange</td>
<td>1995</td>
<td></td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

These are the fourteen exchanges designated as experimental at the end of 1995. The date in column 2 indicates the year trading first exceeded 1 billion yuan. Commodities traded are only those assigned by the Chinese Securities Regulatory Commission to the three exchanges permitted to remain open in 1999, as indicated by the Yes* in the last column.
producers and merchants to condition beans to meet these standards. In the late 1980s when Chinese officials consulted the CBOT, they were advised to foster wholesale markets before attempting to begin futures trading. Ironically, such improvements as have occurred in physicals trading in mungbeans have come in fact from the example set by the futures market and from funding provided by the exchange.

With their new directive to develop a wheat futures market, officials at CZCE have a much more daunting task as the wheat market is much larger and undoubtedly more complicated than that for mungbeans. That they were able to build significant trade in wheat once suggests they will be able to do so again. At the same time, regulatory officials will surely watch wheat prices more closely than they did those for mungbeans and China’s market regulators have not yet demonstrated a great tolerance for price volatility. Recently, CZCE has applied for permission to develop contracts in cotton and sugar, applications that if successful would again expand the list of commodities and perhaps their opportunities. All exchanges are waiting for China’s officials to loosen control of financial markets generally and the possibility of developing futures in currencies, interest rates, and securities specifically.

VII. SUMMARY AND CONCLUSIONS

In the initial days of market reforms, new exchanges appeared almost everywhere in the FSU, Eastern and Central Europe, and China. Trading grew enormously rapidly, even in standardised commodities and futures in China, and it seemed to some that market-based economies were ‘just around the corner.’ But the almost universal enthusiasm with which new commodity exchanges were greeted in these countries belied the difficulties the exchanges faced in sustaining interest, in developing standardised contract terms, and in
establishing effective self-regulation and state regulatory oversight. And like exchanges everywhere, they were often mistaken as the cause of price volatility or of prices too high and closed. In Russia the transparency of market transactions attracted tax collectors and drove most of the trade off the exchanges.

In considering the prospects for a resurgence of interest in trading on exchanges in the FSU especially, the first question that must be answered is one of need. Initially, virtually every sort of commodity was on offer at the largest of the new exchanges and an important function of the exchanges was to provide a place for buyers and sellers to find one another, to develop marketing networks. Other things being equal, one has the sense that if the same circumstances were to recur, internet-based exchanges/auctions might be the principal form of new exchanges to emerge. Moreover, the success of a number of such sites in the US and Europe suggests there still may be an important role for such markets in the FSU as well. The new grain exchange Zerno and metals exchange Europe-Steel.com are but two examples. Undoubtedly there will be more.

The extent to which these ventures encourage the development of independent markets will likely vary, depending on such issues as market size, alternative markets, and the independence of domestic prices. For Russian wheat, for example, transport costs from US Gulf ports to Moscow in 1996 were around $50 per ton, an amount sufficient to create a very sizable difference between import and export parity prices, other things being equal. Similarly, it cost $35 per ton to transport wheat from Kazakhstan to Moscow, again an amount sufficient to insure substantial independence in prices. Moreover, wheat production is seasonal unlike oil production and import needs (or export availability) are typically periodic. Thus, domestic markets will be linked by actual commodity purchases or sales only periodically, leaving the possibility of substantial independence in prices and the prospect of the development of substantial independent trading. There are as well a number of commodities for which international markets are not important factors, like mungbeans or redbeans. Markets for livestock products also tend to be national markets, dominated by domestic supply and demand concerns. The development of markets for these commodities is nonetheless extremely important to local and national economies and can be the basis of a successful exchange as shown by the success of the Poznan Commodity Exchange with its livestock contracts.

The evidence in the paper also indicated that many of the new exchanges received significant support in the beginning. Established exchanges offered assistance, training, and the like. The US Departments of Agriculture and State supported specific exchange development projects and EBRD, the World Bank, and USAID among others supported the development of warehouse receipt programs in many countries. Nevertheless, there has not been the sort of soup-to-nuts support for commodity exchanges that has been lavished on the development of securities exchanges throughout the FSU – indeed, there seems to have been virtually no systematic thought given to the potential complementarities between securities and commodities exchanges, or even to the possibility of using common facilities to trade both instruments. Worse, whereas existing exchanges offered assistance in the early days, some are now developing competing products rather than assisting the development of local trade.25

Another common issue for the new exchanges was the legislative and regulatory vacuum in which they operated. Although many believe this to have been the most difficult problem

25 The Austrian Futures and Options Exchange is trading a number of indices comprised of securities from Eastern European countries, often in direct competition with domestic exchanges. Similarly, the CME offers trading in a ruble contract.
plaguing the development of the exchanges, the evidence suggests exchanges could operate successfully without significant external regulatory oversight. Many major modern exchanges developed in the absence of external regulation and many of their features evolved as the result of self-regulation. As but one example, the early grain exchanges in Chicago and Minneapolis developed the margin system with its daily evening-up of all accounts and a clearinghouse as third party guarantor to prevent default risks. Similarly, the evidence here showed that some self-regulation emerged virtually simultaneously with trading on the new exchanges. In Russia, exchanges developed arbitration procedures and trading bans in response to contract default problems. In China, CZCE aggressively monitored trading in its contracts, made adjustments to contract terms as necessary, imposed price and trading limits as needed, and generally made clear that it could and would take all steps necessary to prevent manipulation. Obviously not all new exchanges took such aggressive approaches to regulating trade but that some did demonstrates that the external legislative environment was not necessarily the most important constraint on their development.

Governments were problems in other ways, however. In China, officials seemed to have sometimes associated exchange trading with price levels or pricing variability which were not acceptable and then restricted trading. Undoubtedly there were actual abuses as well and, when exchanges were not monitoring trade and traders as they should, officials surely felt they had little choice but to step in directly. In Russia, the extraordinarily high taxes imposed on trading profits drove most trade off the exchanges. In Kazakhstan, the higher priority placed on developing a securities exchange foreclosed the development of a futures market. In Uzbekistan and Turkmenistan, the role of exchanges has been limited to mere facilitation of export transactions, assuring duties are paid and currency conversions occur at the official rates.

Finally, for as much as is known about exchange trading, it seems clear in retrospect that everyone seriously underestimated the difficulty of developing standardised contracts for commodities which would reflect local conditions and yet serve as a basis for the development of centralised trading. No exchange in Russia or the FSU succeeded in defining contracts for any agricultural (or other physical) product that attracted any trading. In Central and Eastern Europe, only the Poznan Commodity Exchange and the Budapest Commodity Exchange have managed to create standardised contracts which have attracted substantial amounts of trading, though others may follow. In China, only three exchanges have met officials’ expectations for developing contracts and managing trading. Given this record, it is perhaps not surprising that CZCE officials, when asked about what had been the most difficult aspect of developing their exchange, responded immediately that it was in establishing contract terms and managing the associated delivery issues. If ever there is the opportunity to rekindle interest and enthusiasm for exchange development, much more attention and support should be directed to assist the new exchanges in this area. Of course, developing contract standards and delivery terms requires working closely with the individuals and firms who comprise the existing trade, a fact which should also remind everyone of the importance of attracting those same firms to use the new markets and making their contracts part and parcel of production, consumption, and marketing decisions.

REFERENCES


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