Commodity exchanges in Europe and Central Asia

A means for management of price risk

FAO INVESTMENT CENTRE

WORKING PAPER

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TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS

AFM	Association of Futures Markets (Hungary)
BCE	Budapest Commodity Exchange
BNA	National Agricultural and Livestock Exchange (Bolsa Nacional Agropecuaria) (Columbia)
BRM	Burse Romana de Marfuri (The Romanian Commodities Exchange)
BSE	Budapest Stock Exchange
BSCE	Budapest Stock and Commodity Exchange
BUCE	Belarusian Universal Commodity Exchange
CAP	Common Agricultural Policy
CBOT	Chicago Board of Trade
CCP	central counterparty
CIDA	Canadian International Development Agency
CIS	Commonwealth of Independent States
CMB	Capital Markets Board (Turkey)
CME	Chicago Mercantile Exchange (CME) Group
CMU	Cabinet of Ministers of Ukraine
CRME	Commodity and Raw Materials Exchange (Turkmenistan)
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECA	Europe and Central Asia (European and Central Asian countries)
ETS	Eurasian Trading System
EU	European Union
EurAsEC (EAEC)	Eurasia Economic Community
EXW	ex-works
FAO	Food and Agriculture Organization
FIA	Futures Industry Association (United States)
FOB	free on board
FORTS	Futures and Options on Russian Trading System (RTS) (project)
FSU	former Soviet Union
FYR	Former Yugoslav Republic (of Macedonia)
GDP	gross domestic product
GICEx	Georgia International Commodity Exchange
ha	hectare
IGE	Istanbul Gold Exchange
IGT	Internetowa Gielda Towarowa (Poland)
IME	Izmir Mercantile Exchange
ISE	Istanbul Stock Exchange
KAIE	Kiev AgroIndustrial Exchange "Kievagroprombirzha"
KBB	Bratislava Commodity Exchange (Komoditná Burza Bratislava)
KICE	Kazakh International Commodity Exchange
KSE	Kazakhstan Stock Exchange

KTB	Konya Ticaret Borsasi
KZ	Kazakh tenge
MAP	Ministry of Agrarian Policy (Ukraine)
MCE	Moscow Commodity Exchange
MEDT	Ministry of Economic Development and Trade (Kazakhstan)
MICEX	Moscow Interbank Currency Exchange
MiFID	Market in Financial Instruments Directive (EC)
mm	million
MNFME	Moscow Non-Ferrous Metals Exchange
NAMEX	National Mercantile Exchange
NCSEX	Nizhegorodskaya Currency and Stock Exchange
NMCE	National Multi-Commodity Exchange
NNSCE	Nizhny Novgorod Commodities and Currency Exchange
NYMEX	New York Mercantile Exchange
NYSE	New York Stock Exchange
PLN	Polish zloty
RCE/BRM	Romanian Commodities Exchange (Bursa Romana de Marfuri)
RCRME	Russian Commodity and Raw Materials Exchange
RCSE	Rostov Currency and Stock Exchange
repo	Sales and Repurchase Agreement
RTS	Russian Trading System
SCE	Sofie Commodity Exchange
SCIEX	Samara Currency Interbank Exchange
SIBEX	Sibiu Monetary, Financial and Commodities Exchange (Bursa Monetar Financiarã şi de Mãrfuri Sibiu)
SICEX	Siberian Interbank Currency Exchange
SMS	short message service
SPBEX	St. Petersburg Commodity and Stock Exchange "St. Petersburg"
SPBFE	St. Petersburg Futures Exchange
SPCEX	St. Petersburg Currency Exchange
SPIMEX	St. Petersburg International Mercantile Exchange
TACIS	Technical Aid to the Commonwealth of Independent States
TOBB	Union of Chambers and Commodity Exchanges of Turkey
TUGE	Tajik Universal Goods and Commodity Exchange
TurkDex	Turkish Derivatives Exchange
UFEX	Ukrainian Futures Exchange
UGA	Ukrainian Grain Association
UICE	Ukrainian Interbank Currency Exchange
UNCTAD	United Nations Conference on Trade and Development
URCEX	Urals Regional Currency Exchange
USAID	United States Agency for International Development
UZEX	Uzbek Commodity Exchange
UzRCE	Uzbekistan Republican Commodity Exchange
VAT	value-added tax
WGT	Warsaw Commodity Exchange (Warszawska Gie da Towarowa S.A.)
WHR	warehouse receipt
WTO	World Trade Organization
Yercomex	Yerevan Commodity and Raw Material Exchange

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EXECUTIVE SUMMARY

This study discusses commodity exchanges in the European and Central Asian (ECA) region[1] as a tool for risk management. There are well over two-hundred entities active in the region that call themselves "commodity exchange" (and many more registered commodity exchanges that are no longer active) but most exchanges would not be recognized as such by people familiar with commodity exchanges as they exist in Europe and the Americas. Exchanges resemble wholesale markets or merely act as a mechanism for registering commodity transactions for taxation purposes. This study does not aim to provide a comprehensive overview of all such exchanges but rather focuses on exchanges that provide explicit risk management tools and discusses how the offer of risk management tools (particularly for agriculture) by such exchanges can be improved.

What are ECA countries missing out on if they do not have a well-developed commodity exchange?

In line with the level of development of ECA economies, commodity exchanges can serve a variety of functions related to financing, risk management and marketing. These functions include:

- Managing price risk. By offering forward or futures contracts, exchanges can help to manage this risk through forward contracts and derivatives (futures, options).
- Reducing counterparty risk. Using "vetting" mechanisms and through financial guarantees, exchanges can reduce or even entirely remove the risks that one faces when dealing with unknown counterparties.
- Enhancing price transparency. Exchanges allow the "discovery" of prices, thus reducing the risks of trade and improving the bargaining power of those parties who would normally loose out in a situation of asymmetric information (e.g. farmers).
- Reducing risks related to collateral value. Because of greater price transparency and because of the possibility to sell, if necessary, through the exchange mechanism commodities obtained from a defaulting borrower, financiers can be more confident about the value of the commodities that they finance. This leads to improved funding conditions.
- Certifying quality of commodities. Exchanges set and enforce quality standards for the commodities traded through their platform.

1 There are 30 countries in the ECA region, namely: Albania, Armenia, Azerbaijan, the Republic of Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, the former Yugoslav Republic (FYR) of Macedonia, Georgia, Hungary, Kazakhstan, Kosovo, Kyrgyzstan, Latvia, Lithuania, Montenegro, Poland, the Republic of Moldova, Romania, the Russian Federation, Serbia, the Slovak Republic, Slovenia, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

- Providing direct access to capital markets through repos: exchanges can provide an effective access to the national capital markets through the use of repo schemes guaranteed by their clearing systems. This also leads to higher integrity between the domestic financial and commodity sectors.

Exchanges can thus offer a wide range of contracts and services. Most of the exchanges in the ECA region, however, have not evolved to a stage at which they can serve the above-mentioned functions in a systematic fashion. There are, however, signs of progress in the development of their capacity to do so.

Commodity exchanges in the ECA region: a large spread, but little depth

Two thirds of the ECA countries have at least one commodity exchange. The largest number can be found in Turkey with over a hundred exchanges although only less than one-fifth of them play a role in physical trade (the remainder serve tax registration purposes). The Russian Federation and Ukraine each have a few dozen operational commodity exchanges (and many more registered but inactive exchanges). Despite their rapidly developing commodity sectors, most exchanges in these countries only provide auction platforms and do not provide financing and risk management services. Most of the other countries of the former Soviet Union (FSU) also have one or a few commodity exchanges, with Azerbaijan and the Baltic States being the only exceptions. Poland has about 20 commodity exchanges (acting mainly as wholesale platforms) and most of the other Eastern European countries, including those that are now part of the European Union (EU), have between one and six exchanges. The Eastern European exchanges include a number of energy exchanges, as well as primarily financial exchanges that also offer agricultural contracts. Only a handful of the exchanges in this region have an agricultural focus, acting as auction centres.

Most of the exchanges in the ECA region have weak organizational and financial strength and play an insignificant role in their economies. Many exchange operate at a unsustainably low transaction levels and are likely to disappear unless external support is forthcoming. Where they do play a role, it is generally with financial sector contracts or, in one case, with gold contracts. Agricultural contracts are of little significance for most of the large exchanges in the ECA region. Of the exchanges offering agricultural contracts, six[2] are well developed (in Hungary, Romania, the Russian Federation and Turkey) and can be compared with exchanges in Europe, the United States, Brazil, China and India. These exchanges have sound technologies including electronic trading and offer a sophisticated range of instruments (including agricultural futures contracts). They are reasonably well integrated in the community of international exchanges and have a well-developed organizational structure (generally visible on their website). In terms of trading volumes, however, turnover in agricultural contracts tends to be low. Their trading volumes are concentrated in precious metals (for example, the Turkish Derivatives Exchange (TurkDex), whose gold and silver contracts make it the largest commodity

2 Burse Romana de Marfuri (Romania), Budapest Stock Exchange (Hungary), Moscow Interbank Currency Exchange, Russian Trading System, St. Petersburg International Mercantile Exchange (all three in Russia) and Turkish Derivatives Exchange (Turkey). (See 'Abbreviations and Acronyms')

exchange in the ECA region), securities and financial derivatives (mainly stock indexes, currency futures and interest-rate contracts).

There are also a number of "emerging" exchanges for which agricultural contracts are of considerable importance and which have been investing in upgrading their systems and practices, e.g. by introducing an electronic trading platform, a clearing system and forward contracts. These emerging exchanges consist of around ten exchanges in seven countries, including Turkey and countries of Eastern Europe and the FSU.[3] In terms of trading volumes, it is in this group that the largest agricultural exchanges can be found (the largest is the Izmir Mercantile Exchange, with annual cotton trade valued at over US$2 billion).

In another nine countries, there are commodity exchanges that offer trade in agricultural commodities. Half of these exchanges, all located in the FSU, are barely active while other are in a transition from an open outcry auction-type platform to a more sophisticated exchange (as is the case for three countries of former Yugoslavia, as well as Kazakhstan).

In summary, despite the large number of commodity exchanges in the ECA region, only a handful of them have reached a good level of development, and these exchanges barely trade agricultural commodities. About 20 other exchanges have some potential to offer agricultural risk management tools and may be supported in these efforts. On all of the exchanges, there is significant room for improvement. In many countries, the underlying physical commodity sectors are large enough to support important volumes at exchanges. The role of countries such as Kazakhstan, the Russian Federation and Ukraine in world grain and oilseed trade has developed to a level that successful Black Sea grain and oilseed futures contracts would attract avid international interest. Despite the success of some commodity exchanges in the region, there is still ample scope for growth. The total annual trading volume of all commodity contracts in all ECA countries together is estimated at around 10 billion US$[4], mostly in Turkey, which is equivalent to that traded in three or four days on the main exchanges in China or India[5].

Obstacles and constraints

In most countries, the absence of large, successful commodity exchanges does not mean that such exchanges are irrelevant. Commodity exchanges can offer a wide range of range of tools which could help better organising agricultural marketing and making agricultural investments, processing and trade safer and more profitable. The agriculture sectors in the ECA countries have generally been moving from heavy state domination and control towards a more liberalized, market oriented systems albeit some countries are lagging behind. After liberalization, commodity exchanges could step in and perform many of the marketing and risk management

3 Belarus Universal Commodity Exchange (Belarus), Eurasia Trading System and Kazakh International Commodity Exchange (Kazakhstan), Izmir Mercantile Exchange and Konya Ticaret Borsasi (Turkey), Kiev AgroIndustrial Exchange "Kievagroprombirzha" (Ukraine), Sofia Commodity Exchange (Bulgaria), Uzbek Commodity Exchange (Uzbekistan), Warsaw Commodity Exchange (Poland) (See 'Abbreviations and Acronyms').

4 Most the smaller exchanges do not publicly report their volumes.

5 In 2009, the Shanghai Futures Exchange had a notional trading value of more than 11 trillion US$; in 2010, the Dalian Commodity Exchange traded some 6.3 trillion US$ worth of commodities, and the Multi Commodity Exchange of India 1.9 trillion US$

functions formerly performed by the state, in support of the newly emerging private sectors. However, developing successful exchanges is a challenging task and many constraints are yet to be better addressed in most of the ECA countries.

While lack of familiarity with exchange mechanisms and with risk management acts as a broad constraint across most of the region; other constraints vary depending on country specific conditions such as the size of the agricultural economy, the development of the agricultural and financial sectors, and the commodity policies. If, for example, agricultural production is low and the size of the potential market for an agricultural exchange is small, an exchange may be financially non-viable. If agriculture is poorly organized, with unsophisticated farmers, processors and traders, it may be very difficult for an exchange project to acquire enough traction to take off. This is even more the case if bankers as well have little understanding of modern commodity marketing and financing mechanisms, and if there are no organized speculators interested in becoming active on an agricultural exchange (without speculators, an exchange cannot grow). If, on the contrary, agriculture is too highly organized, with just a few large, vertically integrated companies dominating agricultural value chains, then these companies may not be too keen introducing mechanisms which increase transparency in these markets.

The existence and quality of an enabling legal and regulatory framework further determines the scope for commodity exchange development. An exchange's viability can be undermined by a lack of rules and regulations, e.g. to govern investment in exchanges, to give an exchange the ability to self-regulate its operations and to enable an efficient delivery mechanism (through warehouse receipts (WHRs). For example, exchanges throughout the region have been struggling to build an efficient link between the physical grain sector and "paper" trade in fungible grain contracts. The normal link is through warehouse receipt systems, which give the holder the right to a certain quantity of product of a specified grade at a certain warehouse. However, for such system to work properly, a proper legal and regulatory framework is in required including the licensing and supervision of public warehouses and credible protection against fraud. However, in countries where there were early private sector efforts to create futures exchanges (e.g. Kazakhstan, the Russian Federation), the efforts to make this link were scuttled owing to the absence of strong WHR regulation and a proper grading system, and because warehouses ownership was concentrated in the hands of a few.

Finally, agricultural and trade policies are important determinants for the scope of commodity exchange development. For example, interventions in agricultural markets such as export bans as well as other interventions to reduce price fluctuations undermine commodity exchange, especially if implemented in an arbitrary and ad hoc manner. Also, as can be inferred from the fact that commodity exchange initiatives that focused on European farming have never done well, whether in France, Germany, the Netherlands or the United Kingdom, the safety net provided by the Common Agricultural Policy (CAP) is in contrast with the idea of farmers fending for themselves in the management of the price risks to which they are exposed. Thus, new agricultural exchanges in EU accession or pre-accession countries may be a difficult proposition, at least in the nearer future. In the longer term, the further reform of the EU's Common Agricultural Policy might increase

the scope for commodity exchanges. Finally, government attitudes towards commodity exchanges also matters: a government that wants to retain control over a commodity exchange is likely to stifle its growth.

Misconceptions about exchanges that hinder proper exchange development

Several misconceptions hinder exchange projects, whether sponsored by governments, the private sector or international agencies:

- *A commodity exchange is "...an organized marketplace where physical commodities are being traded and exchanged"*

This misconception is still rather widespread among government structures in the FSU countries. This erroneous concept could create serious constraints to building a modern commodity derivatives exchange: the focus of the efforts would be wrong, with measures aiming to bring physical trade to the exchange (e.g. by allocating export quota or by forcing private sector or government business enterprises to buy or sell through the exchange) rather than aiming to create market transparency and financial surety.

The corollary of this misconception is the idea at the other extreme that:

- *Physical delivery does not matter for a commodity derivatives exchange.*

This misconception often arises when financial sector players try to drive the development of a commodity exchange. They feel that a commodity exchange should stay away from the "underdeveloped" realities of the physical market and, rather than offering physical delivery, should focus on purely financial transactions. But to be successful, a modern commodity exchange has to create points of contact with the physical market, including a buy-in by major players on the physical market, the creation of good delivery points and mechanisms (in collaboration with warehousing or collateral management companies) and appropriate grading standards and quality control mechanisms. Failure to create these points of contact will make a derivatives exchange irrelevant for physical market players and condemns the exchange venture to certain failure.

- *The government needs to take the lead in developing a commodity exchange.*

The idea that the government has to take the lead in the development of a commodity exchange partly comes from the past experience of most ECA countries – the government took the lead in almost everything – and partly from the more legitimate argument that if there is no full buy-in by the government in all its aspects, then a commodity exchange initiative is bound to fail because it will hit legal and regulatory obstacles. Unfortunately, government entities may not show the required dynamism and the responsiveness to the needs, expressed or not, of the private sector. From the government's perspective, it is best to see a commodity exchange as a private-public partnership, with the public responsibility being to act as a catalyst, if necessary, and to provide a supportive framework.

All the positive examples of the relatively successful, advanced exchanges in the region (e.g. Hungary, Romania and the Russian Federation) were initiatives of the local private sector without a significant involvement of the state.

- *There are so many problems in the physical marketplace that a facility/ exchange to manage price risk would be of little or no use.*

In reality, commodity market development is not necessarily sequential, from the proper organization of physical markets to the development of forward and then derivatives markets. In certain cases, a derivatives exchange can create an environment in which physical trade becomes safe, even in cases where contractual non-performance is rife and the legal system is weak, and it can thus lead the process of market development.

- *The exchange should be not-for-profit to ensure that it serves the interest of the public at large and not just of the owners.*

Unfortunately, international experience shows that not-for-profit exchanges are not very good at serving the interests of the public at large for various reasons. Furthermore, a not-for-profit exchange would never be able to take off – unless perhaps if the government provided most of the initial cash. And the idea that a for-profit exchange somehow would benefit a small clique is erroneous, as exchanges make profit out of volume: maximizing turnover is a rational objective and this is only possible if an exchange is seen as neutral.

- *An exchange is like a "better mousetrap" – build it, and people will use it. In a given country, this idea often co-exists with the idea that in order to work, the government has to make use of the exchanges obligatory.*

Both ideas are erroneous and, in effect, building an exchange model on either idea would be a recipe for failure. In effect, new ideas need time to be accepted, not only by the intended exchange users but also by those enabling users to access the exchange (brokers) and those supporting user activities (e.g. banks). The idea that exchange use should be made obligatory for certain key commodities is actually dangerous – it has driven people into illegal exchanges (which provided better products without fear of taxation) and led to exchange management becoming complacent and uninterested in providing any real services to exchange members.

- *Providing a good trading platform is sufficient as a starting point and, with good promotion, will take-off by itself.*

This can be true in some of the highly developed market economies, where the provision of services is very specialized and where each of the necessary auxiliary services for efficient trade is available from one source or another. In emerging market economies, however, services are hardly as available and complete, and the incomplete services (only order matching between a buyer and a seller) offered by an exchange are not enough to make the trade actually happen. In an emerging market economy, the exchange needs to provide, in a way, the whole environment necessary for efficient commodity trade: management of counterparty risk, evaluation of product quality, access to finance and mechanisms for dealing with conflicts.

- *For globally traded commodities like grains and oilseeds, there are already global markets – a new local or regional market would bring little or no value added.*

This may be true in certain cases, and in considering the creation of new futures contracts one should always take into account already-existing ones. But the existence of a liquid global contract is not necessarily a decisive obstacle. For example, many of the market participants may be unable to open accounts with brokers in western markets and set up credit line arrangements (to pay margin calls); or the price correlation between local prices and global contract prices may be too low to make effective risk management possible. In such a situation, a local contract can be tailored to local delivery conditions, and will enable users to open local accounts, denominated in local currency, with brokers who speak the local language and are in the same time zone.

- *Introducing commodity forward or futures contracts into an exchange platform will open up the markets to speculators, which will create a whole range of problems.*

The debate on the effects of speculation on commodity markets has intensified in recent years. But it should be noted that commodity markets without futures exchanges go through boom and bust cycles too, and index funds and other investors / speculators are, at the end, just one factor in price formation. They create noise, but this noise rarely ever overwhelms the voice of the underlying supply/demand factors. If a futures market is set up properly, with a well-functioning and reliable clearing system, good delivery specifications and a sound regulatory framework, there is no reason to fear any form of speculation.

Moving forward

In many ECA countries, exchange development has been on the radar of governments, industry groups and international agencies. In countries such as the Republic of Belarus and Uzbekistan, the government is the main driver of commodity exchange development, albeit in the context of controlling export flows. Russian state agencies have been actively promoting new exchanges; agricultural contracts and exchanges have been supported among others by the Moscow Interbank Currency Exchange (MICEX), in which the Central Bank is the largest shareholder (holding about 36% of the shares), and which has used its electronic platform to tie together the number of the regional exchanges, which are dealing in spot contracts. Donor agencies have supported exchange development in several Eastern European countries, as well as Kazakhstan, the Russian Federation, Tajikistan, Turkey and Ukraine. How can such interest be leveraged to create truly successful exchanges and how can government and donor support be made more effective?

In general terms, one can divide possible actions into two categories: 1) direct support of exchanges, and 2) improvement of the conditions under which exchanges operate. The first category includes institution- and capacity-building initiatives for exchanges, with a key component being awareness-raising campaigns in target countries, preferably supported by neutral entities that can

play an advocacy role. The second category includes measures to improve the legal, regulatory and policy environments. These include policy dialogue and awareness raising among key government stakeholders to remove the risk of arbitrary and unpredictable government interventions; the introduction of proper laws and regulations in support of exchange development and operations; and the introduction of upgrading of WHR systems.

Action programmes need to be country-specific based on the specific conditions of the agricultural and financial sectors and the underpinning legal and regulatory frameworks and policies. This report distinguishes three groups of countries by the level of development of their commodity exchanges: 1) EU member countries and countries aspiring to become EU members; 2) countries with large, diversified economies; and 3) small, agriculture-dependent countries.

In the first group of countries, those with or aspiring to EU membership, the advanced level of development of commodity sector support companies and structures in the region (such as banks, quality control companies, logistics companies, information vendors, industry bodies, commercial arbitration panels) means that it is more difficult for a commodity exchange to provide services that really make a difference. In other words, it sets standards very high for an exchange that wants to succeed. Nevertheless, several Western European countries conduct large agricultural auctions that make intensive use of electronic media and have highly advanced logistics systems. These auctions are so attractive as platforms for physical trade that they even attract international users. They could be replicated in new and aspiring EU member states. With respect to futures exchanges, these marketplaces can no longer hide behind national barriers and must be able to compete with their long-established peers in Western Europe. Exchanges need to be for-profit, demutualized and private sector managed to meet the challenge. They require the active support of their governments to obtain the funds necessary for their transformation. Donor agencies, in particular those associated with the EU and its member countries, may find it useful to support the most dynamic of the exchange development efforts in the EU accession countries.

Turkey is in a somewhat exceptional position within the first group of ECA countries. The large size of the Turkish economy, its unique economic fundamentals (as a bridge between Europe and Asia) and the large number of quite sophisticated financial sector companies could make viable one or two futures exchanges large and vibrant enough to benefit from EU accession, establishing a regional commodity exchange and attracting new users from throughout the region (including the Central Asian countries). The Food and Agriculture Organization (FAO) and the World Bank could further support this process, in particular by assisting in the development of a proper electronic trading network and in the development of a WHR system that could act as a firm basis for the development of the country's commodity exchanges.[6]

6 WHR finance is relatively well developed in Turkey and is predominantly conducted by banks using their own warehousing subsidiaries. Turkish banks own a large number of warehouses, especially at ports. (These warehouses were used in particular for storage of cotton and tobacco exports in financing operations.) Each bank uses its own warehouses to enable it to provide WHR finance. It will be quite a challenge to convert this system into a more "open" system, where warehouse owners agree to provide storage and WHRs for third-party depositors.

In the second group of countries, those with large, diversified economies (Azerbaijan, the Republic of Belarus, Kazakhstan, the Russian Federation, Ukraine), the commodity exchange initiatives face different challenges. A lingering distrust of competitive markets by both the private sector and government decision-makers is an important obstacle. Because of this mistrust, a project to promote commodity exchanges has to have a component that will "capture the minds" of private and public sector decision-makers. At the same time, the institutional environment in which the commodity exchanges provide competitive services is likely to remain weak, which allows the exchanges to build up comparative advantages in the areas of trade security (counterparty risk management), quality assurance and commodity finance. In terms of donor support, programmes to develop a sound WHR system, permitting electronic trading of WHRs, can be of particular use. Also, support to the development of appropriate laws and regulations as well as regulatory structures would be very useful. In terms of direct support to exchanges, the large financial exchanges in Kazakhstan, the Russian Federation and Ukraine and the private sector consortia that are interested in exchange initiatives do not need international financial support but they could benefit form improved access to international expertise. In Azerbaijan and the Republic of Belarus, advisory work on agricultural exchange development may be useful.

In the many small, agriculture-dependent countries of the FSU, the third group of countries, commodity exchanges were created in the early 1990s to cope with the fall-out after the collapse of the old command economy. With the exception of Uzbekistan, the exchanges in these countries have not been able to develop. They do indeed face many obstacles. The economies of the countries are small. The financial sectors are underdeveloped. The infrastructures for physical trade (including warehouses and grading laboratories) are deficient. The legal and regulatory regimes are weak. Practices in commodity trade are unsatisfactory, with contract defaults a common occurrence. There is a lack of trust among the various players in the commodity sectors. But these constraints are also opportunities. Conditions argue for small, low-cost, focused, highly efficient micro-exchanges that use an electronic trading platform to trade a broad range of products. The old auction exchanges, where they have survived, may not be the best anchors for such new ventures. External support for awareness-raising, advice and training could be a catalyst, and venture-capital-like funding for exchange initiatives and related market institution-building projects could be the most effective way to empower new private sector initiatives. The international community could also assist by making commodity exchanges "entry points" for bringing in new agricultural policy with reduced government intervention. Regional exchange projects may also be relevant.

In summary, international support could assist exchange initiatives by improving general conditions (and where current government policy, laws and regulations are unhelpful, this assistance would be crucial) and by supporting specific projects where local ownership is strong. Depending on the country, donors should focus on improving agricultural marketing (by improving wholesale markets), finance (by introducing capital market finance for the commodity sector on the basis of repo finance) and risk management (through a futures and options market). In general, in EU member countries, the value that international support adds to initiatives would be limited, partly because the necessary skills and resources already exist within

these countries and partly because the EU has its own regional funds. In only a few countries would international support be highly effective in developing a commodity futures market but in many more countries such support could help improve agricultural finance by introducing trade in repo contracts.

In terms of possible high-impact international support, a review of ECA countries indicates one country where there is scope for establishing an electronic spot exchange (including for fruits and vegetables) – Azerbaijan; two countries with a potential for improving the existing spot exchanges, but only if the government changes its policies to allow more room to the private sector – the Republic of Belarus and Uzbekistan; two countries where relatively small but technically sophisticated exchanges could do much to improve agricultural wholesale trade and finance (Kyrgyzstan and Tajikistan); and four countries where international support could help to create or strengthen existing commodity futures markets (Kazakhstan, the Russian Federation, Turkey and Ukraine).

In all of these countries, exchange development cannot be imposed from the outside. First, there needs to be political support. For example, where successful development requires a reduction of the role of the government, the government has to be aware of the benefits of allowing private sector initiatives. Second, one needs a strong buy-in from key areas of the local private sector. International organizations can help to build political consensus and private sector interest through reports, policy advice, workshops and limited support to the private sector to kick-start initiatives. However, the "serious" work of commodity exchange development, with all the concomitant investments in infrastructure, can only be successful once a critical mass of local support is reached.

INTRODUCTION

Commodity exchanges can serve a variety of functions related to marketing, finance and risk management. They can enhance market efficiency by helping to match supply and demand of commodities, even over time and geographic distances. At the most basic level, they bring together buyers and sellers of physical commodities, a function that was particularly useful in many European and Central Asian (ECA) countries in the early 1990s when the administrative tools to channel commodities from producers to users were swept away by the tide of privatization. At a lore advanced level, they enhance market transparency by providing more precise information on the exact type of demand (e.g., through grading and quality certification) helping buyers to understand precisely what sellers are offering. Moreover, by providing "clearing services" commodity exchanges grant security to both buyers and sellers that both parties will indeed meet their obligations once a deal has been struck. In their most sophisticated form, commodity exchanges bring together "buyers" and "sellers" of commodity price risk, permitting those who wish to reduce their exposure to price movements to transfer it (at very little cost) to those who are looking for such exposure. Hence, commodity exchanges can facilitate risk management in different ways: through improved market and product information, through clearing-house functions and through futures trading. They can further contribute to unlocking finance to the commodity sector, both indirectly, through price risk management and enhancement of WHR finance, and directly, by providing access to capital markets.

Despite the large number of commodity exchanges in Eastern Europe and Central Asia, their features, functions and performance vary widely. Few exchanges have achieved levels of development comparable with those of exchanges in western countries or other emerging economies. This study reviews the history, current state and future potential of the commodity exchanges in the ECA region, as well as their potential for upgrading. It is based on an earlier draft that was produced in 2008 by the FAO Investment Centre and the World Bank as part of a series of unpublished reports on market-based financial and risk management instruments and their current and potential application in agriculture. As such, the studies main focus is on the potential of commodity exchanges in the ECA region to offer risk management services and serves improved access to finance.

The study is structured as follows. Chapter 1 provides an overview of the commodity exchanges, including their key features, strengths and weaknesses and a broad classification according to their level of development. Chapter 2 then delves into a more detailed discussion on the commodity exchanges in the four countries that present the greatest potential for introducing futures markets and other advanced services: Kazakhstan, the Russian Federation, Turkey and Ukraine. Chapter 3 then takes a step back by briefly highlighting the main preconditions for establishing successful commodity exchanges and introducing futures markets. This is then followed by a discussion on the common misconceptions held by policy-makers and industry stakeholders about commodity exchanges. Core features of an enabling legal

and regulatory environment are also highlighted, along with some operational issues when establishing commodity exchanges and futures markets. Chapter 4 provides an overview of the main types of instruments that can be traded on organized exchanges and the conditions necessary for sound trade in these instruments. The discussion in the chapter is brief, as exhaustive literature on this subject is readily available elsewhere. Chapter 5 brings together the key findings of the previous chapters and assesses the potential for introducing new or upgrading existing exchanges in the ECA region, including the potential for agricultural futures trading. It makes specific recommendations for certain countries and also discusses types of support that can best be given by the international community.

This report is mainly targeted at an audience that is conversant with the core features and functions of commodity exchanges and seeks an understanding of the current operations as well as future potential of commodity exchanges in the ECA region and the issues involved with their development. Readers who are less familiar with the functions of commodity exchanges may find it useful to read chapters 3 and 4 before reading the other chapters of the report.

1. Overview of the commodity exchanges in the ECA region

When giving an overview of commodity exchanges in the ECA region, the first question to be asked is "What is a commodity exchange?" In this region, many of the entities that call themselves a "commodity exchange" would not be recognized as such by those persons familiar with commodity exchanges as they exist in Europe and the Americas. For example, in Turkey, the vast majority of commodity exchanges does not provide a forum for commodity trade at all but rather serve as a site for registering commodity transactions for taxation purposes. In the countries of the former Soviet Union (FSU), when the planned economic system allowing for the management of the flows of commodities and manufactured goods collapsed, a large number of "exchanges" arose as a platform for physical auctions for whatever goods people would bring. In countries such as Tajikistan, the exchange was a system to control the revenue from exports through obligatory export contract registration and approval.

This report does not provide a precise definition of "commodity exchange". The term will be used in a fairly loose manner, given the realities in the region and taking into account that the more advanced commodity exchanges in the region (recognizable as commodity exchanges in the western sense) often evolved from more primitive auction-floor exchanges. Chapters 3.4 and 4 provide an overview on the potential functions commodity exchanges can have and the products and services they can offer to stakeholders in commodity and financial markets. These services include standardization of trade, trading rules, arbitration mechanisms, clearing functions, risk management and access to finance. The main focus of this report is on the latter two services: the current ability or future potential of commodity exchanges in the region to provide risk management through futures and options, and the ability to facilitate direct access of the commodity sector to finance from capital markets through commodity repurchase agreements referred to as "repos."

Table 1 gives an overview of the situation with respect to commodity exchanges in the ECA region. In all, there are well over two-hundred commodity exchanges active in the region, if one interprets the term commodity exchange relatively broadly. If this seems a large number of exchanges, it should be kept in mind that in the first half of the 1990s, the number was several times greater. Half of the exchanges are in Turkey and a large number of exchanges are in the Russian Federation and Ukraine. More than two-thirds of the ECA countries have at least one commodity exchange and include all of the countries of the FSU except for Azerbaijan and the Baltic States.

Most of these exchanges play rather insignificant roles in their economies. A commodity exchange should be much more than a place where buyers and sellers meet. It should also be a major indicator of market conditions in its region of operations, and as such, of much interest to the region as a whole (its newspapers, policy-makers, etc.). The absence of an exchange from the public eye, as indicated in the Internet era by the low number of Google hits on exchange websites, is, therefore, a sign of major organizational weakness of the exchanges. An exchange's marketing and communications department should be able to use its public relevance to achieve widespread reporting on what is happening on the exchange. If it does not do so, this indicates that in effect, what is happening on the exchange is mostly irrelevant for the larger economy, or that the marketing department is weak, or both. It is worth noting that only in the Russian Federation, Romania and Turkey do the main exchanges have a highly visible presence on the Internet. The larger, more modern exchanges in the Republic

of Belarus, Bulgaria, the Czech Republic, Hungary, Poland and Ukraine have a moderate presence on the Internet. The websites of only 16 exchanges register more than 1 000 Google hits. By comparison, the website of India's third largest commodity exchange, the National Multi-Commodity Exchange (NMCE) registers more than 30 000 Google hits, as does that of Colombia's Bolsa Nacional Agropecuaria.

With the exceptions of Hungary and the Russian Federation, none of these commodity exchanges have a link with their countries' securities exchanges (securities exchanges exist in most ECA countries). Only the main Russian, Romanian, and Turkish exchanges trade not only commodities but also (and predominantly) financial derivatives such as currency, single stock and interest rate futures (interestingly, they all trade on electronic platforms). By and large, with these few exceptions, the commodity exchanges in ECA countries are, thus, poorly integrated with their countries' financial systems.

In countries where commodity exchanges have grown more sophisticated – the Czech Republic, Hungary, Poland, Romania, the Russian Federation and Turkey – only one or two exchanges have evolved, with the remainder remaining a open outcry, auction-type platforms. Table 1 gives an overview of the commodity exchanges by level of development.

Table 2 gives an overview of trading volumes for a number of exchanges for which data were readily available. As can be noted, agricultural volumes, particularly in futures contracts, were quite low. The income of the exchanges normally derives from five main sources: trading and clearing fees (a percentage of notional trading value that varies between 0.005 percent for an internationally competitive futures exchange to 1 percent for a spot exchange); registration fees for tax or export license purposes (where registration has been made obligatory by the government); and fees from the sale of trade data, interests on member deposits, and fines paid by members.

1.1 Commodity exchanges at a low level of development

After the break-up of the centralized planned economic system of the former Soviet Union, hundreds of commodity exchanges emerged throughout the region. They primarily functioned as places where a broad range of commodities and manufactured products could be auctioned off. Generally, they provided little more than premises and an auctioneer. A number of such exchanges were also created in other Eastern European countries. Most of these exchanges have since disappeared and a handful have successfully evolved into more comprehensive exchanges.

Some exchanges have subsisted at a low level of operations. Most of the exchanges that have remained at the open outcry or electronic "bulletin board" spot exchange level in Armenia, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, Poland, Romania, the Russian Federation, Tajikistan and Ukraine barely survive. For example, the Yerevan Commodity and Raw Material Exchange (Yercomex) in Armenia had a turnover of only US$4.4 million in 2009 (as a comparison, this is the volume that India's largest commodity exchange has each 30 seconds).

Other commodity exchanges do slightly better: at least, there is some effort to make the exchange relevant to a larger group of physical market players. In the former Yugoslav Republic (FYR) of Macedonia, for example, the Skopje Commodity Exchange (Agro Berza Skopje) is the major marketplace for commodities. Wholesale auction trading of potatoes, tomatoes, cucumbers, cabbage, onions, beans, watermelons, apples, peaches, sour cherries, grapes, lamb and tobacco is conducted on this exchange. In Turkmenistan, the commodity exchange – owned by the state – is used not only for the auctioning of commodities for the domestic market but also for the auctioning of exports, with foreign companies acting as buyers on the exchange. In Eastern Europe, exchanges in the Czech Republic, Romania, Serbia, the Slovak Republic and Slovenia are trying to evolve, encouraging forward trade and new products such as carbon emission contracts, but so far with little success.

Table 1
An overview of the commodity exchanges in the ECA region

A) Exchanges at a low level of development:
Mostly operate as an open outcry auction platform, with some standardization of trade.
Mostly stagnant, with few or no plans to improve exchange operations.

Name of exchange (in English/ local language) and website address	Country	Date of establishment and main features	Agricultural trade	Derivatives	No. of Google hits[1]
Yerevan Commodity and Raw Material Exchange (Yercomex) http://www.yercomex.am	Armenia 1990	Auction trade in wheat, oil products, gold ingots, equipment, precious stones, etc. The exchange merged with the Armenian Commodity and Raw Material Exchange in 1996.	Yes (Wheat)	No	19/73
Rousse Commodity Exchange http://www.rsb.dir.bg/	Bulgaria 1995	Organizes twice-weekly auction sessions in four market segments, including an agricultural segment.	Yes	No	257/114
Plovdiv Commodity Exchange http://pce.bg/	Bulgaria 1991	Only operational since 1998. Auction trade. In the past, plans to introduce futures as well as options trading.	Yes	No	2 560/ 7 080
Plodinova Burza Brno http://www.pbb.cz	Czech Republic 1995	Established as one of five commodity exchanges in the country. Despite authorization for derivatives trade, only trades spot and forward contracts for a broad range of commodities (including carbon emission credits).	Yes	No	41/154
Skopje Commodity Exchange/ Agro Berza Skopje http://www.agroberza.com.mk	FYR Macedonia	Auction trade in potatoes, tomatoes, other fruits and vegetables, lamb and tobacco.	Yes	No	2/994
Kazakh International Commodity Exchange (KICE)	Kazakhstan 1996	Established in 1996. Trade in wheat, cash and futures. Mixed system of open outcry and screen-based trading. Largest of four active commodity exchanges that act as regional auction houses or physical brokerage companies.	Yes (Wheat)	No	8
Kyrgyzstan Commodity and Raw Materials Exchange	Kyrgyzstan 1996	A traditional spot market with trade in a variety of industrial goods and agricultural commodities.	Yes	No	2
Universal Commodity Exchange of Moldova (UCEM) http://www.bursa.md	Rep. of Moldova 2002	Daily auction trade in commodities, real estate, securities and intellectual property.	Yes	No	44/27
Novi Sad Commodity Exchange (Proberza) http://www.proberza.co.rs	Serbia 1958	Spot trade, mostly in agricultural commodities. In the mid-2000s, explored possibilities to introduce futures.	Yes	No	59/60
Bratislava Commodity Exchange (KBB) http://www.kbb.sk	Slovak Republic 1992	Offers spot contracts in agricultural products, timber, metals, and industrial products. Trade in carbon credits (emission allowances) and contracts that allow the financing of commodity WHRs.	Yes	No	102/37
Tajik Universal Goods and Commodity Exchange (TUGE)	Tajikistan 2002	Set up as "Dushanbe Cotton Exchange" in 2002, then renamed. Still, primarily regulates cotton exports.	Yes	No	24
Commodity and Raw Materials Exchange (CRME) http://www.exchange.gov.tm	Turkmenistan 1994	A 100% state-owned exchange, which is organized as a pure spot commodity exchange. Trade in energy items, some industrial goods and foodstuff. Weekly volume varies widely, from US$4 million to over US$100 million, in mostly fuels.	Yes	No	116/84

1 10 March 2011 (websites found using the exchange name in English/local language) – with "entries very similar" to those already displayed omitted.

B) Exchanges at a medium level of development:
Electronic trading platform, forward contracts, and moves/plans to improve exchange operations.

Name of exchange (in English/ local language) and website address	Country	Date of establishment and main features	Agricultural trade	Derivatives	No of Google hits[1]
Sofia Commodity Exchange http://www.sce-bg.com	Bulgaria 1991	Futures and spot trade in three segments: • futures for wheat, barley, sunflower and white beans • spot food commodities, with a broad range of products • spot non-food commodities including metals, chemicals, energy products and yarns.	Yes	Yes, but no volume	3 480/ 96 600
Georgia International Commodity Exchange (GICEx) http://www.vef.ge/exchange.htm	Georgia 2009	Earlier exchanges (the Caucasian Commodity Exchange and Tbilisi Universal Exchange) were created around 1991 but they soon became non-operational.	Yes	No	2

Table 1
An overview of the commodity exchanges in the ECA region

Warsaw Commodity Exchange S.A. (WGT) http://www.wgt.com.pl	Poland 1995	An auction exchange, mainly for agricultural commodities (wheat, live hogs, etc.). Introduced, with some success, options on physicals. Tried unsuccessfully to introduce futures.	Yes	Yes, but no volume	101/169 000
Belarusian Universal Commodity Exchange (BUCE) http://www.butb.by	Rep. of Belarus	Established in December 2003 but only organized its first auction in 2005. Despite plans to introduce futures, currently an auction exchange (electronic trading) facilitating exports and imports of commodities.	Yes (Timber, milk)	No	133/400 000
Slovenia Power Exchange (SPE) http://www.borzen.si	Slovenia 2001	An electronic trading platform offering electricity spot and forward contracts.	No	No	9/14 600
Commodity Exchange of Ljubljana/ Blagovna Borza v Ljubljana	Slovenia 1995	An electronic trading platform offering currency futures and (without success) two grain futures. Effort to introduce grain futures unsuccessful.	No	Currency futures	87/8
Istanbul Gold Exchange/Istanbul Altin Borsasi http://www.iab.gov.tr	Turkey 1993	Trade in precious metals spot and forward contracts.	No	No	24 600/ 192 000
Polatli Grain Exchange http://www.polatliborsa.org.tr	Turkey 1984	A large spot exchange primarily for wheat.	Yes	No.	52/25 800
Adana Commodity Exchange http://www.adanatb.org.tr	Turkey 1913	A major cotton exchange with an open outcry trading floor.	Yes	No	32/22 100
Konya Grain Exchange http://www.ktb.org.tr	Turkey 1912	Turkey's largest physical grain exchange. Eight satellite exchanges in surrounding villages.	Yes	No	31/14 600
Izmir Mercantile Exchange (IME) http://www.itb.org.tr	Turkey 1891	Turkey's largest cotton exchange with primarily spot transactions on an open outcry floor.	Yes	No	141/98 400
Kiev agroindustrial exchange ''Kievagroprombirzha''	Ukraine 1991	The country's largest physical commodity exchange, set up by trading companies and banks. Approved by the Ministry of Agrarian Policy for the introduction of derivative contracts.	Yes	No	4/46
Ukrainian Interbank Currency Exchange (UICE) http://www.uice.com.ua	Ukraine 1993	Set up by the National Bank of Ukraine for currency trading. Its currency futures were banned in 1998. In mid-2002, applied for permission to introduce futures for agricultural products but then did not follow up.	No	No	183/34 400
Uzbek Commodity Exchange (UZEX) http://www.uzex.com	Uzbekistan 1992	Formerly Uzbekistan Republican Commodity Exchange. An electronic exchange, heavily controlled by the state. Serves as spot physical exchange, primarily for cotton but also for grains and fruits, and non-agricultural goods.	Yes	No	148/148

1 10 March 2011 (websites found using the exchange name in English/local language) – with (where possible) "entries very similar" to those already displayed omitted.

C) Exchanges at a high level of development:

Sound technology level (electronic trading), a sophisticated range of instruments (including derivatives), integration in the international exchange world, a well-developed website and good trading volume.

Name of exchange and website address	Country	Date of establishment and main features	Agricultural trade	Derivatives	No of Google hits[1]
Power Exchange Central Europe http://www.pxe.cz	Czech Republic 2007	Formerly Prague Energy Exchange, a subsidiary of the Prague Stock Exchange. Only trading in electricity contracts.	No	Yes	307 #
Budapest Stock Exchange (BSE) http://www.bse.hu	Hungary	BSE (as Hungarian Stock Exchange) established in 1864. Budapest Stock and Commodity Exchange (BSCE) established in 1868 and dissolved after 1945. BSCE re-established in 1989 as the Hungarian Grains Exchange, then renamed Budapest Commodity Exchange (BCE). BCE incorporated into BSE in 2005. Trade in financial and commodity derivatives (grain futures and options, gold futures). Its electronic system also allows trading in commodity WHRs. Commodity trade now almost defunct. Agricultural trade in grains and oilseeds.	Yes	Yes	43 100/ 601 000
Eurasian Trading System (ETS) http://www.ets.kz	Kazakhstan 2009	New joint venture exchange of a Kazakh state entity and the Russian Federation's RTS. Agricultural commodities trade, primarily in grains.	Yes	No, but planned	92/123
Polish Power Exchange "Towarowa Gielda Energii" http://www.polpx.pl	Poland 1999	Trade in electricity day-ahead contracts, forwards and futures.	No	Yes	8 130/6 130

Table 1
An overview of the commodity exchanges in the ECA region

Sibiu Stock Exchange (SIBEX) http://www.sibex.ro	Romania 1997	Until March 2011, known as Sibiu Monetary, Financial and Commodities Exchange. Mostly trades in currency forwards and futures. Small volumes of agricultural commodities trade.	Yes	No.	60 600/ 266 000
Romanian Commodities Exchange/ (RCE/BRM) http://www.brm.ro	Romania 1992	Has both spot physical auctions and an electronic derivatives market trade in energy futures, financials and agricultural products.	Yes	Yes	80/ 262 000
St. Petersburg International Mercantile Exchange (SPIMEX) http://www.s-pimex.ru	Russian Federation May 2008	A major new exchange, which now trades physical crude oil and other energy items. Plans to introduce petrochemical futures, and derivatives on grains, timber and non-ferrous metals.	No, but planned	No, but planned	84/30 400
National Mercantile Exchange (NAMEX) – subsidiary of MICEX	Russian Federation 2002	Set up for government grain procurement. Introduced wheat futures in April 2008. Agricultural trade in grains and oilseeds.	Yes	Yes	97/33 200
Russian Trading System (RTS) http://www.rts.ru	Russian Federation 1995	Originally a stock exchange. Started trading in financial futures and options in 2001. In 2006, introduced futures on oil products and gold. Agricultural trade in grains and sugar accounts for a very small part of total volume.	Yes	Yes.	131 000 501 000
Moscow Interbank Currency Exchange (MICEX) http://www.micex.com	Russian Federation 1992	A universal exchange, trade in currencies, debt instruments and single stock futures. Agricultural trading accounts for very small part of total volume.	Yes	Yes	103 000 169 000
Turkish Derivatives Exchange (TurkDex) http://www.turkdex.org.tr	Turkey 2002	The biggest derivatives exchange in the country, located in Izmir. Trade in currencies, stock indices and government bonds. Cotton and wheat futures are listed but not actively traded.	No active trade	Yes.	69 200/128 000

1 10 March 2011 (websites found using the exchange name in English/local language) – with (where possible) "entries very similar" to those already displayed omitted.
PXE always names itself as "Power Exchange Central Europe", including in Czech.

Table 2
Trade data of the exchanges

Name of exchange	Main commodities	Turnover/notional trading value
Belarusian Universal Commodity Exchange (BUCE)	Timber, grains, potatoes, metals, milk, energy items, fertilizers (spot trade)	2007: US$1.35 billion January–May 2010: US$400 million.
Sofia Commodity Exchange	Petroleum products, chemicals, grains, etc. Spot trade, although grain futures are available.	2007: US$380 million, of which 90% is petroleum products. Food products accounted for US$23 million.
Budapest Stock Exchange (BSE)/Budapest Commodity Exchange (BCE)	Wheat, maize, sunflower seed, rapeseed (primarily futures, also options and spot)	2007: 13 394 contracts with a notional value of US$399 million. 2009: 11 240 contracts with a notional value of € 180.6 milliion.
Eurasian Trading System (ETS)	Wheat, rye, barley, sunflower seed and oil, gold	April 2009–March 2010: US$300 million.
Russian Trading System (RTS)	Crude oil (Brent), gas oil, gold, silver, sugar and wheat (futures)	For sugar, in 1st quarter 2008, 1 423 contracts with notional value of US$4.7 million.
Moscow Interbank Currency Exchange MICEX	Grain futures / NAMEX	2008: US$1 billion 2009: US$ 1.3 billion (Wheat futures / NAMEX) 2010: US$ 1.4 billion (Wheat futures / NAMEX)
National Mercantile Exchange (NAMEX)	Wheat / 'State grain interventions'	2008: 5 million tons of wheat (US$1.07 billion); 2009: 3.6 million tons of wheat (US$ 670 million)
Turkish Derivatives Exchange (TurkDex)	2007: Wheat, cotton (futures) 2009: Same, plus gold futures	2007: No trading 2009: US$380 million (gold)
Istanbul Gold Exchange	Gold, silver (spot, forwards)	2007: US$7 billion 2009: US$4.3 billion
Izmir Mercantile Exchange (IME)	Cotton (spot)	2007: US$2.59 billion 2009: US$2.51 billion
Polatli Grain Exchange	Wheat (spot)	2007: US$333 million 2009: US$431 million
Yerevan Commodity and Raw Material Exchange (Yercomex)		2009: US$4.4 million

Only exchanges for which recent volume/value data concerning their commodity trade were publicly available (where?) available are included in this table.
Source: Data collated by the authors on the exchanges' web-sites.

While most of these exchanges have fallen by the wayside of public attention, in a few cases efforts are still made to upgrade their performance. For example, a project (2007–2009) funded by the Canadian International Development Agency (CIDA) and executed by the Asian Development Bank was aimed at upgrading Tajikistan's main exchange, Tajik Universal Goods and Commodity Exchange (TUGE), from its de facto status as an export regulator into a real commodity exchange, with brokerage services and auctions. TUGE had been primarily operating as a licensing office for cotton exports, providing few real trade services. Among other things, it ensured that the cotton and many other commodities and goods exported were really paid for, and imposed minimum export prices to hinder under-invoicing; both actions were meant to reduce capital flight. Under current plans, the development of an electronic auction platform for cotton as well as a cotton futures market is being considered. The government is also adopting a new regulatory framework for WHR finance, which will support these commodity exchange efforts. Small farmers are to be brought into the system, as well as more foreign buyers.

1.2 Commodity exchanges at a medium level of development

A number of the auction-type exchanges have generated enough revenue and sufficient internal dynamism to graduate to a more sophisticated form, providing a broader range of services in a better organized environment, introducing standardized contracts and/or adopting an electronic trading system (i.e. a system that goes beyond being a mere electronic bulletin board where buyers or sellers can indicate what they have on offer or bid).

Some exchanges have been set up from the outset with a higher degree of technology. This is true, for example, for the Belarusian Universal Commodity Exchange (BUCE). This 98 percent-state-owned, not-for-profit exchange was established in December 2003 as an auction house facilitating export and import exchange of commodities; it organized its first auction, on wood products, for export in June 2005. As of 1 June 2010, it had 7 076 exchange members (brokers) and clients, of which 1 449 are from 46 countries. It trades more than 100 commodities – timber, agricultural products, metals and coal. Many of these commodities initially benefit from a government decision that certain exports must pass through the exchange. In May 2009, it also introduced e-auctions for consumer goods and other manufactured products, as a new distribution channel for local manufacturers.

In 2007, the trading turnover of BUCE was US$1.35 billion, quite a high figure, as traditional marketing channels had fallen into disarray and the exchange provided a convenient forum for sellers to market their products (even consumer goods). As more conventional market channels were being rebuilt, sellers' needs to use the BUCE auction system declined. Exchange management responded by starting to offer more value-added services and, after a decline in 2008 and 2009, volume started to grow again in 2010. In the first five months of 2010, turnover was US$400 million.

BUCE has a staff of over 100 employees and a reasonable level of sophistication. It offers an electronic trading system, charges relatively low auction fees (0.1 percent to 0.4 percent) and provides a range of services: brokerage services, clearing and settlement procedures, some guarantees on the physical delivery of the products traded and execution of the deals concluded at the BUCE, related legal services and customer protection. The exchange has considerably improved the prices that the Republic of Belarus receives for its exports. For example, the country's First Vice Premier, noting that the prices for Belarusian timber had gone up by 2 to 3 times, said that "We have at last learnt the true price for Belarusian timber". Export prices for dairy butter improved by more than half the month after BUCE started trading in dairy butter, in June 2007, as international buyers were now able to purchase directly rather than pass through Russian intermediaries.

The Belarus government considers BUCE as the central, organized marketplace in the country to

trade physical raw materials and some industrial goods, especially those which are being exported and/or imported. Favourable attention by policy-makers has led to an active programme to improve the legal and regulatory environment in which the exchange operates. In June 2008, a new law was submitted to parliament. This law, which was passed in January 2009, established an arbitration committee to deal with contractual disagreements, clarified the status of brokers, and obliged the exchange to examine the quality of the commodities it trades.

In 2009, the exchange was given the mandate to develop the forward and futures markets in the country for commodities such as dry skim-milk, butter, timber and cement. The main components of this project are to implement a modern electronic trading platform, to establish a sophisticated clearing system to provide "a central counterparty" (CCP) guarantee for market players, to improve physical delivery procedures and to introduce modern risk management practices. This is a challenging project, which could benefit from international professional expertise.

Also in 2009, the regional economic organization Eurasia Economic Community (EAEC or EurAsEC), which consists of the Republic of Belarus, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan and Uzbekistan, officially approved BUCE as one of its organized marketplaces for physical commodity auctions. It was one of the logical steps forward in the creation of the EurAsEC Customs Union (ETS is the Russian acronym), which came into effect in the Republic of Belarus, the Russian Federation and Kazakhstan on 1 July 2010. The EurAsEC Customs Union aims to develop a common space for free migration of capital, commodities, services and labor within the territories of these three states. BUCE is trying to adjust its rules as well as trading and clearing procedures for the new EurAsEC Customs Union regulation. Another example of an exchange that has been able to upgrade its technology is the state-owned Uzbek Commodity Exchange (UZEX)(established in 1992 as the Uzbekistan Republican Commodity Exchange (UzRCE)). With about 1,000 staff and 1 200 brokers, it currently accounts for some 98 percent of commodity exchange turnover in the country. The exchange is a major market for cotton, with over a trading volume of 100 000 tons a year, but it also trades oil products, metals, grains and fertilizers[1]. It has also set up a currency trading platform.

UZEX operates through an electronic trading system and since May 2008 has its own fiber optics network. It has 12 branches in the main cities around the country and 72 remote trading centres that for the time being operate only in Uzbekistan but UZEX has plans to set up trading centres in other countries, in the Commonwealth of Independent States (CIS), Europe and Asia (its trading system is already accessible in Chinese and English).

A major part of agricultural production in Uzbekistan is under government quota, with the government buying farmers' production up to the quota and at administratively set prices, which are much below market prices. But room for exchange trading was created in 2004, when farmers were allowed to use commodity exchanges to buy and sell commodities falling outside of the scope of mandatory state procurement schemes (including cotton produced above their "state quota"). Farmers now buy much of their fertilizers through the exchange (using brokers) and sell products such as the quantities of cotton which exceed their mandatory quota. They and others in the country can access real-time price information through a short message service (SMS) system.

UZEX is well organized. Spot as well as forward trade takes place. Trade is possible in local currency as well as (for foreign participants) United States dollars. Delivery norms are specified and both buyer and seller need to deposit on closure of the deal a 2 percent guarantee with the exchange's clearinghouse. For the delivery to take place (ex-works (EXW) from warehouses approved by the exchange), the full purchase sum has to be paid to the exchange clearinghouse. The clearinghouse pays the seller only when

1 For most of the non-cotton products the exchange still mainly functions as an electronic bulletin board.

it has received proof of quality and presence of the goods, and readiness of the goods for shipment. If the Uzbek government were to relax its administrative controls over agricultural production, trade and marketing, UZEX seems ready to support a rapid expansion of the agriculture sector in the country.

Bulgaria's largest commodity exchange, the Sofia Commodity Exchange, is one of the few exchanges in the ECA countries offering spot and futures trading. Established in 1991, the exchange is well-integrated in the national WHR system, using WHRs for its physical deliveries. Futures contracts are traded (in an open outcry pit) for wheat, barley, maize, sunflower seeds and white beans. The standard contract is for 15 tonnes and contracts are traded for delivery of up to 17 months ahead. Virtually all trade (worth €236 million in 2007, mostly in petroleum products and chemicals) was, however, still in the spot market, and most often, in the form of auctions of fuel products. Commission rates (0.15 percent for grains, 0.20 percent for other commodities) were reasonable. In the second half of the previous decade, the exchange started to work on the introduction of a modern electronic trading system, with support from the United States Agency for International Development (USAID), but the project was subsequently halted. These recent efforts are aimed towards developing the Sofia Commodity Exchange as a modern and efficient, organized marketplace not only for the country but also for the Balkan region.

In Poland, the Warsaw Commodity Exchange (WGT), currently the country's leading commodity exchange, was privatized in October 2000. WGT also trades financial derivatives (in effect, in 2009, it only traded currency futures and options in its derivatives segment). Its agricultural spot commodity market, the Internetowa Gielda Towarowa (IGT), an electronic trading platform for the cash commodity market, is the largest B2B trading platform in Poland and one of the largest agricultural spot markets in Europe. Since its introduction, the nominal value of commodities traded on the IGT exceeds PLN3.5 billion (US$1.6 billion a year). In addition to spot contracts, commodity and financial futures began trading on the WGT in January 1999.[2] The futures market trades in an open outcry environment. The commodity futures contracts currently listed for trading include milling wheat futures, feed wheat futures and live hog futures. Financial futures listed for trading include futures and options on a number of currency pairs, as well as futures on interest-rate products and Poland's government debt. In practice, commodity futures volumes have remained elusive. WGT plans to revive this segment, however. In November 2009, it incorporated a new futures market, which will trade currency, canola, wheat and pork futures and, later on, interest rates. The WGT owns and operates its own clearinghouse that acts as a CCP and is a guarantor of all transactions entered into on the exchange.

Turkey is an interesting case for commodity exchange development. During much of the 1990s, the Government of Turkey, with support from FAO, the United Nations Conference on Trade and Development (UNCTAD) and the World Bank, explored the possibilities of strengthening its many commodity exchanges, some of which had decades of history. These commodity exchanges tended to have large incomes: they acted as regional tax collection agencies for commodity trade and were entitled to keep part of the tax revenue they generated. Some exchanges used this revenue for strengthening their regional political power and/or increasing their conspicuous consumption but other exchanges invested in improving their facilities for physical trade, e.g. impressive new buildings suited for open outcry trading, grading facilities, warehouses, and electronic links between a parent exchange and "satellite exchanges" in surrounding towns. Both grain and cotton exchanges were poised to start futures trade in the late 1990s; several had already started trading forward contracts. However, a conflict between the Ministry of Commerce, Industry and Commodity Exchanges, which regulated the physical exchanges, and the Capital Markets Board

2 Earlier, call options on physical commodities – hogs in 1995 and wheat in 1997 – were introduced at the Poznan Commodity Exchange, with the options sold by the government's agricultural marketing agency; Poznan also introduced the first futures contract, on wheat, in 1998. The Poznan exchange is now virtually defunct.

(CMB), the securities regulator, scuttled the plans for futures trade. In the end, after many years, CMB won the legal and political battle, and rather than the established exchanges introducing futures contracts, a new Turkish Derivatives Exchange (TurkDex) was created.

The "old" exchanges continue to exist alongside TurkDex, a Turkish exchange at a high level of development. Their revenue remained important, and several exchanges continued to play a large role in physical trade and to be influential in regional politics. For example, the Izmir Mercantile Exchange (IME), established in 1891 and a shareholder in TurkDex, traded US$2.59 billion worth of commodities – much of it is cotton – in 2007. The Polatli Grain Exchange had a turnover of US$431 million in 2009. TurkDex has thus far failed to develop commodity derivatives trade and it is not clear whether the physical commodity exchanges have the potential to develop into futures and option contracts. A more detailed discussion of the Turkish situation can be found in the next chapter.

1.3 Commodity exchanges at a high level of development

A handful of commodity exchanges are approaching levels of sophistication that resemble those of the major European, United States, Chinese and Indian exchanges.

In the Czech Republic, the Power Exchange Central Europe was established in July 2007 and achieved a notional trading value of €1.9 billion by the end of that year. Electricity trading (spot and futures) is the predominant business for this exchange, with trade taking place through a modern electronic trading system. In Poland, the Polish Power Exchange (Towarowa Gielda Energii S.A.) adopted a model similar to that of the Power Exchange Central Europe. Established in 1999, this exchange procured the OMX system (used globally by stock and derivatives exchanges) in 2005 in order to enable it to start trading.

In Romania, the Romanian Commodities Exchange (RCE) and the Sibiu Monetary, Financial and Commodities Exchange (SIBEX) both have electronic trading systems and trade a range of financial and commodity futures contracts. RCE, the largest exchange, was set up by financial institutions, manufacturing companies and energy firms. It started as an auction floor, offering sellers the possibility to find buyers for whatever products they wished to sell, from grains and fuels to agricultural equipment, and in one case even an airplane. In 1994, it started spot currency trade, in 1995, currency forwards and in 1998, currency futures. Currency trade was quite successful and allowed the exchange to invest in other products (including agricultural futures) and in better trading facilities (for its financial futures, it moved from open outcry trading to an electronic platform in 2000). Progress with grain futures has been slow, however, partly as a result of legal issues (the Romanian government was not eager to put into place a proper framework prior to its accession to the European Union (EU). EU accession also caused other problems for the RCE: it had largely developed without a proper legal and regulatory framework, and was, for example, only recognized as a commodity exchange by the Romanian government in 2002. It thus took the RCE much effort to adapt its operations and regulations to conform to the Market in Financial Instruments Directive (MiFid) rules of the EU.

The case of the Budapest Commodity Exchange (BCE) is discussed in the next section. There are also some sophisticated and advanced exchanges in Kazakhstan, the Russian Federation and Turkey, all of which will be discussed in chapter 2.

Excursus: The rise and fall of agricultural futures trade on the Budapest Commodity Exchange

Hungary is one of the many countries that had an active grain exchange in the nineteenth century. It was created in 1853 and called the "Grain Hall of Pest". The Grain Hall was taken over by the BSE in 1868 and the combined company was called the Budapest Stock and Commodity Exchange (BSCE). It continued to operate for decades and was dissolved (and

its assets nationalized) only after the Second World War. With the demise of the planned economic system, exchange trading once again became relevant. The BCE was re-established in 1989 (as the Hungarian Grains Exchange) as an open outcry market for agricultural spot and futures contracts. Futures trade rapidly became predominant. The initiative for the exchange was taken by private sector players, primarily trading houses, with support from a number of banks and cooperatives. The trading room was in the basement of one of the trading houses and a blackboard was the major piece of equipment.

For several years, conditions continued to be difficult for the exchange. It moved premises very regularly and only in 1992 obtained a "fixed" trading room. The lack of expertise in the country on futures trading and its regulation meant that from the beginning, the exchange had to make major training efforts, for which it received important technical assistance from the Chicago Board of Trade (CBOT) and the Chicago Mercantile Exchange (CME) with United States government funding). In terms of regulation, an informal agreement was struck: the government agreed to refrain from intervening in exchange operations and the exchange would receive little or no assistance from the state.

The exchange survived its initial difficult years, with less than 70 000 trades a year from 1989 to 1993. In 1993, together with the BSE and the National Bank, it created a joint independent clearinghouse called KELER. It also opened a new, custom-designed trading floor. In 1994, BCE drafted a Commodity Exchange Act that became the government regulatory framework for commodity exchange trade. These various measures led to a growth in volume to over 325 000 contracts in 1994. In 1995, following a change in exchange rate policy, the trade in currency contracts that had been introduced in 1993 suddenly became successful and exchange volume quickly grew to 1.4 million contracts in 1995, 5.4 million contracts in 1996 and 6.6 million contracts in 1997. By 1998, currency futures accounted for 96 percent of BCE's volume, dwarfing grain (wheat, maize and barley) and livestock trade.

In 1996, the decision was made to add an electronic platform for after-hours trading: that is to say, in the morning open outcry trading would take place and in the afternoon the electronic system would take over. The electronic trading system was finally introduced by late 1998, at a time when the exchange suddenly found itself in a crisis.

The Russian economic crisis of 1998 led to a collapse of currency futures trade at the exchange and more than one-third of its staff of 22 people lost their positions. Grain trade (now in a higher quality of wheat, with contract specifications that reflected EU requirements) continued to be quite vibrant, though, and volumes even increased. The exchange began aspirating to regional grain trade and considering the introduction of "Black Sea" grain contracts. In 2001, it introduced options on futures. However, grain futures trade was still not optimally organized. In particular, BCE had physical delivery problems with quality, late delivery, etc. As the WHR system was still poorly developed, there was little it could do about this situation.

The exchange was never able to recuperate from the 1998 economic crisis. By 2004, currency futures trade was down to 1 million contracts (a number that would fall by half in 2005) and agricultural futures trade was down to a few thousand contracts a month.

In October 2005, the BCE was absorbed into the BSE. Trade in the Commodity Section of the BSE was only 3 000 commodity derivatives contracts in the first half of 2006 and a total of 9 635 contracts by year-end. This decline has continued and commodity futures trading at the BSE is now almost defunct. In 2007, a total of 13 294 contracts was traded. In May 2008, only 1 379 futures contracts and 50 option contracts were traded, with a notional value of around €20 million; maize and wheat were the main commodities. A contributing factor to the decline was that, with Hungary's entry into the EU, farmers and traders started benefiting from the floor prices offered under the EU's agricultural regime and no longer had a strong need to manage their price risks. Poland's major commodity exchanges in Warsaw and Poznan also reported a fall in volumes after Poland entered the EU.

2. Country Case Studies

2.1 Commodity Exchanges in Kazakhstan

Large agricultural potential

During the last 8 to 10 years, the Kazakhstan agrarian sector has shown some growth (especially in grain production), and active efforts of the government to use some of its oil revenue to develop agriculture (in particular, non-traditional commodities such as soybeans) are likely to lead a continued process of growth. During this period, Kazakhstan has become a steady grain exporter, delivering about 3 to 7 million tonnes (mainly milling wheat) to the global market. The average size of the grain producing unit (a farm) increased significantly. A large-scale farming system has developed, with several farms reaching sizes of 400 000 ha and above. In addition, a strong processing sector has been developed, mainly serving the regional market. Due to the absence of well-designed and actively traded commodity derivatives, most farmers, processors and traders are forced to use forward contracts and grain warehouse receipts instead of modern price risk management solutions.

The state-owned Food Corporation of Kazakhstan still has considerable influence over domestic grain marketing and, thus, over grain prices. It operates a strategic grain reserve of 550 000 tonnes (mostly wheat), which is rotated yearly. In the process of the stock rotation, the corporation procures an equivalent amount of grains on the domestic market and exports similar volumes. The corporation's purchases have a strong influence on the domestic grain price situation. In addition to using procurement operations as a tool to influence prices, the corporation exerts administrative pressure on the big, private grain market participants in order to control the domestic and export price situation in the country. Such powers, when used inappropriately, could put a stop to any initiative to develop the domestic commodity derivatives market.

Until the export ban in May 2008, Kazakhstan was one of the world's more stable wheat exporters. It still occupies a leading position as a milling wheat exporter to most of the countries of the CIS and to the Central Asian region. It is also in the process of joining the World Trade Organization (WTO). Despite the recent grain export ban, the government still aims to develop the country into a major grain exporter. A transparent price formation system in the national agrarian sector can help to attain this goal. Moreover, the Kazakhstan investment community is actively seeking new investment vehicles for trading and portfolio investment purposes, and commodity derivatives could be an interesting opportunity. The existence of a modern commodity exchange in the country could help to develop a more dynamic business environment in the national agrarian sector and could increase the efficiency of Central Asia's agricultural commodity markets. This is important in the context of the current global situation on world grain markets, as Kazakhstan still has vast resources of underexploited agricultural land.

Exchange development – a focus on spot trading

The first commodity exchanges in today's Kazakhstan started to appear in the late 1980s. The commodity exchanges went through a short "euphoria" and boom in the early 1990s, when hundreds of commodity exchanges were officially registered. Then they faced a critical period in the late 1990s and early 2000s, as the Kazakh economy suffered from macro-economic and structural problems.

Only about 15 registered commodity exchanges survived that period. Of these exchanges, five are active in physical trade, serving mostly as regional spot markets and physical brokerage houses. Several are involved in the registration of export/import contracts, providing a so-called "stamp tax" service. Even in the most active of these exchanges, the Kazakh International Commodity Exchange (KICE, also sometimes

called IKAE) and the commodity exchange Eurasia Trading System (ETS), the volume of real trade is low. Virtually all of their income is from the registration of transactions that take place outside of the exchanges (in effect, most of these voluntary registrations are by the Food Contract Corporation, a major shareholder in KICE).

In November 2009, the new national Law "On Commodity Exchanges" came into effect, which regulates market participation and the organization of trade. One of the main advantages of the new law is the introduction of a compulsory licensing procedure for commodity brokers and commodity exchanges. The Ministry of Economic Development and Trade (MEDT) has been designated as the ministry responsible for the licensing procedure. In the past, there has been no licensing of commodity exchanges and commodity brokers in Kazakhstan. In addition, the MEDT established a list of commodities that can be traded at the organized commodity market (exchange); the major commodities are grains, petroleum products, metals, hides, wool, cotton, live animals and seed for the major grains. In principle, if government agencies wish to procure the commodities on the list, they have to purchase through the exchanges. In practice, most of the key state buyers are exempted; the state-owned Food Corporation, the largest grain trader, through a special decision, and other big commodity buyers such as the army or the prison administration because they buy through the "Material and Technical Reserve", which is exempted from the obligation to buy only through the exchange. All other accredited companies are also permitted to use the exchange. Sales are through a Dutch (reverse) auction.

A broad range of industrial goods and agricultural commodities is offered for sale at the Kazakh commodity exchanges, but volumes are relatively low. For most commodities, only about 1 to 3 percent of total production passes through the exchanges and for grains, the share is higher, about 10 to 13 percent, according to the Ministry of Economic Development and Trade. These percentages are mostly based on the registration of export contracts, although it should be noted that the new exchange, ETS, has shown some success in physical grain trade in the domestic grain market. KICE, with offices in Astana and Almaty, uses the internet to register proposals, showing a price list and a bulletin board. It also publishes a newsletter. As do other exchanges, it offers a number of value-added services, in particular quality certification, and confirmation of ownership.

The ETS has shown a rapid growth in the trade of physical wheat but again its market share does not exceed 8 to 10 percent of the total annual wheat production in Kazakhstan. Currently, ETS is actively working on the introduction of wheat futures trading. This is truly a challenge for ETS, as there is no reliable, developed clearing system in place yet.

Apart from ETS (which has its own clearinghouse established under the exchange's umbrella), the commodity exchanges in Kazakhstan do not guarantee clearing and settlement, but only match sellers and buyers. Sales rely on the documents provided by the seller. They ultimately represent a "physical trade" approach toward the commodity exchange business and operate as common brokerage houses, earning brokerage fees for each physical transaction without any solid guarantees of the execution of trades. Their lack of financial, technological, and professional backup create serious obstacles to transforming these entities into modern and well-functioning marketplaces. Moreover, as the managers of the exchanges are often involved in commodity trade and, through associated brokerage houses, buying and selling on the exchange, there is little trust in the exchanges' integrity. The new Kazakh legislation on commodity exchanges aims to eliminate such practices under the commodity exchange umbrella by imposing stricter controls on licensing procedures of exchanges and brokers.

The national banking sector is not actively involved in the Kazakh commodity exchange sector, and the level of integration and cooperation between both sectors is low. Only ETS actively cooperates with a couple of local banks and uses their depository services (that is to say, their management services for handling WHRs) for grain WHRs in order to guarantee a physical delivery procedure for grains traded at the exchange. The banks actively work with the grain WHRs, providing finance to the local grain producers against warehouse documents. In this regard, the banks have set up special depository services for the collaterized grain WHRs, and warehouse

inspection services to guarantee the availability of grains in warehouses. According to the ETS trading rules, the grains to be traded at the exchange should be guaranteed by grain WHRs deposited at one of the designated local banks. This does not necessarily imply that the banks operate grain warehouses themselves, but they should maintain tight control over warehouse operations though the above mentioned arrangements. In general, the development of a modern commodity exchange sector in Kazakhstan requires a stronger integration with the local banking sector, beyond ETS.

Initiatives to develop derivatives trade

An organized derivatives market exists only at the Kazakhstan Stock Exchange (KSE) and to a certain extent at the ETS in Almaty (former capital of the country; also known as Alma-Aty).

KSE deals in a small number of futures contracts on foreign currencies and stock indexes. In 1996, KICE attempted to launch a wheat futures contract but this attempt was unsuccessful (see Box 1). But in the last few years, two of the commodity exchanges in Astana and Almaty (in particular, KICE and ETS), in response to the demand by the national agrarian sector and grain market participants, have started expressing their strong interest in the development of alternative trading practices, with a focus on commodity derivatives and financial schemes based on grain WHRs. Apart from these traditional "bricks and mortar" exchanges, there has also been an independent initiative by KazAgroMarketing (100 percent owned by the Ministry of Agriculture) to build a commodity exchange, resulting from efforts (by Technical Aid to the Commonwealth of Independent States (TACIS)) to create a national price information system. .

In Kazakhstan in the late 1990s and 2000s, there were several international technical assistance projects supported by the World Bank, the European Bank for Reconstruction and Development (EBRD) and other international donors to develop the national grain WHR system and to assist local commodity exchanges in introducing new trading technologies in the country. The last, small World Bank project was

Box 1

The failed attempt by KICE in 1996 to introduce grain futures

In 1996, KICE launched a series of grain futures contracts. Trade lasted only for a few months.

The trading system was reasonably well organized. Trade was through a system similar to that introduced by the (new) Chinese commodity exchanges. Traders assembled in a room but instead of shouting out bids and offers, exchange staff collected this information and posted the bids and orders on the screen. As trade took place, the modified bids and orders were then recorded. Trading took place three times a week in the afternoon of the days that KICE organized spot market trading (this was in the morning). Each contract was traded consecutively for 5 to 10 minutes (similar to the way in which the London Metal Exchange operates). KICE had a clearing department which established initial margins, dealt with margin calls and managed position limits (which were kept low; in the case of wheat, the limit was only 150 tonnes per trader).

Developing contract specifications was difficult, given the lack of experience in free grain trading in the country. Also, relatively little physical wheat actually moved through Almaty, where KICE had its headquarters. Exchange officials searched for ways to make delivery into and out of warehouses in Astana (at that time called Akmola) in the Northern grain producing area. Unfortunately, delivery to warehouses around Astana proved impossible because of the concentration of ownership of the Astana warehouses and because of the lack of a proper legal and regulatory regime for warehouses and WHRs. (KICE developed draft legislation for a WHR system but the government did not act on the draft.) Thus, it was decided that delivery would be in railcars at the (state) farmgates, with the sellers paying transport to Astana and the buyers paying transport from Astana to their delivery location.

Trading volumes were low on both the spot market and the futures market. In the first nine months of 1996, only 404 contracts were registered at KICE. Key officials of KICE became involved in the (successful) establishment of Kazakhstan's first stock market and the grain futures market was allowed to simply fade away. Overall, grain production in the country declined during the second half of the 1990s, as did grain exports. The major players in the market, the state farms, were burdened with heavy debts and only able to pay their suppliers and workers in kind (including with grain; in 1998, almost two-thirds of total grain production was used to pay for fuel and electricity). Most of the country's grain trade was in barter form. Futures trade came too early to the country and at a time when most of the potential users did not have the ability to adopt such new trading tools

Source:Peck, Ann. 2000. The development of commodity futures markets in Kazakhstan and China (Chapter 3). In B.A. Goss (ed.). Models of Futures Markets. Routledge Studies in the Modern World Economy.

in 2007. However, because of disagreements among the ministries concerned, a larger follow-up project, although approved by the World Bank and tendered in mid-2008, was not implemented by the responsible ministry.

There has been also a recent attempt to launch wheat futures trading at the ETS (see Box 2).

Meanwhile, the new Law "On Commodity Exchanges" was adopted by the Kazakh parliament at the beginning of 2009.[1] In addition, the country's President Nursultan Nazarbajev announced plans to develop Almaty into a modern international financial centre with a strong role in Central Asia, plans which include the establishment of a well-functioning regional derivatives market.

The initial enactment of the new Law "On commodity Exchanges" met with some resistance inside the Kazakh government, with the Ministry of Economic Development and Trade and the Ministry of Agriculture at opposite sides. One of the main disagreements was over the so-called "obligatory list of commodities to be traded at a commodity exchange" and the agricultural products to be included in the list. Furthermore, whereas the existing commodity exchanges in Kazakhstan mostly traded agricultural commodities, the supervision of the "commodity exchange" sector was delegated to the Ministry of Economic Development and Trade. This approach was strongly opposed by the Ministry of Agriculture. This disagreement slowed down and terminated the implementation of some technical assistance projects, including the proposed World Bank project on the introduction of a new commodity exchange regulation, the development of the strategic commodity exchange business plan and the design of new commodity derivatives contracts.

Conclusions and outlook

In view of the strong growth of the Kazakh agrarian sector and its future potential, the need for price risk management instruments has become more pressing. The recent strong price fluctuations in the grain sector have become a real issue for all domestic market participants. While the state-owned Food Corporation market interventions still have some effect on smoothing such fluctuations, domestic prices are increasingly influenced by global market developments. A few big grain market players (such as the Food Corporation) are able to access

1 Unfortunately, this Law suffers from some major weaknesses, e.g. in defining a commodity exchange as a non-for-profit venture.

Box 2

The Eurasian Trading System (ETS)

In December 2008, the Regional Financial Center of Almaty city together with the Russian Federation's stock exchange, the Russian Trading System (RTS), announced the creation of a new commodity exchange, the ETS. The new exchange was set up with an initial capital of US$533 000, with RTS having a 60 percent stake. The entire project received strong political support from the Kazakh government and was considered as one of the steps in the development of Almaty as a regional financial centre.

ETS was initially designed for spot and derivatives trading in raw materials and commodities. It started trading spot and forward grain contracts in March 2009. It uses RTS's trading technology both for its trade engine and for electronic access to the exchange by brokers and other members. It was set up with seven trading segments: physical/spot trading of agricultural products; oil products (fuels and lubricants, diesel fuel, heating oil); metals, manufactured goods; specialized trading (auctions, government market interventions); specialized trading for greenhouse gas emissions quotas; and the derivatives (futures and options) market. The derivatives segment was launched in September 2009 with the introduction of wheat futures. As of late 2010, the exchange offers contracts for wheat, rye, barley, sunflower seed, sunflower oil and gold (introduced in late 2010 as a cash-settled contract).

ETS market participants are producers and end-users as well as commodity and stockbrokers representing the Kazakh and Russian business structures and financial institutions.

From March 2009 to April 2010, the total volume of physical trade at ETS reached US$300 million. The ETS spot market accumulated about 2.5 million tonnes of wheat (about 13 percent of the annual wheat output in Kazakhstan) through 184 commercial deals.

The wheat futures market reached KZT2 billion of annual trading volume with a total of 984 transactions by the end of 2010. The wheat futures contracts are based on a physical delivery mechanism that uses the already existing grain WHR system. The futures contracts have a 2 to 3 month duration but ETS is planning to extend the duration of its wheat contracts to 6 months.

Source:: Personal communications of the authors with RTS officials, supplemented by press reports and information on the ETS website at http://www.ets.kz

the more sophisticated price risk management offered on the CME Group but this might not be an option for the majority of market participants. Moreover, basis risks[2] limits the usefulness of the Chicago grain futures market in hedging their export operations. Hence, domestic processors and exporters need better access to modern tools to manage commodity price risks on a daily basis.

While the potential demand for a local grain derivatives market is high, both from the agricultural and investment communities in the country, past efforts to develop such markets have been unsuccessful. The main obstacles have been related to i) limited interest by some big grain market players in increased market transparency; ii) government attempts to influence the domestic grain prices through the massive unpredictable grain market interventions by the Food Corporation; iii) lack of cooperation between local commercial banks and the agriculture sector; and, iv) turf issues between some of the ministries.

Despite the mixed track record in introducing agricultural futures trading in the past, several recent developments may have increased the chances for related efforts in the future. These favourable factors include increasing physical volumes produced in the country, the standardization of grades, improvements of the WHR system, and mounting commercial and political support. Apart from grains, futures might also be introduced for sunflower, soybeans, cotton and meat (beef and pork).

In order for such markets to take off, futures contracts would have to be firmly anchored in physical trade through well-designed contract specifications and physical delivery procedures. This requires further upgrading of the existing WHR system, e.g. by introducing a centralized registrar, an effective financial guarantee against fraud and streamlining of procedures to speed up product delivery and facilitate WHR financing. Moreover, given the geographical size of the country, a substantial investment in grain storage, and handling and transportation facilities is needed. Finally, the Kazakh investment community needs to become further engaged in WHR financing. Given the current weaknesses of the WHR system and the resulting lack of trust, ETS currently uses only part f the system, namely those warehouses that are controlled by its designated commercial banks.

New commodity exchange initiatives in Kazakhstan should pay more attention on developing reliable clearing mechanisms, which are still underdeveloped by international standards. Even the KICE and ETS clearing systems are not sufficiently capitalized as yet to provide reliable guarantees for effective commodity derivatives trade in the country. Moreover, proper regulations for derivatives market operations are still to be introduced. The new Law on Commodity Exchanges is mainly focused on physical/spot trade while derivatives and derivatives trading are only covered marginally. The new law may have to be refined by adding precise definitions for derivatives operations and ensuring proper exchange structures (i.e. for-profit and demutualized), protection of investor rights, strong clearing systems and secure physical delivery processes.

The above measure may require an active marketing and awareness raising campaign to ensure sufficient understanding and support from policy-makers, producers, processors, traders, bankers and the wider investment public.

2.2 Commodity exchanges in the Russian federation

General overview

Trade on commodity exchanges boomed in the Russian Federation at the beginning of the twentieth century, when a good number of exchanges were actively operating. But the commodity exchanges all ceased to operate not long after the Russian October revolution of 1917. A second boom of activity on commodity exchanges took place from 1989 to 1992, when the command planned economic system collapsed. During this period, hundreds of commodity exchanges were registered in the country and all of them were spot exchanges. Somewhat later, there were several attempts to launch commodity futures trade (especially, for fuels and agricultural products) but all of the attempts failed for a number of reasons.

Since the early 1990s, the Russian commodity exchange sector has changed significantly

2 Limited correlation between Kazakh export prices and prices noted at the Chicago exchange.

(Table 3). Nowadays, there are only about 45 commodity exchanges officially registered in the country and almost all of them are spot markets trading a wide range of industrial goods and agricultural commodities. The total number of commodity exchanges in the country is likely to continue to fall over the coming years. Most exchanges are located in the big Russian cities (such as Moscow, St. Petersburg, Nizhny Novgorod, Novosibirsk, Vladivostok, Samara, Yekaterinburg, Krasnoyarsk, Rostov-on-Don, Krasnodar) and mainly serve spot trade operations and some state auction procurement activities in the surrounding regions. The actual role of these commodity exchanges in the national economy is not significant. Their share in total national wholesale trade does not exceed 1.0 to 1.5 percent, according to the Ministry of Economic Development.

After the Soviet command planned economic system collapsed, price volatility on the domestic agricultural commodity market became a politically sensitive issue in the Russian Federation. The national agrarian sector went through a period of mass privatization, which created many private agricultural operators. At the same time, the role of the Russian government in national agricultural commodity price regulation was significantly diminished. Finally, domestic agricultural prices (especially, in the grain sector) started to depend much more on the prices in global markets. This situation created a strong demand among local agricultural commodity market players in the country for modern price risk management practices and instruments.

The traditional spot commodity exchanges, however, have failed to propose new hedging instruments and have not been successful in establishing more effective and modern practices in the trade of agricultural goods and other commodities. Most of these exchanges simply serve as ordinary physical brokerage

Table 3
An overview of the main commodity exchanges in the Russian Federation*

A) Exchanges at a high level of development.

Name of exchange[1]	Date established	Major features	No. of Google hits	Notional Trading Value
Russian Trading System (RTS)	1995	Originally set up as a stock exchange. Financial futures and options since 2001, commodity futures on oil products and gold since 2006.	103 000	2010: USD 1.55 trillion (94.4% up of 2009)
Moscow Interbank Currency Exchange (MICEX)	1992	Universal exchange, trading currencies, debt instruments, single stock futures.	54 200	2009: USD 5.52 trillion 2010: USD 5.78 trillion
National Mercantile Exchange (NAMEX) – subsidiary of MICEX	2002	Set up for government grain procurement. Introduced wheat futures in April 2008.	3 230	2009: RR 45.36 billion (wheat futures) 2010: RR44.2 billion (wheat futures)
Nizhny Novgorod Stock and Currency Exchange (NNSCE); "MICEX – Volga"	1994	An electronic exchange. One of the regional exchanges included in the MICEX network.	1	2009: about RR1.2 trillion
Rostov Currency, Commodity and Stock Exchange; "MICEX – South"	1995	An electronic exchange. One of the regional exchanges included in the MICEX network.	No results	2009: about RR720 billion
St. Petersburg International Mercantile Exchange http://www.s-pimex.ru/	2008	A major new exchange, which now trades physical crude oil and other energy items. Plans to introduce petrochemical futures and other derivatives on grains, timber and non-ferrous metals.	112	2008-2010: RR 101.0 billion 2010: RR 90 billion

B) Exchanges at a medium level of development.

Russian Exchange, the former Russian Commodity and Raw Materials Exchange (RCRME) http://www.re.ru	1991	Largest commodity exchange in the 1990s. Now only small volumes of auction trading in industrial goods and agricultural products.	18 300	No data
St. Petersburg Commodity and Stock Exchange "St. Petersburg" (SPBEX) http://www.spbex.ru	1991	An electronic exchange trading financial and commodity futures (oil, grains, sugar) during the late 1990s, until the 1998 crisis. In 2007, received permission to act as auction agent for crude oil exports.	9 250	2009: about RR 17.0 billion
St. Petersburg Futures Exchange (SPBFE)	1997	An electronic exchange, active in currency and municipal bond derivatives. Tried unsuccessfully to launch crude oil and oil product futures in the late 1990s.	512	2009: about RR 300 billion

houses, providing no financial guarantees for the trades that take place on their platform. Moreover, almost all of these exchanges suffer from a lack of funds for the development of new trading technologies and reliable and strong clearing systems. Many exchanges are having difficulty surviving in today's world of tough competition. New futures contracts are more likely to be launched by relative newcomers to the commodity sector, including the large financial derivatives markets, than by the traditional commodity exchanges.

In the early years of the last decade, a number of the more-advanced financial sector exchanges based in Moscow and St. Petersburg initiated commodity derivatives projects. These exchanges include the RTS, the National Mercantile Exchange (NAMEX)/the Moscow Interbank Currency Exchange (MICEX) and the St. Petersburg Commodity and Stock Exchange "St. Petersburg" (SPBEX).

In 2008 the Russian government and the Central Bank initiated discussions on merging the two leading exchanges, MICEX and RTS. Since mid-2010, the new management of MICEX intensified the negotiations with the RTS shareholders on the strategic merger of two exchanges. Finally, the merger announcement was officially declared on the 1st of February 2011. The deal will be fully accomplished by the mid of 2011 and all technical and organizational issues be settled by the beginning of 2012. The total capitalization of the united exchange is expected be around USD 4.5 – 5.0 billion, in view of the pre-merger values of MICEX and RTS, estimated at about USD 3.5 billion and USD.1.2 billion, respectively. The new exchange will be the biggest one in Eastern Europe and the FSU region, and one of the biggest exchanges in Europe. The two biggest Russian exchanges have diversified markets, including stocks, government bonds, currencies and commodities, and offer a broad range of derivatives (futures & options). MICEX

Table 3
An overview of the main commodity exchanges in the Russian Federation*

European Asian Exchange http://www.eae.ru	2000	A mechanism for auctioning official fishing quota. No longer active as such but plans to introduce fish futures.	89	2009: about RR0.5 trillion
Murmansk Commodity and Raw Material Exchange	1991	An open outcry market actively involved in agricultural trade at the regional level.		2009: about RR300 billion
Russian Southern Commodity Exchange	1992	Located in the Krasnodar region, one of the Russian Federation's "bread baskets". Primarily involved in organizing spot auctions for grains at the regional level.	No results	2009: about RR100 billion
Vladivostok Commodity Exchange	1991	One of the oldest commodity exchanges in the Russian Federation. Still organizes regional spot auctions for industrial goods, wood, metal and fish.	1	2009: about RR400 billion
C) Exchanges at a low level of development.				
Moscow Commodity Exchange (MCE)	1991	First exchange in the Russian Federation launching currency futures in 1992, along with first commodity futures for aluminum. Introduced wheat futures in the mid-1990s but discontinued soon.	416	No data
Moscow Non-Ferrous Metals Exchange (MNFME)	1991	Offers auctions for primary non-ferrous metals and raw materials for non-ferrous metals production. In 1995, tried unsuccessfully to introduce trade in futures contracts for primary aluminum, aluminum alloys, copper and nickel. The exchange has a clearinghouse and a network of approved warehouses. No longer active.	6 470	No data
Siberian Commodity Exchange	1992	Located in Novosibirsk. One of the first electronic exchanges in the Russian Federation. No longer very active and trying to survive with spot auctions for different commodities, including grains, at the regional level.	6	No data
Yenisei Commodity Exchange	1993	An auction market located in Krasnojarsk for regional commodities as well as real estate.	No results	No data
Khanty-Mansiysk Oil Exchange	1994	Located in Siberia's major oil producing region.	3	No data
Orenburg Farmer Exchange	1993	A traditional spot market, acting as a brokerage house for the local farmers.	No results	No data

* The type of ownership of the exchanges is mixed. Some exchanges such as, for example, the RTS are 100 percent privately owned by brokerage and investment communities. Other exchanges such as, for example, MICEX and the St. Petersburg International Mercantile Exchange (SPIMEX) are heavily controlled by the federal government or state-owned banks and corporations. In some cases, the regional (oblast) governments also have stakes in the regional commodity exchanges.

Source: Data collated by the authors on the exchanges' web-sites.

has a strong leadership in spot trading of Russian government and municipal bonds, currencies and corporate stocks. It also has been trying to develop a derivatives market but the trading volume in this market is still low. RTS is a national leader in the trading of derivatives and, according to the United States Futures Industry Association (FIA) rating, it now ranks tenth among derivatives exchanges in the world in terms of the total volume of futures and options traded there. The strategic merger of MICEX and RTS can be considered a further step in Moscow's aspiration to enhance its importance as an international finance center.

Currently, there are at least three organized commodity markets (exchanges) in the country (two in Moscow and one in St. Petersburg), which have several agricultural commodity futures contracts traded on their electronic trading platforms. All of these contracts have been launched recently and the annual trading volume in these contracts is not very high – only a couple hundred contracts. So their role in the day-to-day price risk management practices in the Russian agrarian sector is still very slight.

The agricultural commodity derivatives market in the Russian Federation has recently been established and is still emerging. Nevertheless, it could be considered as an innovative and progressive market with a strong commitment to reach a certain level of trust and integrity among the agricultural, banking and investment communities in the Russian Federation. This attempt at derivatives trade could help to develop, with the active participation of both the domestic and international investment communities, some modern commodity price risk management practices in the Russian agrarian sector.

Agricultural commodity traders and local financial investors are the main players in the commodity derivatives market in the Russian Federation, as they are usually more active and flexible in their business strategy implementation. The agricultural producers (mainly, medium- and large-scale enterprises) are not yet very active on the national derivatives market and suffer from a lack of information on how to manage their price risks by investing in agricultural commodity derivatives. Moreover, the existing, big, vertically-integrated agriholdings tend to actively use their own vertical price formation systems, which in many cases are not a subject for effective price risk management. The need for risk management practices could occur only when the holdings trade outside their vertical systems. Nevertheless, it will take time and effort to overcome the gap in information on agricultural commodity derivatives as a means to managing price risk.

In the Russian Federation, the most active derivatives markets, including the agricultural derivatives markets – RTS and MICEX – are not well integrated into the national commodity sector. The main commodity market players do not trust the innovations of the exchanges (such as commodity derivatives) and do not actively support the new contracts through their day-to-day business operations. This lack of trust constrains further development of the commodity derivatives market and will force the leading exchanges (MICEX, RTS, SPIMEX and SPBEX) to make substantial investments in the marketing of their commodity contracts. In contrast, big vertically-integrated agricultural producing, processing and trading groups, which are under heavy state control, express little interest in hedging their price risks on the established commodity exchanges. Moreover, the Russian derivatives exchanges need to attract a greater number of large and financially stable commodity market players to participate in their clearing systems. Stronger clearing operations will help to strengthen trading volumes and will lead to the development of a more solid financial safeguard system in the commodity derivatives market.

In addition, unpredictable government policies undermine the development of trust in commodity futures. The 2010 grain export ban and some restrictions in the domestic grain trade imposed by the Russian government have almost killed the NAMEX/MICEX export wheat futures and significantly undermined RTS efforts to introduce a new wheat futures contract based on the wheat quotations of the CBOT/CME Group in 2010. Finally, the so-called CBOT wheat futures contract is being introduced by RTS at the SPBEX premises in spring 2011. Unfortunately, the Russian government still ignores the interests of the private sector with regards to national grain export activities. This situation has triggered intensive discussions as to whether further effort in developing wheat futures contracts should

be mostly focused on domestic markets. The approach NAMEX/MICEX has adopted is to develop a new wheat futures contract oriented primarily towards domestic grain end-users. The physical delivery points for such a contract would not be export facilities in the southern part of the Russian Federation but would be big terminal grain elevators in the biggest Russian cities, such as Moscow, St. Petersburg and Nizhniy Novgorod.

The other obstacle to the development of the national agricultural commodity derivatives market and modern price risk management practices is the lack of an efficiently functioning agricultural commodity WHR system in the Russian Federation. An inefficient system creates sensitive constraints to further development of efficient physical delivery at the already existing domestic futures markets and to the introduction of modern commodity price risk management and structured finance practices. All the recent attempts on the national level to develop national WHR legislation and to implement a WHR system have failed. The draft of the WHR law is still pending in the Council of Federations of the Russian parliament (upper level) after three successful hearings and approvals in the State Duma (lower level), which took place during 2000 and 2001. The process of adoption of this law has been slowed down by various groups of Russian financial market representatives who struggle for inclusion in the law of certain definitions that would allow trade of commodity WHRs in the national securities market.

At the beginning of the 2000s, representatives of a consortium of 14 Russian commercial banks headed by the state-owned AgroPromBank tried to develop their own collateral system based on grain WHRs. They developed their own procedures for grain WHR circulation based on certain provisions of the Russian Civil Code and internal banking rules and regulations. The consortium has already gained some positive experience in crediting against the so-called "internal grain WHRs" but the system does not work smoothly and widely as there is still a lack of national WHR legislation.

In 2010, upon the request of the Ministry of Agriculture, EBRD and FAO initiated a technical assistance project to draft new national legislation on grain warehouses and grain WHRs. The main partner of the project is the Russian Grain Union, which is currently working on the draft of the new law. The draft of the new law should be finalized by mid 2011 and then submitted to the State Duma for further consideration and discussion. The main idea of the new law is to put the grain warehouse licensing procedure and the circulation of the grain WHRs under the umbrella of the Russian Grain Union.

As a consequence of the severe drought in the European part of the Russian Federation, in August 2010 the Russian Prime-Minister V. Putin and the Russian government emphasized the importance of modern grain exchange development in the country by taking a couple of steps to activate the process of exchange development, including the drafting of the concept of a national grain exchange. In this draft, high priority has been given to commodity derivatives trade.

Also, the Russian government has been actively trying to push forward the development of the St. Petersburg International Mercantile Exchange (SPIMEX). This project was actively supported by the New York Mercantile Exchange (NYMEX) at the initial stage of development. As a result, in 2007 the Russian government and NYMEX signed a strategic agreement of cooperation relating to SPIMEX development. But in March 2008, the new Russian government unexpectedly decided to develop SPIMEX without NYMEX involvement, explaining that the move was a strategic one to build a national exchange.

Initially, the idea was to trade oil and oil products on SPIMEX. Currently, SPIMEX is discussing a more diversified list of commodities to be traded at the exchange, including agricultural products. In 2010 the SPIMEX staff was actively working on the development of a number of commodity futures and options contracts to be introduced by the end of 2010. All of these contracts were considered as physically deliverable ones.

Due to the large scale of agricultural production in the Russian Federation and the potentially large volume of exports, the national commodity derivatives market has great potential. The successful experiences of the Russian derivatives exchanges – in the financial markets – were mainly based on private sector initiatives without active involvement of the state. Trade

in commodity futures has so far for the most part failed, however, although the NAMEX/MICEX contracts introduced in 2008 and some agricultural contracts of RTS and SPIMEX could improve trade to a certain extent. It is unclear how the growing interest of the Russian government in the development of commodity derivatives trade will change the situation. There are still some gaps in the national legislation on derivatives, which constrain further positive development of the commodity derivatives market in the Russian Federation. The state organizations and the Russian legislative bodies could definitely play a more active role in formulating the derivatives legislation. The Russian private sector and the government should combine their efforts in this regard.

From a practical point of view, it would be appropriate to improve taxation and accounting practices related to the commodity derivatives trade. According to current accounting and taxation practices in the Russian Federation, there are still some constraints to introducing the "netting" concept and "profit/loss" calculations in the Russian commodity derivatives market. The commodity market players face certain problems in the use of commodity derivatives in their day-to-day accounting and price risk management practices. To begin with, they cannot properly reflect the derivatives transactions in their accounting books.

Finally, it is essential to change the government and public's attitude toward so-called "organized" speculators and speculation in the Russian Federation, as without regulated speculation, a liquid commodity derivatives market cannot be developed. The existing Russian derivatives exchanges should play a more active role in promoting a positive attitude towards these market participants.

The Russian Trading System (RTS)

The RTS has the largest and most developed derivatives market in the Russian Federation. The derivatives market was launched in September 2001 as a Futures and Options on RTS (FORTS) project. It is a 100 percent electronically operated market with privately developed clearing and risk management systems. The electronic RTS was designed by a team of local experts from the SPBEX and installed at the RTS in 2001. The RTS is a 100 percent privately owned exchange; there is no state participation. The members of the RTS clearinghouse are mainly Russian commercial banks and big investment & brokerage companies.

Initially, only financial derivatives, futures and options on Russian single stocks, domestic stock indexes and currencies were traded on the FORTS. This exchange grew successfully (especially contracts of Russian blue chip companies such as Gazprom, Nornickel, RAO UES, LukOil, RosNeft, etc., and the RTS stock index), and managed to reach significant financial results in just a few years. It serves a rather large number of investors in different sectors of the Russian economy. Moreover, it has managed to attract some international investors interested in the Russian securities market.

In 2010, the US Futures Industry Association (FIA) ranked RTS as the 9th derivatives exchange in the world in terms of volume of futures and options traded.

About 70 derivative contracts are now listed on the RTS. In June 2006, the FORTS launched the first two commodity contracts, for gold and crude oil. Since then, it has expanded the list of commodity derivatives traded at the exchange, adding oil products (jet fuel, kerosene and heating oil), silver and sugar. In 2008, the FORTS team launched contracts for grains (wheat and barley) and for weather indices but the intensity of trade and the liquidity of these contracts are still quite low (just a couple hundred contracts traded per year). The reasons for the low demand for these contracts by the local investment community have already been discussed above.

Almost all of the commodity futures contracts traded on the RTS derivatives market are not physically deliverable. They are cash settled. This does not mean that these contracts cannot be physically delivered but the management of the RTS still believes that modern commodity derivatives can be successful without being integrated into the real commodity sector and should be oriented, first of all, towards financial investors. The only deliverable contract is sugar. The lack of a reliable physical delivery procedure creates a serious obstacle to RTS integration within the national commodity sector. Moreover, the lack of a physical delivery procedure draws strong criticism of RTS as being "a mostly speculative market" when referring to the

commodity trade there. It creates a constraint to further development of a liquid commodity derivatives market on the exchange currently.

Only a few commodity contracts are actively being traded at RTS, including Brent crude oil, gold and sugar. Other commodities such as various oil products and silver do not show much trade activity and open interest in them is not very high. The gold trade has been mostly supported by the local investment community, due to strong price fluctuations of gold on the current global market.

Sugar contracts were launched in the autumn of 2007. A sugar contract is a small volume contract (only 5 tonnes, the average capacity of one truck) but its market is liquid. The minimum deliverable volume should be not less than 65 tonnes (capacity of one railway car). The delivery months are March, May, July, October and November, and the contract can be traded throughout the year.

In a short period of time, trade in sugar as a commodity has become relatively successful at the FORTS, first, due to its well-designed contract specifications – attractive and easy for market participants – and second, due to the marketing efforts of RTS. The Russian sugar market is active, with high production for both the domestic and export markets. From time to time, sugar is also imported from neighboring countries (mainly Ukraine) when local production is insufficient. There are several big players (mainly traders and processors) in the Russian sugar market who have been actively supporting the contract. There are also major international sugar traders such as Sucden and Man International that are actively involved in these market operations. The first deliveries against the sugar futures contracts were well received by the key market participants in the Russian Federation.

In the last couple of years, RTS has expressed a strong intent to go regional to become a leading derivatives exchange in the region of the former Soviet Union. In 2008 and 2009, RTS established exchanges with local partners in Kazakhstan ('The Eurasia Trading System' Commodity Exchange) and Ukraine (the Ukrainian Exchange). Initially, those two exchanges aimed to become leading national derivatives markets in their respective countries. The strategic merger of MICEX and RTS will definitely catalyze such a development integrating the MICEX and RTS marketplaces in these countries

The Moscow Interbank Currency Exchange (MICEX) and the National Mercantile Exchange (NAMEX)

From the very beginning the Moscow Interbank Currency Exchange (MICEX) has been a complex exchange with diversified product offerings. It is considered the biggest organized marketplace in the Russian Federation. It has a staff of more than 500 people. It was established in January 1992 as a fully electronic spot currency market. Then, during the period from 1994 to 1998, it also became the biggest national market for Russian government debt instruments (treasury bills, GKO, and federal loan bonds, OFZ). During the same period, MICEX started developing the electronic stock and derivatives markets. After the Russian Federation's financial crisis in 1998, the MICEX currency and stock markets revived rapidly. However, the market for government debt instruments was severely impacted: in August 1998, the financial derivatives market at the MICEX (for currencies as well as GKO) was closed and failed to recover for several years. The government debt market took until the mid-2000s to recover.

MICEX is still heavily controlled by the state through the Central Bank of Russia (which owns about 36 percent of its equity) and other state-owned commercial banks (such as the Sberbank, the VneshTorgBank, the GazPromBank, etc.). Whether this situation should undergo change is still a subject of on-going discussion among the Russian securities and derivatives market regulators. Just after the official announcement of MICEX / RTS merger, the Central Bank stated that its equity presence in the united exchange would be significantly decreased, as the newly established exchange planned to go public and the Central Bank will not participate in the IPO.

Just a few years ago, the MICEX as an entity was transformed into the MICEX Group with several relatively independent marketplaces under one umbrella (such as a stock exchange named "MICEX", a currency exchange, NAMEX, etc.) in an attempt to avoid certain restrictions in Russian regulations that do not allow government entities to be shareholders in an exchange.

Nowadays, the MICEX Group consists of several exchanges that are physically located not only in Moscow but also in seven other regions (St. Petersburg, Nizhniy Novgorod, Samara, Novosibirsk, Yekaterinburg, Vladivostok

and Rostov-on-Don). All of these exchanges are united technologically and financially, using compatible electronic trading systems and the centralized MICEX clearing and settlement system. All of them actively trade currencies (electronic spot markets with a next-day delivery), Russian corporate stocks and government bonds. Besides, in 2009 MICEX acquired the leading stock exchange in Ukraine, PFTS. After a merger deal with RTS is accomplished by the mid of 2011, the Ukrainian PFTS will be united with the 'Ukrainian Exchange, which belongs to RTS. MICEX and RTS have already discussed such a move with the Ukrainian regulator in February 2011.

In July 2002, MICEX entered commodities trading when it established a subsidiary called the National Mercantile Exchange (NAMEX). NAMEX shareholders include the Russian Grain Union and the Association of Sugar Producers of Russia. Although the main goal of NAMEX was to develop modern commodity derivatives trade, initially the exchange served as a tool for state procurement and intervention operations in the grain sector, using the geographically diversified MICEX electronic network. This enabled NAMEX to earn the funds needed for technological development and to develop a closer relationship with the national agrarian sector and the Ministry of Agriculture (at that time, MICEX did not have links with the national agro-industrial complex). Beginning with the 2002/2003 season, NAMEX successfully managed to organize each year state grain procurement and intervention auctions, thus assisting the Ministry of Agriculture in regulating domestic grain market prices to a certain extent. This activity allowed NAMEX to become well known in the Russian agrarian sector and to develop valuable links with the national grain industry.

Reacting to high price fluctuations in the domestic grain market and the resulting demand for price risk management instruments, in 2006 NAMEX initiated a working group to design two types of wheat futures contracts, with delivery on an ex-works (EXW) or free on board (FOB) basis. Both types of contracts were launched in April 2008, with insignificant support from some Russian grain market players, and active participation of the Russian Grain Union and the Ministry of Agriculture. In September 2010, rice futures contracts were also introduced. While volumes have been disappointing, it is still too early to assess their potential for success and the way they will be used by the Russian physical grain market. Nevertheless, it is worth noting that several past studies, including some financed by the United States Agency for International Development (USAID), have argued that there is a large potential for "Black Sea" wheat futures contracts, which would meet the needs of not just the grain market players from Russian Federation and Ukraine, but also other countries in the region.

NAMEX has concluded agreements to collaborate for the development of commodity trading markets with six other exchanges: the Rostov Currency and Stock Exchange (RCSE), the Nizhegorodskaya Currency and Stock Exchange (NCSEX), the Samara Currency Interbank Exchange (SCIEX), the Urals Regional Currency Exchange (URCEX), the Siberian Interbank Currency Exchange (SICEX) and the St. Petersburg Currency Exchange (SPCEX). These exchanges act as remote access points for NAMEX's electronic trading network.

NAMEX uses the MICEX electronic trading platform developed for derivatives trade in the mid-1990s and the MICEX clearing and settlement system. The EXW delivery procedure is being organized for a large number of delivery points/grain elevators (more than 30) located in the southern part of the Russian Federation (the Krasnodar, the Rostov and the Stavropol regions). FOB physical delivery is at one of the Black Sea ports (Novorossiysk), ready for export. NAMEX does not guarantee delivery but only matches the two sides of the deal (seller and buyer). If a delivery fails, there are certain financial penalties for the responsible participant.

In the autumn of 2005, the MICEX bought a license from the Chicago Mercantile Exchange to use the risk management SPAN system in order to modernize its clearing operations and especially to further develop the derivatives market. The installation of the SPAN system was completed at the MICEX by the beginning of 2007 but full operation has not started as yet because the derivatives market at the MICEX is still very small.

In 2010, the MICEX finalized work on the unified clearing system for its different markets to serve as a CCP for all of the market players on the MICEX, including stock, government bond, currency and derivatives traders.

The MICEX/NAMEX have plans to launch trade in other commodity derivatives such as oil and oil products, metals, timber and sunflower seeds but it is hard to say when these contracts will be introduced. One of the main constraints in this regard is the lack of a reliable physical delivery procedure at the MICEX/NAMEX. It remains to be seen how the NAMEX operations will be united and synchronized with the commodity futures & options trade at RTS after the merger deal is accomplished between two entities.

Three exchanges in St. Petersburg

Currently, there are at least three exchanges in St. Petersburg that are actively trying to be involved in commodity trade: the St. Petersburg Commodity and Stock Exchange "St. Petersburg" (SPBEX), the St. Petersburg Futures Exchange (SPBFE) and the St. Petersburg International Mercantile Exchange (SPIMEX).

Initially, the SPBEX, one of the oldest commodity exchanges in the Russian Federation, started trading financial products (currencies and government bonds) and commodities (grains, oil and sugar) for spot delivery. Futures contracts were added in the late 1990s. After the financial crisis of 1998, the exchange signed a strategic agreement with the RTS to develop a derivatives trade on financial assets (single stock futures, stock indexes, and currencies) using the RTS electronic platform and clearing system. At the same time, the two exchanges agreed to develop together exchange-traded commodity contracts. Since then, the RTS launched several commodity derivative contracts (oil and oil products, gold, silver and sugar) but the SPBEX as yet does not deal with commodity contracts. Its own electronic trading system has not been updated for the last several years and there is no well-functioning clearing system there as yet.

In mid-2010, the RTS and the SPBEX discussed the idea of transferring all the commodity derivatives trading from the RTS Moscow premise to the SPBEX St. Petersburg premise. The final decision has yet to be made but could be forthcoming soon because St. Petersburg is being considered as one of the main commodity trading spot in the country. Moreover, such a move could be strategically related to the current intensive discussions on the merger of the MICEX and the RTS.

The latest initiative of the SPBEX is an attempt to actively participate in the SPIMEX project in St. Petersburg by proposing to use its own physical premise for SPIMEX trade and clearing operations. Finally, the SPBEX proposal has not been accepted by SPIMEX.

The idea of launching the SPIMEX in St. Petersburg was initially discussed in the mid-2000s and envisioned trade in crude oil and oil products derivatives. When the Soviet Union ceased to exist, the Russian Federation had only two big seaports on the Baltic Sea, Kaliningrad and St. Petersburg. Kaliningrad is a Russian exclave separated from the Russian Federation by Baltic States. For this reason, development of St. Petersburg as a key Russian commodity seaport in the Baltic Sea region began in the late 1990s. Several new crude oil, natural gas, metal, coal, grain and timber sea terminals were constructed around the city. With these developments, the Russian government considered the city as "a new commodity-trading center". Finally, the headquarters of the natural gas monopoly Gazprom was transferred from Moscow to St. Petersburg in early 2000s.

SPIMEX was formally registered in May 2008. They started actual trade in 2010, but the total volume traded is still rather low there. Initially, they mainly trade oil and oil products. There are also plans to trade a large number of commodities, including petrochemicals, grains, sugar and other agricultural commodities but these plans are still to be formalized. There were a couple of commodity futures contracts introduced by the end of 2010, but their success is still doubtful.

The SPBFE was launched in the mid-1990s to trade primarily currency futures. Since then, it managed to develop a growing volume of trade but is still not a major exchange. The exchange is considered a regional exchange rather than a nationwide marketplace. It is an electronic exchange with a weak and loose clearing system. In the early 2000s, the exchange started trading oil product contracts for such commodities as heating oil but trade in these contracts was not successful: the contracts were mainly used by physical traders in so-called "tax optimization" schemes. It has declared plans to diversify the number of contracts traded and to include grains, some metals and timber. However, those contracts have not been actually traded as yet.

Key constraints and opportunities

During the last 15 to 18 years, the Russian commodity exchanges have experienced an exciting period of development. There were losses and gains, and some progress has been achieved in the introduction of modern technologies of trade and clearing at some exchanges. The tough competition between two leading electronic exchanges (RTS and MICEX) creates a fruitful business environment for further development of the commodity derivatives trade in the Russian Federation. The strategic merger of MICEX and RTS will create some new opportunities in the development of the commodity derivatives trade in Russia

While one can say that exchange-traded derivatives are in place in the Russian Federation, the total efficiency of the Russian derivative exchange operations (speediness of trade and clearing, reliability and strength of clearing systems, i.e. the level of security they provide on transactions, connectivity of the trading platforms, delivery procedures) should be increased significantly.

Still, the Russian Federation is the only country in the FSU region which has implemented modern futures and options trading technologies and has developed a comparatively liquid derivatives market. However, this progress mostly relates to financial contracts, while the commodity derivatives market is still underdeveloped. In the near future, more attention should be paid to increasing the efficiency and attractiveness of the national derivatives industry. Modern technologies and innovative solutions could be one way of improving operations.

The range of commodities traded on the Russian derivatives market is still very narrow. Only a few agricultural futures contracts (wheat, rice, and sugar) are actually traded at the two main Moscow exchanges but the trade volume is light. There is still a lack of exchange-traded instruments that can be widely used by the Russian agricultural market participants in their day-to-day price risk management activities. This need would be filled quickly if market participants could rely on the modern trading and clearing technologies of the RTS and/or the MICEX. Definitely, the united exchange could manage to use the technological advantages of both exchanges (MICEX & RTS) properly to serve the commodity market participants in Russia and internationally.

The traditional spot commodity exchanges do not play a significant role in the current agricultural commodity trade in the Russian Federation. From a technological point of view, they do not propose efficient solutions to reduce the transaction costs of day-to-day agricultural trade operations. Many of them, bereft of well-functioning, modern trading, and clearing and settlement systems, may not survive the next few years.

RTS and MICEX, on the other hand, have been strong enough financially to invest in the technological development of their trading and clearing systems. But the financial resources of these two Russian exchanges could also be used efficiently to enhance market integrity in the commodity sector. The strategic merger of MICEX and RTS could serve the aim.

Few agricultural market participants use derivates in their day-to-day business operations. Furthermore, the domestic price formation system in the Russian agricultural commodity market is not based on domestic derivatives prices. Finally, only a few agricultural corporations are members of derivatives exchanges and none of them participate in derivatives exchange clearing systems (i.e., none are clearing members). These shortcomings still leave gaps in the day-to-day business operations of the exchanges and constrain the development of modern tools for agricultural commodity trade. Moreover, in the future, the Russian derivatives exchanges could play a more active role in increasing business integration between the banking and agricultural commodity sectors.

The leading Russian exchanges should increase efforts to market and develop new commodity price risk practices based on commodity derivatives already traded on the exchanges. These efforts should be aimed at building a strong and well-developed business environment in the domestic commodity sector and increasing the efficiency of commodity market transactions in the country.

The lack of a well-functioning system of licensed agricultural commodity WHRs in the country also creates serious constraints to the development of commodity derivatives trade. Physical commodity delivery could be a much more efficient and less time-consuming process if a national commodity WHR system were in place. The lack of national

WHR legislation still creates problems for the introduction of modern commodity price risk management practices.

In the Russian Federation, there is also a lack of national legislation on derivatives. The lack of legislation allows space for the various state agencies (such as the Ministry of Finance, the Ministry of Economic Development, the Ministry of Agriculture and the Central Bank) to interpret certain exchange operations differently. This situation hinders progress in the further development of the national derivatives market and especially commodity futures and options trade.

The Russian derivatives exchanges (including the united MICEX / RTS exchange) need to build more trust and a positive image among participants in the physical commodity sector. Such efforts would help to better integrate the commodity derivatives sector with the financial and investment communities in the country.

Finally, efforts should be made to better integrate the country's commodity derivatives sector with the world's leading agricultural commodity exchanges and the international investment community. Such links could prove to be mutually interesting for both financial and technological reasons. The efforts to build these links should be strongly supported by the Russian government.

2.3 Commodity exchanges in Turkey

General overview

Some commodity exchanges in Turkey have been operating for over a century. Exchanges have spread across the country, helped by government regulations that gave them regional tax registration rights on commodity trade. Currently, Turkey has 113 officially registered commodity exchanges, all of them active only in agricultural commodities trade.

In general, five different types of exchanges operate in the country. First, a majority of exchanges register a wide range of agricultural goods and commodities for tax purposes only and no trading takes place. For example, of the 64 exchanges where wheat trade is registered, only 10 exchanges offer spot trading facilities. Second, twenty exchanges trade commodities on a spot basis. Then, there are three different individual exchanges: the Istanbul Stock Exchange (ISE), which is the biggest organized stock market in the region but does not trade any commodity derivatives; the Istanbul Gold Exchange (IGE), which was created several years ago especially for precious metals trade (currently, it is not very active); and the TurkDex, where financial and some agricultural contracts are traded.

The spot agricultural commodity exchanges are mostly located in small cities and towns around the country and represent the less-developed exchanges in Turkey. Initially, they were founded to trade agricultural goods and commodities on a regional level. Their main function was to determine, approve and announce prices that were to be formed according to certain rules. In practice, many of these exchanges abandoned efforts to organize actual commodity trade and the exchange facilities are now used as a meeting place by the exchange clients/members. The commercial deals are registered at the exchange but not negotiated. In effect, many of these exchanges do not have their own trading facilities. So, it could be said that these exchanges serve as "stamp-tax" offices. Transactions that are not registered by a commodity exchange officially carry a 4 percent transaction tax, while registered transactions incur a smaller fee (0.1 to 0.3 percent), so the incentive to register is strong. Nevertheless, 80 percent of the commodities traded are not registered in an attempt by companies to circumvent income tax.

In Turkey, a minority of agricultural exchanges (primarily for cotton, inter alia in Adana and Izmir, and for grains on the major exchanges in Edirne, Eshisehir, Konya and Polatli) do provide very active platforms for commodity trading. They own the buildings and have equipped the trading floors where they regularly organize auctions. The Edirne, Izmir and Polatli exchanges also have their own grading laboratories, obtained with the support of a World Bank/FAO project. Several exchanges operate networks, with a central auction facility linked to satellite trading floors in surrounding towns and villages. They organize active auctions to which sellers (often farmers) bring samples of the products being offered for sale.

During the 1990s, several of these exchanges hoped to be able to start trading commodity futures. The Izmir, Konya and Polatli exchanges built impressive facilities for open outcry trading. The IME (more on this exchange in the following section) even went so far as to build,

in addition to an open outcry pit, an electronic trading network, which used the spare capacity in the nationwide network developed by Turkish Airlines. However, none of these exchanges were able to introduce futures primarily because of a regulatory conflict between their regulator, the Union of Chambers and Commodity Exchanges of Turkey (TOBB), which falls under the Ministry of Industry and Trade, and the CMB, which falls under the Ministry of Finance.

The total value of the agricultural commodities actually traded at these exchanges is more than US$4 billion a year. Perhaps as much as one-fifth of national agricultural production is traded on the exchanges and an even greater portion of wheat and cotton production is traded on the exchanges. Furthermore, many of these exchanges are influential in regional and national politics, as they widely represent the local professional associations/unions of agricultural producers, traders and processors, and often generate large surplus revenues.

The Izmir Mercantile Exchange (IME)

The IME was founded in 1891 and today is the biggest and the most developed spot agricultural exchange in Turkey. The value of commodities traded on the IME has been more than US$2 billion a year since 2005, and in 2007, the value topped US$2.5 billion. In 2008, the IME saw its volumes fall due to declining local production and increasing imports).

Since June 1928, the IME has owned a prominent building (old Borsa) in the centre of Izmir, a building with a well-equipped trading floor ("Ring") and quality-control facilities. The staff consists of 36 specialists, and the exchange is engaged in a number of activities to support regional agricultural commodity trade, especially trade in cotton. Each working day, the IME has one 10-minute open outcry session for trade in physical cotton when about 130 buyers and sellers gather, and the prices reached in this session act as benchmark prices for cotton trade throughout the country. Virtually all of the trade is for physical trading or processing purposes, although some speculative trade also takes place.

The IME membership consists of legal entities only: there are no private individuals among the acting members. The IME has 1 628 members organized into 19 professional groups and unions. Each of these groups has a professional committee of 5 to 7 people. Two to three persons from each committee are elected to the IME Assembly, which is the highest decision-making body at the exchange. The IME Assembly elects 11 of its members to the IME Board. The board members have executive authority and are elected for a period of four years. The board chairperson and one or two vice-chairpersons are also elected by the board.

Currently, there are seven operational departments at the IME: Transactions and Decisions; Financial and Administrative Affairs; Media and Public Relations; Research and Development; Information Technology, Registration and Auditing; and Laboratory Directorates (work under the General Secretary).

The exchange does not guarantee the payment and the delivery procedures. The daily prices of important agricultural products (such as cotton, dried raisins, sultanas and some of the oilseeds and pulses) as determined on the IME, are disseminated throughout the country and around the world. These prices are actively used by Turkish agricultural commodity market players in their day-to-day operations on the domestic market. There is no evidence that the market at the IME is being actively used for commodity price risk management purposes (and while it trades some forward contracts on cotton, the volumes traded are low).

The IME enjoys some tax advantages regarding agricultural commodity market operations so use of the exchange remains attractive to market players who engage in so-called tax optimization schemes.

Trade at the IME is on an "acceptance at delivery" basis. If the product at delivery does not meet the standards specified at the time of the transaction, the buyer can refuse the goods. The IME has a well-established laboratory and provides arbitrage procedures based on its laboratory tests. The market participants trust the arbitrage system and use it to solve their disputes when certain defaults occur.

Registration fees, membership fees and laboratory analysis fees are the main income sources of the IME. In addition, according to national Law No. 5174, other sources of income

can also include document fees, broadcasting revenues, fines, multiple price increase, returns on stocks and bonds and real estate, foreign currency incomes, donations and aid.

At the beginning of the last decade, the IME took an active part in the establishment of the TurkDex in Izmir, as an independent exchange (IME was one of the strategic investors in the new exchange and now has a 17 percent equity stake). Currently, there are some tensions between IME and TurkDex, despite the fact that both exchanges are located in Izmir, and a certain politesse is strongly in evidence in their business relationship.

The IME is spearheading discussions to unite all the existing agricultural commodity exchanges in Turkey under one umbrella. In the current proposal, the IME has expressed the idea of establishing two companies. One company, the United Turkish Commodity Exchange Inc., would operate under the TOBB and would gather all of the commodity exchanges in the country under one roof. The other company, the Licensed Warehouse Company, would be actively involved in agricultural commodity warehouse licensing and physical commodity delivery against the contracts traded at the Turkish Commodity Exchange. This idea has been well received by the TOBB and the Ministry of Industry and Trade. If the proposal is accepted, the existing exchanges would move to a unified electronic trading system and jointly establish an efficient licensed warehouse system in order to ensure the delivery of physical commodities against the contracts traded at the exchange.

The Turkish Derivatives Exchange (TurkDex)

The TurkDex was established in 2002 and began active trading in 2005. It is a successful exchange and has the potential to help to integrate the Turkish financial sector with the agricultural commodity sector of the country. It was founded with the strong support of the leading Turkish financial institutions and with 17 percent participation by the IME. TurkDex is the first privately-owned exchange in Turkey. It has a staff of around 35 employees.

The TurkDex is an electronic exchange with a sophisticated trading platform. The annual trading volume at this exchange is growing fast. In 2006, the notional trading value was about US$12 billion, in 2008 it was about US$162 billion and in 2010 it approached US$300 billion. Foreign currency, interest rates and the Istanbul Stock Exchange Index together represent about 98 percent of the volume traded at the exchange.

Two agricultural commodity contracts (cotton and wheat) are listed on the TurkDex, but these contracts are not traded actively. TurkDex personnel blame this on the underdeveloped agricultural commodity infrastructure in the country, which does not allow for efficient physical deliveries against the futures contracts traded at the exchange. A disconnect clearly exists between TurkDex and the Turkish agriculture sector.

The TurkDex is well-equipped and resembles an advanced venture with a high profitability. It has ambitious plans to expand and become more involved in commodity sector operations. In this regard, the exchange is considering the implementation of an electronic WHR system monitored by the exchange itself.

Conclusions and outlook

TurkDex lists only wheat and cotton futures but has been unable to build any liquidity in these contracts. If it is to build up a viable agricultural futures complex, it should aim not only to develop these contracts, but also, to introduce a broader range of products so that potential non-trade related parties (e.g., investors) can be attracted into the sector.

There is also room for competitors to the TurkDex. The Turkish physical commodity exchanges have a long history. Some of them have gained extensive practical experience in how to deal with agricultural producers, traders and processors. Potentially, this experience could serve as the foundation for the to-be-established United Turkish Commodity Exchange. At the same time, this professional community of exchange operators has strong political support from the TOBB and the Ministry of Industry and Trade. This new initiative, therefore, seems to have considerable potential but must still overcome a number of obstacles.

Foremost among the obstacles to be overcome is the lack of a licensed commodity WHR system

in Turkey. As the TurkDex and even some of the established commodity exchanges have already discovered, it is not an easy task to organize a physical delivery process. The demand for a well-functioning, national (electronic) commodity WHR system is great in the Turkish agriculture sector. In the mid-1990s and then again in the period from 1999 to 2003, there were donor projects (under a World Bank/FAO/UNCTAD umbrella) that helped significantly to put the national WHR legislation in place and to understand the issues involved in commodity futures development. These projects also enabled a number of the commodity exchanges to build sophisticated new warehouses. However, a WHR system has not been implemented because the preparatory work, such as training, marketing and publicizing, and legal specification on behalf of state agencies and the private sector, has not been undertaken.

In addition, the local warehouse industry needs to be modernized before the warehouse documents that it issues can become acceptable instruments for the Turkish commodity exchanges.

Promotional marketing activities on behalf of the already functioning exchanges (in particular, the TurkDex and the IME) and aimed at the Turkish agriculture sector should be intensified. The exchanges need to intensify day-to-day promotional marketing activities in order to attract more agricultural market participants to their operations. Marketing of the exchanges services would help to build a more sustainable environment for commodity exchange development in the country and to strengthen integration among the agricultural and financial sectors and the commodity exchanges.

Modern trading, clearing and delivery technologies based on the latest software developments and IT achievements should be introduced at the existing exchanges (beginning with the TurkDex and the IME). The demand by the Turkish commodity exchanges for technologies that could overcome many of the constraints of more traditional systems, while reducing access and trading costs, is very great. The introduction of new IT technologies could significantly increase the business potential of commodity exchange operations. Moreover, technologies could help to improve the commodity exchange services/environment in Turkey in that they would geographically cover all the agricultural regions in the country.

2.4 Commodity exchanges in Ukraine

General overview

In Ukraine, the first of many commodity exchanges was created in 1869 but by 1924, more than 50 years later, all of the exchanges in the country were closed. Only after a long interval, in the late 1980s,[3] were commodity exchanges revived. However, the boom period for commodity exchanges lasted only briefly and during the post-Soviet period by the end of 1990s most of the new exchanges had stopped operating. Since then, the number of active commodity exchanges has continued to decline and currently only about 30 commodity exchanges operate in Ukraine (Table 4 lists most of them).[4]

In light of the fact that the Ministry of Agrarian Policy (MAP) provides administrative support to the commodity sector, most of the commodity exchanges in Ukraine are registered as agro-industrial exchanges and are under the MAP's supervision. Each large Ukrainian city has its own commodity exchange, which mainly serves as a regional spot market for agricultural commodity trade. Some exchanges simply operate as common physical brokerage houses. All of them are still involved in the registration of agricultural export contracts (mainly for grains), providing a so-called stamp tax service. A broad range of industrial goods and agricultural commodities is offered for trade on these exchanges.

Average annual grain exports from Ukraine amount to about 10 million tonnes and since 2000, all grain export contracts must be registered at one of the agro-industrial exchanges. Thus, many of the exchanges have had significant revenue flow even though their role in actual trade has been small. However, due to the recent restrictions on grain exports, many Ukrainian commodity exchanges have incurred a loss in cash income.

The commodity exchanges do not play a significant role in the Ukrainian economy. Their

3 Several of the new exchanges were created as successors to the exchanges that were closed in 1924. For example, the Simferopol Commodity Exchange was revived in 1991 as the Crimea Universal Exchange.

4 The number of registered "commodity exchanges" is much larger (as of 1 October 2010, 550) because under Ukrainian law, when regional structures wish to procure material resources, they have to register a commodity exchange in order to organize an auction. This entity may be used to organize one single auction. To close or dissolve a legal entity in Ukraine is a complicated, and time- and capital-consuming process, so the exchange is left idle.

share of total national commodity turnover is not more than 3 to 5 percent. According to official Ukrainian statistics, grains and sunflower seeds account for the highest share of turnover at more than 10 percent but this figure is primarily based on mandatory export contract registration, the so-called stamp tax, at only one of the agricultural commodity exchanges.

The commodity exchanges in Ukraine only match sellers and buyers and do not guarantee clearing and settlement. A lack of financial, technological and professional expertise usually creates serious obstacles to transforming the exchanges into modern and well-functioning marketplaces. Moreover, the current Ukrainian commodity exchange regulation dates from 1992 and has not been updated much since then (several attempts were made to rewrite the existing law on commodity exchanges but all of them failed).

In the last 10 to 15 years, the Ukrainian agriculture sector has become closely integrated into the global grain and oilseed markets, with close transmission of global commodity market prices. With the recent high volatility in prices, the demand by a large number of market players for modern commodity price risk management tools has grown. Domestic traders and processors compete actively with one another and farmers seek price information in order to compare the prices being offered for their goods. Several multinational traders have made significant investments in the Ukrainian grain and oilseed sectors and if better instruments were available to manage price risks, they would use them. Currently, they actively use forward contracts dealing with the local grain and sunflower producers to guarantee the efficiency of their processing and export supply chains (but of course, fixed-price forward contracts carry large default risks).

The processing industry is now mostly privatized and processors, while in all likelihood unfamiliar with the operations of a futures market, are driven towards greater efficiency and effective risk management. Their increasingly professional management should be able to build up the necessary expertise. There are enough reasonably efficient elevators throughout the country to form the basis for an exchange's delivery system, and no single party controls the majority of these elevators. Moreover, a number of the large farm enterprises would be interested and able to operate on a futures exchange and they would inspire other farmers to follow their example. A modern commodity derivatives exchange in Ukraine could meet the unmet demand for risk management. Such an exchange could have a nationwide reach: improved market information systems and the establishment of national networks by a number of large traders have led to a relatively good integration of national cereal and oilseed markets.

Currently, in Ukraine there is no organized derivatives market for financial or for commodity products. Several years ago there was an attempt to launch a commodity derivatives exchange (the Ukrainian Futures Exchange (UFEX)) but the exchange has not functioned as an organized marketplace. It survives by organizing local real estate and energy supply spot auctions but does not as yet offer derivatives.

In 2005, at the request of the Cabinet of Ministers of Ukraine (CMU), the World Bank took steps to initiate the creation of a working group on commodity exchanges in Ukraine. The idea was to develop an effective business plan to launch a modern commodity derivatives exchange in the country. The World Bank experts proposed a draft plan for further discussion but the CMU and the local business community (especially in the agrarian sector) did not go forward with the project.
Finally, in 2007, a working group of local experts was created at the Presidential Secretariat to develop a national concept paper on Ukrainian exchanges. The final document looks eclectic and declarative, and pays much more attention to the Ukrainian stock market than to the commodity sector. It did not provide a distinct discussion on the potential of and need for commodity derivatives exchanges in the country, despite the fact that Ukraine is one of the biggest commodity exporters and importers in Europe.

There is much discussion among the local commodity market participants on how to initiate alternative trading practices based on commodity derivatives and grain WHRs. There are still constraints to derivatives trade, despite the fact that the national grain WHR system is already in place. Of the FSU countries, Ukraine has probably

Table 4
An overview of the main active exchanges in Ukraine

Name of exchange	Date established	No. of Google hits (in English/ local language)	Turnover Notional Trading Value
A) Exchanges at a high level of development.			
Kiev Agro-industrial Exchange ''Kievagroprombirzha" http://www.visnik.kiev.ua/	1995	8/3	2009: about UHR 5.0 billion
Ukrainian Interbank Currency Exchange (UICE) www.uice.com.ua	1993	1 150	2009: about 6.0 billion
B) Exchanges at a medium level of development.			
Kiev Universal Exchange www.kue.kiev.ua	3 September 1990		2009: about UHR 0.5 billion
"Donbas" Agro-industrial Exchange	25 September 1995	4	2008: about UHR 250 million
Vinnitsa Universal Commodity Exchange www.vtub.vinnica.ua	22 March 1991	8	2009: about UHR 150 million
Dniprovscaya Agrarian Exchange	9 June 1995	6	2008: about UHR 200 million
Zaporozhye Commodity Exchange "Pleya"	12 July1991	8	2008: about UHR 180 million
Ukrainian Universal Commodity Exchange www.uutb.com.ua	20 March 1991	197	2009: about UHR 200 million
Kharkov Commodity Exchange http://www.xtb.com.ua/	19 November 1993	185	2009: about UHR 178 million
Crimea Universal Exchange	27 May 1991	9	2009: about UHR 200 million
Poltava Regional Agro-industrial Exchange	7 February 1996	5	2009: about UHR 150 million
C) Exchanges at a low level of development.			
Rivne Commodity Exchange	February 1996	5	No data
Ukrainian Futures Exchange	January 2003	17	No trade
Volynsc Specialized Agrarian Exchange	5 June 1996	5	No data
Pridniprovya Commodity Exchange	12 April 1990	5	No data
Prikarpatya Regional Commodity Exchange	April 1996	5	2008: less UHR 100 million
Mariupol Universal Commodity Exchange http://www.mutb.donetsk.ua	26 June 1991	4	No data
Podyl Specialized Agrarian Exchange		6	No data
Sumy Commodity Exchange ''Sumyagroprombirzha''	30 January 1998	6	No data
Commodity Exchange of the Agro-industrial Complex of the central regions of Ukraine	8 May 1996	4	No data
Black Sea Commodity Exchange of the Agro-industrial Complex	13 October 1991	4	No data

Note: The number of Google hits is reported in English and in the local language (where available).
Source: Data collected by the authors on the exchanges' web-sites.

made the most significant progress towards the development of a national WHR system, apart from Kazakhstan. However, the country still needs to make substantial investment in grain storage and handling facilities. In addition, the efficiency of the national WHR system should be increased significantly, in particular by introducing electronic WHRs. Also, the Ukrainian investment community needs to become an active part of the WHR system.

In the late 1990s and early 2000s, there were several international technical assistance projects in Ukraine, supported by the World Bank, the EBRD and other international donors, to develop the national grain WHR system and to assist local commodity exchanges with the introduction of new trading technologies. These technical assistance projects were successful to a certain extent and greatly helped to put the national WHR system in place. These projects have also done much to improve the local agribusiness environment. They have increased the efficiency of local agricultural commodity supply chains and greatly assisted with the development of the infrastructure of Ukraine's agriculture, especially with regard to the national system of grain quality control and the warehouse sector. At the same time, the Ukrainian commodity exchanges have made little progress and still operate as traditional spot markets.

The above-mentioned international efforts have been supported by the Ukrainian government to a certain extent, as well as by national professional organizations, such as the Ukrainian Grain Association (UGA) and the Association of Ukrainian Farmers and Agricultural Producers. Also, the local banking sector tries to play an active role in these recent developments through its Association of Ukrainian Banks.

The commodity exchanges in Ukraine still suffer from a lack of funds and have not been able to develop proper business plans to introduce modern trading and clearing technologies. Moreover, the lack of strategic investments in this sector hinders the development of a reliable commodity exchange infrastructure, which could integrate technologically complex derivatives trading, the clearing system and the physical delivery procedures. A strong united commitment needs to be made by the Ukrainian private sector and certain governmental structures to bring significant progress.

In the last decade and until the CMU intervened in March 2007 to impose an export ban (replaced by export quota six months later), Ukraine has become a relatively stable wheat exporter. Also, the country has joined the WTO. So it is very important to have a transparent and well-functioning price formation system in the national agrarian sector. Moreover, the Ukrainian investment community is actively seeking new investment instruments and should be interested in agricultural derivatives.

The current global food deficit situation has created tangible opportunities for Ukraine, as the country could be considered one of the breadbaskets of the world. It has vast agricultural land resources and a reasonable foreign investment environment. Due to the size and importance of the national agriculture sector, the establishment of a modern commodity exchange in Ukraine could help to develop a more dynamic business environment in the national agrarian economy and could increase the efficiency of the Black Sea agricultural commodity market operations.

During recent years, Ukrainian agricultural market players, including intermediaries and traders, often incurred large price fluctuations. It is not easy to manage commodity price risks without having well-designed and actively traded commodity derivatives. However, the derivatives sector does not exist in Ukraine as yet and local agricultural commodity market players do not use the derivatives instruments available on international markets on a regular basis. The agricultural commodity supply chains in Ukraine still mostly work in a traditional way and do not use modern price risk management solutions.

In 2005, the Ministry of Agrarian Policy issued a decree about the creation of the state-owned Agrarian Exchange to undertake 'agricultural commodity procurements and interventions', with the exchange becoming the only entity entitled to undertake the (obligatory) registration of export contracts. The Agrarian Exchange was established as a 100% state-owned entity. But as the Justice Ministry (on the advice of the Ukrainian Antimonopoly Commission) refused to register the Ministry of Agrarian Policy's Decree, the exchange never received any exclusive powers. The amount of grains it buys is small and it does not influence much the domestic grain price situation. Also, so far the Agrarian

Exchange mainly uses ineffective administrative measures to push private farmers to sell grains through the Exchange. Nevertheless, the Agrarian Exchange can become a player in the further development of commodity derivatives in Ukraine – and it can be a useful vehicle for getting a full buy-in from the Ukrainian government.[5]

After the presidential elections in late 2009, the new Ukrainian government has resumed intensive discussion on the creation of the Black Sea grain exchange in the country. The reason for such a discussion is based on the fact that in the 2000s, three main grain exporting countries in the region (Kazakhstan, the Russian Federation and Ukraine) together exported a total of 40 million tonnes of grain a year, most of which is exported through Black Sea ports. The practical realization of a Black Sea grain exchange is still far from reality but the concept has attracted much attention in the Kazakh and Russian governments. This exchange can be realized only with the strong political support of the Kazakh, Russian Federation and Ukrainian governments.

In 2010, the CMU initiated negotiations with the CBOT/CME Group and the New York Stock Exchange (NYSE)/Euronext on the development of a modern commodity derivatives exchange in the country. The major part of these negotiations is related to agricultural commodities, and especially all grains. At this time, although it is hard to predict, the next practical move might be the establishment of a Black Sea grain exchange.

Finally, the recent announcement of the MICEX / RTS merger in Russia has surfaced the idea of merging two Ukrainian exchanges, - PFTS and the Ukrainian Exchange, - which are now actively controlled by MICEX and RTS respectively. Such a move could lead to the creation of the unified universal Ukrainian exchange with a strong focus on the stock and derivatives trade, including agricultural commodities.

Legal and regulatory issues

In Ukraine, currently there is neither a uniform legal document nor law that mandates the creation and operation of commodity futures markets (agricultural or other markets) nor a legal document or law that mandates trade in derivative instruments. Instead, there is a number of fragmented rules and regulations that affect, or could affect, futures markets and derivatives trade. These rules/regulations may partially be in conflict with one another, are not clearly spelled out (in part due to ambiguous terminology and definitions) and leave certain matters unregulated. In the short run, this is not necessarily a problem: as long as the political will exists, an agricultural futures exchange can normally be structured in such a way as to avoid legal roadblocks and to allow ambiguities to be addressed within the self-regulatory framework of the commodity exchange itself. However, this situation is not optimal and could, in the medium- to long-term, hamper the growth of a futures exchange and the possibilities for it to expand operations to deal with new products.

The following section briefly discusses the ways in which current laws and regulations affect commodity futures markets and trade in derivative instruments.

Laws pertaining to commodity exchanges

Ukraine's Law "On Commodity Exchange" (1993) defines the procedure for founding and operating commodity exchanges. This law provides definitions of the concepts of exchange transaction, exchange trade, exchange seat, exchange clients, clearing activity and commodity derivative. Among other things, the law determined that exchange contracts are considered concluded from the moment of their registration with a commodity exchange and do not require further notarization.

According to the law, the term "commodity exchange" shall be understood as an organization that units legal entities and natural persons to allow them to participate in exchange trade that takes place in the commodity exchange market. The law stipulates that a commodity exchange can be founded by not less than 20 legal entities or natural persons. The stake owned by the founder in the authorized fund of a commodity exchange shall not exceed 5 percent.

While the law introduced the requirement of mandatory accreditation of a commodity exchange by the Ministry of Agrarian Policy and Food, the

5 In December 2010, there were press reports that the Government was reviving the earlier plans to give the Agrarian Exchange monopoly export contract registration powers.

requirements are in effect very light: there are no provisions on minimum capital, trading facilities, approval of by-laws or contract specifications. In a way, the law provides a loophole for entities that are eager to establish with few requirements a new commercial entity. The result has been that almost 500 commodity exchanges have been registered (accredited) over the last years, most of which are not serious entities. This has devalued the whole concept of an exchange in the eyes of many market participants.

There is a separate procedure for the approval of exchange contracts. Approval is to be granted by the Ministry of the Economy. This procedure is not up to the standards that a commodity futures regulator would wish to uphold and a serious upgrading of the capacity to judge contract proposals on their economic merit and feasibility is necessary (the existing unit in the Ministry of the Economy that deals with contract proposals could be strengthened or the capacity within the Securities and Stock Market State Commission could be enhanced).

Aspects of the Grain Law relevant to commodity futures exchange operations

The Grain Law (Law "On Grain and Grain Markets") defines grain as a strategic commodity and gives the CMU a major role in the management of and intervention in the market at the national level.

One operational market created under the Grain Law is the Agrarian Fund, established in 2005 as the Cabinet of Ministers' main tool for intervening in grain markets. In addition, under the Grain Law, the CMU created (in May 2003) a State Registrar to manage the national WHR system. The State Register could serve as a node for the commodity exchange "eco-system".

The State Registrar is responsible for:

- regulating grain warehouses
- regulating and managing the grain WHR system[6]

From January 2005, only elevator operators who had been certified (according to procedures spelled out in the Law "On Certification of Compliance") have the right to receive grains and then must issue WHRs. In principle, the law gives certification authority to the Ministry of the Economy but in practice, as regards grain elevators, the authority has been delegated to the State Registrar. Certification procedures are clear and a maximum period of time for the procedure has been specified. The State Registrar has also established a blacklist of elevator operators who do not meet its requirements.

Certification requirements now cover only technical aspects and coping with these requirements is difficult, given the new need to conform to European Commission (EC) norms. Financial and managerial capacities of the warehouse operators are not evaluated.

With respect to WHRs, the State Registrar prints sequentially numbered WHR forms, which are protected against falsification through a wide range of security measures. These receipts are then sold to "certified warehouses". Once used, the WHRs are registered in a database developed and managed by the State Registrar, which in the near future will make it possible, for example, for a bank or trader to verify whether a WHR has already been pledged or to verify whether a warehouse has issued WHRs for a volume that exceeds its grain holding capacity. Database access will be made available on the Internet and the Registrar plans to develop interfaces for different user groups.

In principle, the issuance and management of the WHRs could be dematerialized. In Ukraine, the necessary laws (e.g. on electronic signature) to make this possible already exist. This would:

- reduce the variable transaction costs of the system, including costs for pledging;
- reduce risks (WHRs could no longer be lost and fraud risks would be further reduced);
- improve ease of handling (e.g. the settlement process on a commodity futures exchange could be made much more efficient. For example, it would become much easier to re-tender a commodity if the recipient of the delivery order is unhappy with the details of the delivery (e.g. location). This, in turn, would make the use of futures markets much more attractive to people active in the physical market;

6 The State Registrar was created under the Grain Law and, therefore, only manages grain (cereals) markets. However, its supervisory department, the Bread Inspection (part of the Ministry of Agrarian Policy and Food), received a new, broader mandate in January 2004 when it became responsible for all agricultural markets and not just grain markets. It would, thus, be largely an operational decision to expand the scope of the State Registrar to also cover other storable commodities and, indeed, from an efficiency perspective, it would be irrational to make a different entity responsible for regulating warehouses and WHRs on non-grain agricultural markets.

- improve monitoring possibilities (e.g. for statistical purposes); and
- enable new uses for WHRs (e.g. for active secondary market trade). These uses could, in turn, be subject to exchange trade.

The State Registrar is considering such dematerialization but limited funds and other resources have so far hampered progress. Rather than developing a new system in a piecemeal manner, the procurement of a proven system could be the most efficient way to move forward.

The Grain Law is not clear on whether the State Registrar can provide a trading platform but there is also no legislation banning it; and the organization has a broad mandate to develop revenue-generating activities. So the framework for the State Registrar to greatly enhance its role would seem to be sufficiently favourable.

Aspects of warehousing laws relevant to commodity futures exchange operations
In August 2004, a new law on WHRs became operational. This law replaced the "Form 13" receipts common in the FSU (which basically only represented a confirmation by the warehouse operator that he/she had received a certain quantity of commodities from a depositor) with the following documents:

- a grain certificate (similar in scope to Form 13); and
- an ordinary or double WHR, depending on the needs of the depositor.

In particular, the double WHR is well suited to modern financial operations, including WHR finance and delivery against open positions on a commodity futures exchange. Furthermore, possibilities and procedures for transfer of WHRs are clearly spelled out in the law and there is no risk of courts of law hindering such a transfer or deeming it invalid (which has been a problem in other countries with more ambiguous laws).

Regulations on clearing operations

The National Bank of Ukraine must by law approve any type of clearing and settlement, including that for commodities. According to current banking regulations, banks are separated into two groups: universal banks and specialized banks. Universal banks (which face high capital requirements) are allowed to include clearing operations among their activities. Specialized banks need to choose between providing clearing services, considered a specialized activity, and undertaking other types of activities: they are not allowed to conduct clearing operations and other activities.

In any case, a pro-active role taken by the National Bank of Ukraine would be helpful in developing clearing and settlement systems and rules for a new agricultural futures exchange. A draft Cabinet of Ministers' resolution outlining the scope and functions of a national clearinghouse to serve commodity exchanges was developed under a USAID project (see Box 3) and, in 1999, this draft resolution, although vetted by the National Bank of Ukraine, was not passed by the Cabinet of Ministers. The draft resolution could provide a useful start for the purposes of this project.

Securities law

Futures contracts, including commodities contracts, are defined as securities, and, therefore, fall under the purview of the Securities and Stock Market State Commission (referred to as the Securities Commission). The Securities Commission has a broad mandate to regulate all securities and derivatives, and the latter are defined under the Civil Code as options, futures and other financial instruments that have an underlying real asset. The law specifies that this includes stock derivatives, foreign exchange (forex) derivatives and commodity derivatives. In the case of forex derivatives, the Securities Commission cooperates with the National Bank of Ukraine in actual regulation but a similar cooperative framework with the Ministry of Agriculture has not yet been developed for commodity derivatives (as there is not yet an agricultural futures exchange, there has not been a need to discuss implementation arrangements for regulation).

Although the Securities Commission is currently not involved in approving commodity futures exchanges or contracts, it is responsible by law for the approval of all contract specifications for derivative contracts. It is against Ukraine's law to trade any derivatives without Securities Commission approval. So to remove regulatory ambiguity, it is necessary to develop for an agricultural futures market a clear process for contracts approval not just by the Ministry of the Economy but also by the Securities Commission.

Only "certified traders" (for the time being, this is restricted to banks and stockbrokers) are allowed to trade in agricultural futures. Others who trade have to pass through certified traders, which increases transaction costs. Certification is granted by the Securities Commission. The certified traders and the commission are currently not necessarily interested in an agricultural futures market and they will, therefore, not act as the ambassadors of such a market unless a deliberate effort is made to raise their interest to do so. In order to allow new players (other than banks and stockbrokers) enter the market, either the definition of futures contracts should be changed (to give the futures market a stand-alone status and to allow for separate permission for futures-only brokers) or the Securities Commission should allow a larger number of firms to become commodity brokers and investors. A new Law "On Derivatives" is before the Parliament of Ukraine and, once adopted, should allow more liberal access to markets.

The Securities Commission has a well-designed set of regulations and measures for the protection of customers against fraud and abuse on financial markets. It can annul a broker's license, fine brokers, halt an exchange's transactions and appoint temporary administrators, and can refer cases to the criminal courts. While its powers with regard to these matters are limited by the Ukraine Constitution, which gives people the right to file in court to have the Securities Commission's decisions negated (an action which perhaps could be prevented by structuring the commission's decisions as decisions of an official arbitration court – see below), the rest of the system to protect customers seems in good order and can simply be expanded to include commodity futures markets when the time for this is appropriate.

Other laws and regulations

Taxation and accountancy rules

Given the absence of futures trade in Ukraine, taxation and accountancy rules naturally do not reflect the needs of such trade. The problems that are most likely to occur are the following:

- Improper value-added tax (VAT) treatment on exchange transactions. If each individual transaction on an exchange is subject to VAT – sellers would have to pay VAT on purchases but can then claim VAT back – this would irreparably damage futures exchange trade. In the Ukraine (which is not alone in this respect), delays in VAT reimbursement claims are long and the paperwork involved is cumbersome. So subjecting exchange transactions to VAT would drastically increase transaction costs and reduce the incentives for trade. No VAT or other government levies should be imposed on futures trade. VAT can be levied, however, once physical delivery is made.
- Asymmetrical treatment of physical trade and hedging-related futures trade. Hedging is part of normal trade operations and should be treated as such for taxation purposes. The profits and losses on futures market operations should only be treated as speculative gains or losses if the hedging operations are unrelated to any physical trade transactions.
- Hedging not incorporated in accountancy regulations (including the rules on audits) as a legitimate business activity. If accounting regulations do not incorporate hedging, a company's profits and losses will be incorrectly reported and incorrectly allocated to the various parts of the company's operations.

These problems are well known and experience has been sufficient in other countries to avoid them but a decision from the competent regulatory authorities to act towards this objective is required.

Possible limitations on the power of arbitration committees and courts

In most countries, commercial parties can avoid the vagaries and delays of the court system by committing in their contracts to abide by arbitration rulings. While there is some doubt as to whether in Ukraine this mechanism works (the Ukraine Constitution gives individuals the right to appeal arbitration decisions through the regular court system), in practice it appears to function. Arbitration panels can give final rulings; and indeed, international arbitration decisions can be executed in Ukraine. It is not clear why international arbitration is acceptable but national arbitration is not. In the context of commodity exchanges, for example, the Black Sea Commodity Exchange registered in 2005 the first Standing Court of Arbitration in the Mykolaiv region.[7] It noted that the basis for the functioning of such non-state-run judicial bodies in Ukraine

7 Press release of the Embassy of Ukraine to the Republic of Estonia, No. 93, 26 May 2005.

was created in 2004, when a law was adopted on courts of arbitration (Courts of Arbitration Act of Ukraine No. 1701-IV, 16 June 2004). The law's provisions provide that rulings by the Standing Court of Arbitration are final (article 51) and are executed by the parties voluntarily within the term (deadline) indicated in the ruling. Article 57 stipulates that arbitration awards can be subject to mandatory enforcement via a competent state court.[8] Commodity exchanges are specifically allowed to set up arbitration courts (article 8).

Conclusions and outlook

The potential of Ukrainian agriculture presents numerous opportunities to increase national agricultural production and for Ukraine to play a more important role in the global agricultural market. Moreover, during the last decade, Ukraine has become a steady grain exporter, delivering about 10 to 12 million tonnes (mainly wheat, barley and corn) to the global grain market.
The national grain sector has a close price correlation with the international market (albeit not necessarily with prices on the CBOT) and needs modern tools to manage commodity price risks on a daily basis. The seasonal fluctuations of grain prices in the Ukrainian grain sector have become a real issue for all of the domestic market participants and the demand for modern commodity price risk instruments is great.
The main reason for the failure of all the attempts to launch a modern commodity exchange in Ukraine in the past is related to the lack of strong commitment from the local private sector to take concrete steps towards the development of a reliable and effective, organized marketplace that could guarantee not only commercial transactions but also physical delivery procedures. In the 1990s and 2000s, several donor agencies tried to assist commodity exchange development in Ukraine but their efforts had little impact.

Both the leading agricultural market players and local commercial banks have not as yet expressed a strong business interest in introducing commodity derivatives trade in the country. The big grain traders in their export operations already use some price hedging strategies outside Ukraine and are not very interested in an increase in the transparency of the domestic market.

Meanwhile, a large number of domestic agricultural market players (producers, small and medium traders, processors, etc.) suffer from a lack of distinctive price signals in the local markets. Furthermore, the CMU is actively trying to influence domestic grain prices through massive commodity interventions and from time to time imposes grain export bans and quotas.

Finally, in the current legal business environment there are still gaps such as a lack of a new law on commodity exchanges, regulations on a modern clearing system, effective mechanisms for the protection of investors and distinctive regulations on brokerage activity, all of which impede development of modern commodity exchanges.

In summarizing the above-mentioned conclusions, one could say that Ukraine has already made some tangible progress towards the development of the domestic grain market physical infrastructure, including the construction of modern warehouse, handling and transportation facilities, the implementation of grain warehouse certification and the national grain WHR systems, and solid improvement of the national grain quality control system. In contrast, the current trading and price risk management practices are still far from meeting the actual needs of the local business community. In this regard, more effort is needed in the near future on the part of the Ukrainian private sector and the Ukrainian government, both the legislators and CMU, specifically to develop and adopt new legal acts and a strategic business plan to build a modern national commodity exchange and to invest in the development of a modern commodity exchange infrastructure.

The CMU tries to influence the domestic grain price situation through the state operations at the Agrarian Exchange and, since March 2007, through export controls. While the Agrarian Exchange operations have limited influence, the introduction of quota is depressing the local grain markets and hindering the development of a derivatives exchange. As Box 1 shows, such government intervention may prevent the success of an exchange initiative.

A wheat contract in Ukraine can be of regional relevance. Kazakhstan, the Russian Federation and Ukraine are the most significant exporters of wheat in the Black Sea region. The Russian

8 Paliashvili, Irina and Kovalenko, Victor. 2004. New prospects for alternative dispute resolution in Ukraine. Ukrainian Legal Group.

Federation has now taken the lead in introducing a Black Sea wheat futures contract but should this attempt fail, Ukraine is well positioned to create for the entire Black Sea region a reference market that can attract hedgers from countries such as Kazakhstan, the Russian Federation, Romania, etc., as well as from the principal grain importers in the region. Efforts to attract such market users to the market, which could be successful even in the early stage of the exchange's operations (particularly if market makers are willing to continually provide bid and offer prices), should consist of both promotional activities and incentives aimed towards the creation of international brokers to serve as a conduit between these foreign hedgers and Ukraine's agricultural exchange. It is worth noting that several other organizations, including even the CBOT/CME Group, have considered the possibility of introducing a Black Sea grain contract. and/or technically assisting with the creation a modern commodity exchange in the region.

At some stage, it would also be worthwhile to try to attract international players in the sunflower oil market. As is the case for grains, the interest of the producers and traders in the region may be significant. For example, sunflower seed prices in the Russian Federation are quite well correlated with Ukrainian sunflower seed prices. Also, there is a possibility of attracting users in the worldwide vegetable oils market. Market opinion is that the Black Sea region has now become the centre for world price formation of sunflower

Box 3

An early USAID commodity exchange development project, November 1995–mid-1999

During the second half of the 1990s, USAID financed (with US$7.8 million) a commodity exchange project executed by Chemonics Inc., a United States consultancy firm. The objectives of the project were to establish: a financially and administratively independent commodity exchange in Kiev with open membership for those persons meeting stated financial responsibility requirements; transparent pricing of traded commodities; and price information that would be readily available throughout Ukraine.

During the project, Chemonics Inc. assisted nine exchanges in reaching a stage whereat they were fully operational for cash and cash forward trading with prices arriving openly and subsequently being communicated throughout the country. A Commodity Exchanges Information System was set up to provide weekly information on Ukrainian and global prices (this system was still operational as of the mid-2000s). Price information was disseminated to over 1 100 direct recipients at the time of termination of the project. Brokers, bankers and financial journalists were trained (with the support of experts from the CBOT) in the operations and management of an exchange, promotional outreach and financial techniques. Several basic training materials on agricultural futures and options were developed as part of a broker certification and licensing training programme that led to a broker certification exam. There was also a plan to develop and implement an electronic trading system to integrate Ukrainian exchanges on a national level but this plan was never realized. Commodity exchanges were assisted in setting up a Union of Agrarian Exchanges (which is still operational).

The project achieved certain important milestones. In particular, it helped to familiarize the local professional community with the concepts and benefits of agricultural futures and options. It clearly brought the subject to the attention of governmental and business people and since that time, many of them have repeatedly stated their interest in developing a local agricultural futures exchange.

Nevertheless, the project achieved little of what it set ut to accomplish due to unfavourable developments in the economic and political spheres in Ukraine. Although the establishment of commodities trading was originally a goal of the project (actual futures trading was planned to start in 1999), at no time was the development of an agricultural futures market a realistic option (this goal was later amended to "the development of cash markets for grains and other agricultural products as a necessary precondition to a successful futures market" – certainly, the project could not have as its goal the elimination of arbitrary government interventions in cash markets). In the final project document, Chemonics indicated the following developments as causing major problems for the project in mid-1997:

- vastly expanded (and often illegal) Ukrainian national, regional and local government intervention in grain markets;
- a rapid deterioration in the economic state of the cash-based grain sector; and
- unmet expectations (and lingering doubts) about the capability of the exchanges to act as a vehicle for trade or for reform.

One lesson from this experience should be that if the broader context for the agriculture sector is not favourable (i.e. in practice, continuous government intervention directly in the commodity market and government unwillingness to see exchanges as messengers for the underlying realities of supply and demand), then even a large donor effort does not necessarily lead to success.

Source:: Chemonics Inc. 1999. *Program for strengthening an independent Ukrainian Agricultural Commodity Exchange*. Final report. 30 June 1999

oil, and a liquid exchange contract could, thus, provide a very valuable tool for international traders active in the vegetable oils market.
The new commodity derivatives contracts should be deliverable with a strong linkage to the local physical market. In this regard, a preliminary feasibility study on the Ukrainian commodity price formation system could identify the main supply chains in the country. Such work would definitely help a newly established commodity derivatives exchange to specify its delivery procedure and to identify the most active and representative delivery points in the country. Grading issues also need to be addressed. Unfortunately, in Ukraine there are two sets of standards: international standards used for exported grains and oils (with two sets of certificates provided by both international inspection agencies and the State Inspection Agency); and local standards, with certificates generally only provided by the State Inspection Agency. If the exchange bases its contracts on State Inspection certificates, this results in discounts for export purposes but if it bases its contracts on export requirements, this imposes extra costs with respect to the grains and oils that would be sold on the domestic market. Hopefully, the dichotomy will be resolved in the years to come but in the meanwhile, the exchange will have to adopt a solution that in any case will have disadvantages. Discussions with market participants should determine what the best solution is.

The development of a modern commodity derivatives exchange will benefit greatly from a strong grain WHR system, as this will enable a reliable physical delivery procedure at the exchange. The WHR system, in terms of legislation and basic infrastructure, is fully in place in Ukraine but the efficiency of the system is not very high as yet: it operates at a low speed and warehouse owners and operators are unable to provide sufficient financial guarantees. More effort is needed to improve the system's procedures, especially regarding the use of the grain WHRs in collateral finance operations of the banks.

A newly developing commodity derivatives exchange in Ukraine should invest much effort (both human and capital) in publicizing and marketing the commodity derivatives to be traded at the new exchange, especially among agricultural producers and the investment community. These efforts should be synchronized with large-scale marketing activities in the national banking sector.

In Ukraine, regulation related to derivatives market operations is unsatisfactory. It is very important to develop new legislation on derivatives in the country, and to make the laws efficient and helpful in all further development of a modern commodity derivatives exchange. The rights of investors should be protected, the strength of the clearing system should be enhanced, solvency issues should be clarified, and physical delivery (if it occurs) should be safe. The legal status of a commodity derivatives exchange should be clear and regulations need to clearly define key industry terms.[9]

9 The use of some terms in current Ukrainian legislation often misleads the professional community and does not reflect existing economic practice. Moreover, terms used in the Ukrainian language do not always agree with the corresponding terms in the international terminology. Definitions and wording should be made clear and accurate, rules and legislation should not be overburdened with special, ambiguous terms, and the meaning of words in rules and legislation should be the same as that understood in the trading community. The terminology used in the international marketplace can provide a useful guide on how to elaborate Ukrainian terminology.

3. Constraints and opportunities for effective commodity exchanges in the ECA region

At first sight, the case for successful commodity exchanges in ECA seems straightforward. Fundamentals such as the size of the underlying physical commodity markets suggest ample scope in many ECA countries for commodity exchanges that would offer a wide range of services, including improved risk management and commodity finance instruments at a national or regional level. As efficient commodity markets – for which commodity exchanges can be a major tool – in the long run bring major benefits to all stakeholders active in or exposed to the agriculture sector, one would expect all groups to be actively supporting exchange initiatives or at least initiatives that create the conditions for successful exchanges.

However, progress in the ECA region has so far been rather limited and stakeholders have not joined hands to support exchange initiatives. One frequently finds a lack of commercial interest, conflicts between different commercial initiatives, a poor legal environment and/or unhelpful government policies. To some extent, the absence of broad, widely-supported action follows from a lack of understanding and familiarity with commodity exchange benefits and uses. An active awareness-raising campaign, preferably supported by a neutral entity that can play an advocacy role, should be a major element in a programme to strengthen commodity exchanges in the region.

The remainder of this report aims at supporting such an awareness-raising campaign. Chapter 3 briefly summarizes the core conditions for commodity exchanges to function properly and is followed by a discussion on common misconceptions about commodity exchanges. It then reviews core elements of an enabling legal framework and discusses operational issues for establishing commodity exchanges. Chapter 4 provides an overview on the range of products and services that can be offered by commodity exchanges. References for further readings are given in footnotes. Chapter 5 then applies these concepts to the ECA region, outlining their potential application in major groups of countries and sketching out a roadmap for the way forward.

3.1 Conditions for proper commodity exchange trade

Even though an exchange may fulfill a useful function for a commodity sector, its potential usefulness cannot guarantee its success. Several other conditions need to be met. For an exchange trading commodities on a spot basis, the following conditions are important:[1]

(a) Supply and demand for the commodity concerned have to be large; there needs to be many potential players; and the commodity should be a fairly important component of the operations of the players.

(b) The commodity traded should be well standardized; exchange trade is easier if the commodity traded is also storable.

(c) Pricing should be left to market forces, without monopolistic or undue government control. In particular, trade should not be interrupted by arbitrary government interventions and/or grain export bans and restrictions. Rule-based government interventions do not need to be a problem but if the physical market is disrupted from time to time by unpredictable government actions, it is very difficult for market participants to manage their operations efficiently and this is likely to reduce their capacity for and interest in using organized marketplaces.

d) The exchange should be supported by major commercial interests.

1 See UNCTAD. 1997. Emerging commodity exchanges: from potential to success. UNCTAD/ITCD/COM/4, June 1997. pp. 12–13.

(e) The leading financial institutions as well as the leading commodity market players should unite their efforts to establish a well-functioning and reliable clearing system to guarantee commodity trade at the organized marketplace (exchange).
(f) Well-functioning and accessible services and infrastructure facilities are necessary, e.g. good access roads, availability of transport companies, weight bridges, quality control services, an efficient administration, warehousing, telecommunications, etc. (if the warehouses or the transport companies are controlled by only a few companies and not available for public use, they are of little use from the exchange's point of view).
(g) Judicious government support is required, including a willingness to adopt suitable new regulation/legislation and exercise appropriate oversight of trading on the exchange.

If the exchange is to trade futures contracts, two additional conditions should be met:
(h) Free market prices should be volatile enough to create large price risks.
(i) There should be enough potential interest from the speculative community.

These conditions exist in many countries, and where absent, can be created quite easily at least, from a purely technical perspective (whether the required commercial interest and political support are present is another matter). There is a reasonable basis for the development of viable commodity exchanges in the ECA region. First, in the commodity sector there are many intermediaries between farmers and off-takers, as a result of which farmers receive only a small portion of the final price for their products; there is a lack of regional integration; there are strong seasonal price movements; and there appear to be major inefficiencies in agricultural finance and in input supply. Second, there are enough large players, both from the financial sector and the commodity sector, able and, in principle, willing to invest in an exchange. Third, the capital market seems to be sufficiently well developed to have actors who would speculate on a commodity exchange, while still leaving enough space for a commodity exchange to offer instruments that are uniquely suitable and interesting for such speculators/investors.

3.2 Common Misconceptions about Commodity Exchanges

Knowledge of how to build a successful exchange is quite weak. The major problem seems to be a lack of understanding about what a commodity exchange really is, e.g. in what cases and for what reasons it can be useful, what functions it can and cannot serve, and how it can be made to work and be profitable. A number of ideas that appear quite prevalent in some ECA countries has no real rationale when one considers international experience, and if not corrected, will disrupt exchange development.

Some main misconceptions about commodity exchanges are as follows.

- *A commodity exchange is "...an organized marketplace where physical commodities are being traded and exchanged".*

This misconception is still rather widespread among government structures in the FSU countries. For example, even the latest exchange initiative, the SPIMEX, is still considered by the Russian government as the place where physical crude oil and energy products should be traded. The same attitude prevailed when the CMU established the Agrarian Exchange. This erroneous concept could create serious constraints to building a modern commodity derivatives exchange: the focus of the efforts would be wrong, with measures aiming to bring physical trade to the exchange (e.g. by allocating export quota or by forcing private sector or government business enterprises to buy or sell through the exchange) rather than aiming to create market transparency and to develop the ability to effectively manage commodity price risks.

The corollary of this misconception is an idea at the other extreme:

- *Physical delivery does not matter for a commodity derivatives exchange.*

This misconception often arises when financial sector players try to drive the development of a commodity exchange. They feel that a commodity exchange should stay away from the "underdeveloped" realities of the physical market and, rather than offering physical delivery, should focus on purely financial transactions. That is to say, at contract expiry, contracts should

be settled financially (on the basis of certain reference prices) rather than through delivery. While a modern commodity exchange does not need to play a key role in the redistribution of physical commodities or the relocation of them from Point A to Point B, it must play a key role in at least two major areas of economic activities in the country. It must create a more transparent price formation system and it must provide an opportunity for hedging. In order to do so, it has to create points of contact with the physical market, including a buy-in by major players on the physical market, the creation of good delivery points and mechanisms (in collaboration with warehousing or collateral management companies) and appropriate grading standards and quality control mechanisms. As poor contract performance is often one of the major problems in physical trade, offering a sound delivery system and reliable standards will generally be of major interest to physical market players. Failure to create these points of contact will make a derivatives exchange irrelevant for physical market players, and condemns the exchange venture to certain failure.

- *The government needs to take the lead in developing a commodity exchange.*

The idea that the government has to take the lead in the development of a commodity exchange comes partly from the past experience of most ECA countries – the government took the lead in almost every endeavour – and partly from the more legitimate argument that if there is no full buy-in by the government in all aspects, then a commodity exchange initiative is bound to fail. If the legal and regulatory regime is unfavorable or the government intervenes arbitrarily in physical markets, then a commodity derivatives exchange cannot succeed. And what better way to remove such government-related obstacles than having a government body take the lead in establishing an exchange? Unfortunately, there are also many other factors that determine the chances of success of an exchange venture, such as dynamism and responsiveness to the needs, explicit or implicit, of various private sectors (both the commodity sector and the financial sector). Government bodies often perform poorly with regard to dynamism and responsiveness.

The approach that offers the best chance of success for an exchange venture is to have a private sector-driven initiative that involves those major state players most active in the physical market and that benefits from government support. From the government's perspective, it is best to regard a commodity exchange as a private-public partnership, with the public responsibility being to act as a catalyst, if necessary, and to provide a supportive framework. All the positive examples of the relatively successful, advanced exchanges in the region (Hungary, Romania, the Russian Federation) were initiatives of the local private sector, without a significant involvement of the state.

- *There are so many problems in the physical marketplace that a facility/exchange to manage price risk will be of little or no use.*

This misconception is partly related to an improper understanding of the process of market development. Market development involves some form of sequential growth, from the proper organization of physical markets to the development of forward markets, after which it is time for derivatives exchanges. In reality, as the development of even western derivatives exchanges (just consider the early years of the CBOT[2]) and Chinese and Indian exchanges have extensively shown in the past decade, this is not the way that markets develop. It should also be noted that price risk management is not the only or even necessarily the most relevant service that commodity exchanges can offer). While it is true that it is easier to manage and develop a derivatives exchange if the underlying physical market is well organized and there is a widespread adaptation of forward contracts, derivatives markets can also do well if such conditions are absent. A derivatives market cannot solve all or even most of the problems of physical trade but it can create an environment in which physical trade becomes safe, even in cases where contractual non-performance is rife and the legal system is weak. Thus, where a derivatives market appears commercially viable, it merits the support (perhaps even on a priority basis) of the private sector and the government, as well as of development agencies.

2 In the United States in the mid-nineteenth century, both grain sector infrastructure and trading practices were poorly developed. CBOT, once established, played a major role in lobbying the government to invest in improving rural roads and inland waterways, and in building ports and warehousing facilities. CBOT also led the way to the definition and widespread adoption of quality standards and unified trading practices.

- *The exchange should be not-for-profit, to make* certain that it serves the interest of the public at large and not just of the owners.

Unfortunately, international experience shows that not-for-profit exchanges are not very good at serving the interests of the public at large, for various reasons. First, costs do not matter. In a not-for-profit exchange, it is very difficult to put effective controls in place to prevent excessive spending by exchange managers. Second, the direct users of the exchange are not the public at large but a more limited number of players, e.g. floor brokers. Their interests do not necessarily coincide with those of the commodity sector at large and, in practice, this has been a force for stagnation. Third, why would anyone put up extra money for improving an exchange if there are no profits to be made?

In reality, the vast majority of not-for-profit exchanges were created a long time ago as codifications of informal trading systems, with all the traders active in this informal trade becoming shareholders. Investment needs were minimal. Exchanges gradually improved their systems through retained revenue and there was, for a long time, no need to go back to shareholders to raise more funds. This changed only with the Internet revolution of the late 1990s, which forced exchanges to radically improve their technology. Virtually none of the western exchanges was able to convince their owners to put up the money for technological improvements, so in order to be able to compete with new for-profit electronic exchanges, they demutualized and became for-profit ventures. Since at least the early 1990s, most new exchanges, which do not simply codify existing informal trade but create a whole new system, have been for-profit ventures because this was the only way to procure the necessary funds.

It is doubtful that private investors would put up sufficient funds to develop an exchange out of the goodness of their hearts. So a not-for-profit exchange most likely would never be able to succeed unless perhaps a government provided most of the initial cash. This is possible; it happened in Singapore, where the government paid for the technology for a new privately-owned exchange and for the initial promotion campaign, and then sold all of the technology back to the private sector owners of the new exchange for a symbolic amount (a dollar or so). However, it is doubtful whether this is wise use of government money.

The idea that a for-profit exchange would somehow benefit a small clique is erroneous. In reality, exchanges make a profit out of volume. Costs are mostly fixed, so maximizing turnover is a rational objective. And there is no way that one can maximize turnover without having an exchange that is widely seen as neutral. Farmers, for example, would not use an exchange that they consider as biased against them; and processors would not buy from an exchange if they feel that in the case of a conflict with the seller, they are likely to loose. With lack of participation by these "productive" parties, speculators would also fear to use the market. It is completely irrational for a profit-oriented exchange to twist the rules in favour of its owners. On the contrary, a profit-oriented exchange creates as much distance as possible between itself and lobby groups.

This is not to say that abuses are not possible but they are not intended in the design of the exchange. The abuse of a market can, in effect, destroy an exchange (as happened in Hong Kong and the Philippines and almost happened in Malaysia) so exchange managers and owners will do their best to avoid abuse. However, a government regulatory agency can help to ensure that there is no abuse; it would, in particular, have to judge the appropriateness of contract design and especially delivery specifications.

In conclusion, a for-profit exchange is the model that best ensures that sufficient funds can be raised to develop the exchange and that the exchange will serve as large a public as possible. Extensive international experience bears this out.

- *An exchange is like a "better mousetrap" – build it, and people will use it. This idea, commonly held, co-exists interestingly enough with the idea that in order to work, the government has to make use of the exchanges obligatory.*

Both ideas are misconceptions and, in effect, building an exchange modelled on either idea would be a recipe for failure. First, the idea that an exchange simply needs to provide a platform

that will then automatically attract users is short-sighted. In reality, exchanges need to very actively market their exchange. In the initial stages of an exchange's operation, marketing activities will absorb a very large portion of the budget: expenditures for road shows all around the country, promotional materials, promotional activities and one-on-one meetings with key users. These promotional activities can never be carried out in less than six months and could well take over a year – new ideas need time to be accepted. The materials need to be well-designed and effective in convincing people that using the exchange can be to their benefit.

These activities are important in terms of not just preparing the potential public but also creating the "middlemen" upon which many users will ultimately rely when using the exchange. It is a fallacy to believe that, say, an Internet exchange, will in itself enable point-to-point business. Agents are still very much needed to work with buyers and sellers to develop proper strategies, secure the reliability of buyer and seller, arrange for the physical movement of goods and control the flow of funds. So, the exchange should not just provide a platform but also create an entire, organic community of potential exchange users. Incidentally, of the many hundreds of electronic commodity exchanges that have been created and gone bankrupt in the last few years, the exchanges that had the highest rate of failure were those that used the business model of "just providing a platform". These exchanges were often set up by company purchasing or sales managers who felt that their own work would have been easier with an electronic exchange and, therefore, assumed that others market participants would feel the same way and would thus use their platform.

Second, the idea that the use of an exchange should be made obligatory for certain key commodities is actually dangerous. Where use has been obligatory, people have been driven into illegal exchanges (which provided better products without fear of taxation) and exchange managers have become complacent and uninterested in providing any real services to their members.

- *Providing a good trading platform is a good enough starting point, and with good promotion, it will work.*

This may be true in some of the highly developed market economies, where the provision of services is very specialized and where each of the services necessary for efficient trade is available from one source or another. In emerging market economies, however, services are hardly as available and complete, and the partial services offered by an exchange (only order matching between a buyer and seller) are not enough to make the trade actually happen. To wit, an offer of a 5-metre-long log to cross a 10-metre wide river will not get one to the other side.

To make a trading platform useful, an exchange may need to provide the entire range of services necessary for efficient commodity trading. These services include managing counterparty risk, evaluating product quality, arranging access to finance and dealing with conflicts. This implies, among other things, that the actual contracts traded on an exchange have to be tailored to local conditions, with considerations in mind such as where the market inefficiencies are the greatest and whether the exchange can provide an integrated solution. Inspiration for tailoring contracts can be found on, for example, India's exchanges where base metal futures contracts provide local companies with access to international reference markets, access which they otherwise would not have had or on Colombia's agricultural exchange where contracts primarily serve the financing needs of users.

- *For globally traded commodities, such as grains and oilseeds, there are already global markets – a new local or regional market would bring little or no added value.*

This may be true in certain cases. When considering the creation of new futures contracts, one should always take into account existing contracts. If a liquid contract exists, is accessible to local market participants and provides an acceptable reference to local market prices, then it would be very difficult to successfully create a new local contract. However, all three conditions must be met. Even if, for example, soybean oil and wheat are already traded on the CME Group and even if CME prices are widely tracked by market participants around, for example, the Black Sea, this does not mean that a new local market is irrelevant. Many of the market participants may be unable to open accounts with brokers

in western markets and to arrange a credit line (to pay margin calls) because of capital account controls or because it is too expensive to do so. Furthermore, the price correlation between local prices and CME prices may be too low to make effective risk management on the CME possible. In contrast, a local market would enable local accounts denominated in local currency with brokers who speak the local language and are in the same time zone and would enable contracts that are tailored to local delivery conditions.

One of the conclusions in this regard is that the role of regional/local commodity exchanges will increase. The regional commodity market participants need the exchanges to derive regional commodity prices, as not all prices can be derived from just a couple of large commodity exchanges. For example, some of the well-known regional commodity exchanges have already re-oriented their export-traded contracts to domestic end-users (as did the South Africa Futures Exchange with its maize contracts). Such trends and changes are based on the following factors:

- the recent decades of market liberalization and the decrease in regional price support;
- the increase in global soft commodity consumption in the last two decades;
- the diversion of foodstuffs into energy production and recent fundamental changes in the structure of global supply and demand of agricultural product;
- high commodity export dependence, which remains a major factor in the economic development of some countries;
- the financialization of global commodity trade and the increasing role of different kinds of investment funds (hedge funds, mutual funds, etc.); the increasing use of commodities as financial instruments (investment) in the last decade;
- the considerable progress made in commodity trade technologies and the ease of access to electronic marketplaces;
- the deregulation of the financial sector in the United States, as global commodity trade is still dollar-denominated; the United States expensive monetary policy affects commodity prices; and
- the rapid expansion/growth of commodity derivatives trade at the leading commodity exchanges.
- *Introducing commodity forward or futures contracts onto an exchange platform would open up the markets to speculators, which would create a whole series of problems.*

The debate on the effects of speculation on commodity markets has intensified since the 2008 price hike and subsequent rapid price decline of most commodities. Both exchange-traded commodities and commodities not traded on exchanges exhibited very similar price behaviour but, nevertheless, these strong price fluctuations led to a concern about the role of speculators on commodity exchanges and, in particular, about index funds. Index funds offer investors the opportunity to take a long-term position on a wide range of commodities, which, in general, include a full range of exchange-traded metals, energy products and agricultural commodities. The funds then manage their price risks by buying shorter-term futures contracts in the appropriate commodities. When investors reduce their positions (e.g. because they need ready cash to cover losses in equity markets), the funds sell the corresponding futures contracts. Consequently, at such times, commodity futures can be bought and sold for reasons that have little to do with actual supply/demand conditions. At the same time, those investors who consider that, given existing levels of investment in productive capacity, future supply shortages are unavoidable, can express this opinion through their index fund investments. This brings valuable information into the markets which (as the funds' purchases drive up futures prices) help attract new investments into the commodity sector (which in turn reduces the risk of future excessive price hikes in physical markets).

The debate about the influence of speculation on commodity markets is a legitimate debate but is it a reason to refrain from setting up local exchanges? Commodity markets without futures exchanges go through boom and bust cycles too, and index funds and other investors/speculators are, in the end, just one factor in price formation. They create noise but this noise rarely ever overwhelms the voice of the underlying supply/demand factors. If a futures market is set up properly, with a well-functioning and reliable clearing system, good delivery specifications and a sound

regulatory framework, there is no reason to fear speculation in any form. And above all, it should be kept in mind that the alternative to a commodity futures market is not a perfectly functioning physical market but a physical market where price formation is opaque, contract performance spotty and dominant market players can act with impunity.

Finally, all the recent grain price fluctuations have been strongly influenced by market fundamentals such as supply and demand. Several key market fundamentals still influence the commodity price situation and those same market fundamentals still influence the agricultural commodity markets. This means that the growing world population, the volume and structure of food consumption, the annual and seasonal production, and the carrying stocks still exert a strong influence on agricultural commodity prices and that the influence exerted by commodity exchange speculators on prices could be limited to daily or weekly fluctuations.

The significant price fluctuations in the global food market in recent years were the result of weather-related supply shortfalls rather than speculative activities. The speculators' role in markets did grow but primarily because of the attraction of increased price volatility that was caused by these fundamental factors. It should also be noted that the global exchanges that act as the leading price reference markets for key agricultural commodities all have sophisticated regulatory, clearing and risk management systems, and have processes and procedures in place to act against undue daily price fluctuations.

Major exchanges such as the CME are a reliable source of price information on a second-to-second basis. However, during the recent turmoil in the world's financial markets, significant discrepancies became visible between prices on global exchanges and prices on various physical markets around the world. On national and regional exchanges, the impact of global market volatility was cushioned by local market participants, who acted on the basis of national/regional supply/demand developments. This new "regionalization" of price behaviour bolstered the case of national and regional exchanges as being price formation centers for their economic catchment areas.

3.3 The legal and regulatory environment

The legal and regulatory environment needs to support commodity exchange development. An important role for the international community will be to assist governments in putting into place a proper legal and regulatory framework for commodity exchanges as well as WHRs. While copying foreign models of frameworks is unlikely to work (among other reasons, experience has shown that it can lead to poor acceptance of the regulations by various government bodies), providing international expertise for the process of formulating a legal and regulatory framework would be useful, particularly as there is still a poor understanding in many ECA countries of the issues involved, which can lead to regulatory mistakes. Successful regulation is a matter of balance, and regulatory flexibility is key to the long-run success of commodity futures markets. There can be at least three conflicting interests in regulation:

- Client interest: clients want an exchange that is safe to use and that generates prices that really represent underlying market conditions. But while they would like the exchange to be well regulated, they may dislike regulatory intervention in their own operations, including those that would force them to become more transparent.
- Government interest: the government has a broad interest in avoiding manipulation of exchange prices by a small group and in ensuring that the exchange does not collapse; and sometimes, it may, for reasons that may or may not be economically justified, have a more narrow interest in ensuring that the exchange does not show prices that are "too high" or "too low".
- Exchange interest: exchange owners and managers want enough regulation to create client trust but not so much regulation that operations are disrupted.

In many countries, rules and regulations were written at a time that agricultural futures markets were not actively considered and, thus, have no specific provisions related to such a market or to the futures and option contracts that it would trade. The result is that such a market, or the trade thereon, may not be properly treated (for purposes such as accounting and auditing, comparing

contract prices with official minimum export prices, etc.). There are no inherent conflicts or other difficulties in updating these rules and regulations but this work needs to be done by someone (probably, the exchange will have to drive the project) and then accepted and implemented by the relevant authorities. Donor support can help this process move forward. Among other things, international organizations should provide access to information on best practices by acting as repository of studies on commodity exchanges, use of risk management tools in the commodity sector and of WHR systems. They should also sponsor case studies.

In addition to changes in existing rules and regulations, an agricultural futures market requires some new rules, particularly for customer protection. Customers trading on futures exchanges entrust their funds to brokers. There is a potential problem with this: they receive information about the nature of the risks of these transactions from these brokers, who have an interest in inducing, by any means possible, customers to engage in such transactions. Accordingly, firms, exchanges, self-regulatory agencies and governmental regulators should establish regulations addressing customer protection and fairness. These regulations typically include procedures to ensure the fitness and competency of those who deal with customers, appropriate disclosures to customers, documentation to ensure customer authorization for transactions, sales practice rules intended to prohibit misleading sales conduct, segregation rules that require the separation of customer funds from the funds of the firm and rules that require that customers' orders get priority over firm orders.

If there is already a securities exchange in the country, one would want securities brokers to be able also to intermediate in commodity futures transactions. It would be highly inefficient to have two different regulators enforcing two different sets of customer protection rules on the same brokers, so the most logical thing to do is to explicitly expand existing customer protection rules to incorporate agricultural futures trade and to expand the role of the securities regulator to encompass the relevant regulatory roles. One would need some minor differences in the details of the regulation, though: in particular, insider trading should be illegal on securities and stock markets but it is a normal, acceptable part of commodity futures trade (each company should act on all the information that it has on its risks, including that related to new contracts that it may be able to sign with buyers/sellers).

As may be clear from the discussion in chapters 1 and 2, the most successful commodity exchanges in ECA countries are those that trade not only agricultural futures, but also other commodities as well as financial futures. Regulators should allow commodity exchanges to trade a broad range of instruments, including futures on currencies, electricity, interest rates and securities; if necessary, the different instruments can be regulated by different regulatory agencies.

Given the importance of a WHR system for a viable commodity exchange, having proper regulations for this system is essential. Among other things, electronic WHRs and their transfer/sale through electronic means should be recognized by the law. There have been several programmes to develop WHR systems in the countries of the ECA region, in particular supported by the Common Fund for Commodities (Russian Federation), CIDA (Romania, Ukraine), the EBRD[3] (Bulgaria, Croatia, Lithuania, Kazakhstan, the Republic of Moldova, the Russian Federation, the Slovak Republic; it often worked together with USAID) and USAID (Bulgaria, Croatia, Kazakhstan, Poland, Romania, Serbia and Montenegro, Ukraine).

These programmes have had limited success. This was partly related to often improper project design: the main interface was the country's government and the approach was often very legalistic, focusing on the introduction of a national law on WHRs and WHR finance, generally on a United States model; the practicalities of WHR finance, which can very well function without a proper legal framework, were given less attention. A further reason for lack of success was that in the 1990s, when most of these projects were executed, agricultural conditions in most ECA countries were difficult: in other words, the projects were facing a massive number of obstacles.

3 For an evaluation see EBRD. 2004. Special Study: Grain Receipts Program (Regional). OPER/PE14-271S. November 2004.

Nevertheless, the result that these projects have had is that there is now a fairly widespread understanding of WHR finance and that a number of support mechanisms (e.g. indemnity funds) have been created. Where successful, these projects have much improved the access of farmers, processors and traders to formal sector WHR finance at rates that are attractive as compared with alternative lending mechanisms. International agencies should build on the lessons of these projects.

Those promoting exchange initiatives also need to identify the peripheral policies and regulations that may be highly relevant for the chances of success of an exchange initiative. For example, taxation policy is important. It can be used to provide an incentive. For example, subsidies or tax rebates could be made available only to those farmers who sell their products through an exchange. Or, for imported products that are auctioned off at an exchange, tax collection could be delayed until the moment in which the buyer actually takes delivery of the products (that is, the exchange would be allowed to operate free port warehouses).

Taxation can also be a problem, in particular if paper transactions are taxed as if they were physical ones. If WHRs are traded, taxes should be levied only at the moment of original delivery and/or the final taking of delivery: in between times, trade should be completely free of registration fees, value-added taxes or other impositions (apart from a very low transaction fee charged by the exchange). For futures trade as well, only actual delivery transactions should be taxed. The tax authorities should recognize the concept of "hedging" and allow the mutual offsetting of futures and physical positions.

Furthermore, bankers and their regulators need to further their understanding about commodity futures trade. Banking regulations in many countries do not allow banks to engage in activities such as commodity trade, the financing of margin calls for hedgers, commodity storage or the packaging of instruments offered on the exchange for a wider public of investors. These regulations are all potential hindrances to a proper functioning of commodity exchanges. Banks and exchanges should work together towards amending this type of regulation.

3.4 Building an operational exchange

The success of a commodity exchange project hinges on the quality of the people involved and on the empowerment of potential users and other supporting parties. In an environment where there has been little or no previous experience with futures exchanges and the financial market as well as the physical market for commodities is poorly developed, this implies huge training needs.

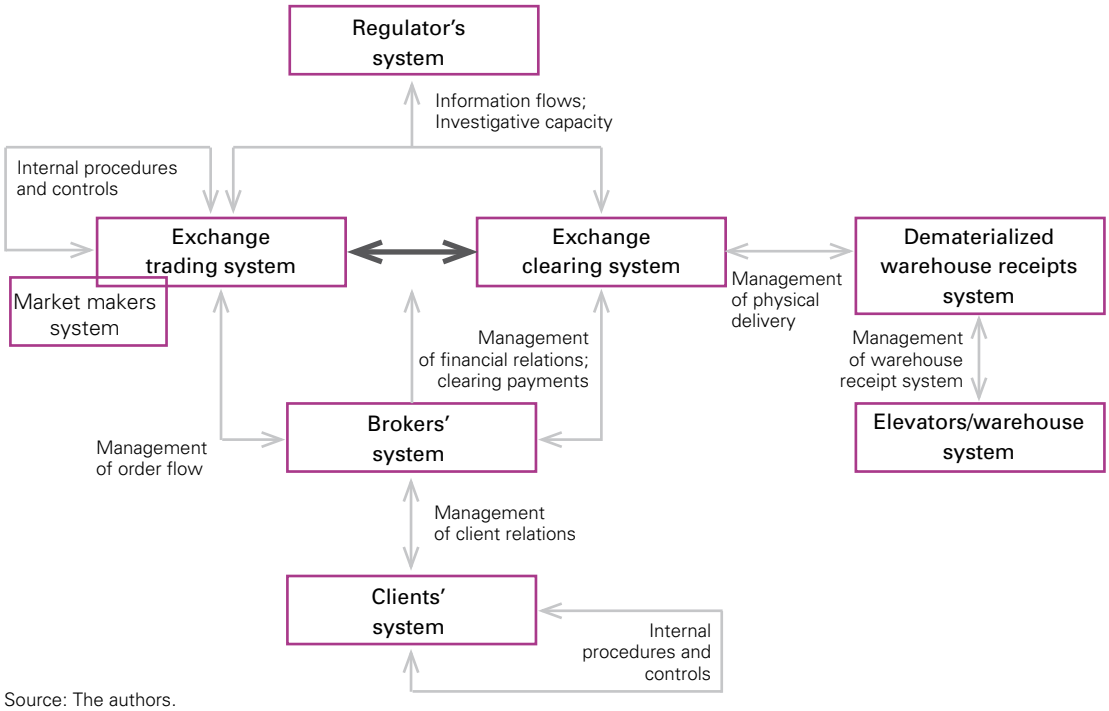
Exchange staff, prospective exchange members and their customers need education and training in order to have a comprehensive idea on the functioning of an agricultural futures market, going from basic to more advanced techniques. Furthermore, exchange regulators have to be able to cope with an active commodity exchange (whose trade could quickly grow to a volume larger than that of the country's financial markets). There is no complete training "package" that can just be taken and used. The training and education programme needs to be built up from various elements: written materials, training courses and internship possibilities for key staff and foreign missions. As to the materials needed, some material may already exist in a more or less usable format, some material may have to be adapted, other material may need to be developed; what is most cost-effective depends on the size of the target audience. Exposing those involved in commodity exchange development to international experience can be very useful but only if accompanied by a programme that supports these officials in implementing what they have learned from such international examples.

While a spot exchange is relatively simple, a futures exchange requires a comprehensive infrastructure. Figure 1 summarizes the system components of an agricultural futures market and the elements that need to be in place for a market to function properly. Not only does the exchange trading system need to be sound, it also needs a strong clearing system to provide security to those using the exchange, which requires good cooperation with the banking system. In order to ensure that futures contracts reflect conditions on the underlying physical market, a proper delivery system, normally using warehouses, is necessary; as warehousing structures are often weak in ECA countries, strengthening this system may require a separate action programme. Clients

need to be able to process futures markets (i.e. they need bookkeeping systems, decision-making structures, experienced staff) and they need brokers through which they can access the exchanges. And above all sits the regulator, which not only ensures the proper operations of the futures exchange but also gives "moral support" and credibility to an exchange (which is important in particular in countries where, until recently, the private sector did not have a strong, reliable reputation). In all of these cases, there is no need to re-invent the wheel: there are abundant international experiences from which to learn.

The proper use of available technology and the full exploitation of its strengths are central to the success of an emerging exchange. Cooperation with an established exchange and/or international support may help with a successful technology roll-out. In small, agriculture-dependent countries, the private sector may not have the means to invest in a commodity exchange. Donor-sponsored projects may be the solution.

Figure 1
Major systems components of an agricultural futures market



Source: The authors.

4. Range of instruments: the international experience

Commodity exchanges are organizational entities which allow those active in the production, trade, processing and consumption of physical commodities to reduce transaction costs both in a static manner, as they provide discipline and act as a source of market information, and in a dynamic manner, as those active in the commodity sector will have both the tools and the incentives to improve the way they operate.

This main rationale, reducing transaction costs, is the key element for understanding commodity exchanges and for identifying the kinds of exchange that would be most suited for the particular conditions of a country or a commodity sector. In some cases, the major potential for reducing transaction costs may lie in organizing a physical marketplace, where buyers and sellers can be sure of finding a ready market. For example, one of the factors that led to the creation of the CBOT, in the mid-nineteenth century, was that farmers coming to Chicago at times found no buyers and had to dump their unsold cereals in Lake Michigan, adjoining the city. In other cases, high transaction costs may be the result of a disorganized market, without standard definitions for commodities and without standard contracts. In yet other cases, the problem may be one of access to finance, or the high costs of protecting against price risks. Commodity exchanges are not rigid mechanisms, only able to provide a means to, say, manage price risks. In many cases, if properly organized, they can be the best possible way to reduce a whole array of other problems, including problems with finding buyers or sellers, quality problems, difficulties in obtaining credit and counterparty risks.

A commodity exchange can play many different roles, and which roles it needs to play will depend on specific conditions. Indeed, an exchange that does not meet the specific needs of its market has little or no chance of survival. This underlines the fact that copying existing models, however successful they may be, is not a recipe for success. Much can be learnt from the existing exchanges, from their history, their successes and failures, but they do not provide a blueprint for new exchange initiatives. A commodity exchange, by its very nature, earns its revenue by allowing people to do things that they could not do before or by enabling them to do what they want to do more efficiently. The greater the inefficiencies in the market, the greater the benefits that an exchange will bring; but also, the greater will be the barriers that an exchange will face. By providing new tools, new efficiencies, an exchange acts as a catalyst for change, for converting an "old style" economy into a modern one. An exchange is not merely a different platform for doing what would be done anyway. Rather, it is a powerful change agent.

An exchange is not limited to offering trade in forward or futures contracts. In an inefficient market, the many other valuable services that it can offer include, in particular:

- facilitate physical trade by guaranteeing parts of a commodity chain and supervising warehousing or inspection functions;
- provide a trading forum for buyers and sellers;
- provide guarantees on the logistics of trade; and
- facilitate directly the financing for transactions, in particular by trading WHRs as underlying elements for financing deals (as part of repo transactions).

The various types of contracts that an exchange can provide and the services it can offer are discussed in the remainder of this chapter.

4.1 Improving spot trading practices

Exchanges can do several things to make spot trade more efficient. One thing they can do is to install a good grading system, which allows for trade on the basis of quality descriptions, and thus frees buyers of the need to physically see and test each sample. Apart from installing the capacity to do this itself, exchanges can also encourage warehousing companies to install the necessary grading systems and issue WHRs

using the relevant grading criteria. Exchanges can help to standardize the way trade takes place, for instance by developing standard contracts. They can promote mechanisms which make it easier to check the counterparty risks of market participants (e.g. stimulate the creation of a national grain traders' association which vets potential new applicants: outsiders thus know that all those who are member of this association meet at least certain requirements). They can also install arbitration mechanisms, which provide an independent forum for conflict resolution for transactions that have passed through the exchange. The transactions taking place on the exchange will provide a valuable barometer for supply-demand conditions, and, assuming that the exchange makes an effort to distribute this information, the prices that result are of use to everyone involved in the commodity sector, from farmers to end-users.

All these steps are natural development steps for new exchanges that start as a forum for organizing physical trade; and it can take a few years to make all this progress. But it is important to note that, except for very specific commodities for which on-the-spot visual testing is a requirement of the trade (e.g. in the case of tea, tobacco or some high-quality coffees, where in the opinion of buyers, standard descriptions fail to provide a fair impression of the characteristics of the product) or which have to move through the marketing chain very fast (e.g. flowers or fresh fruits and vegetables), exchanges cannot afford to continue trading just spot commodities. They will have to develop more sophisticated mechanisms to continue meeting the needs of the physical sector.

While an exchange could start off by testing all of the commodities brought into its premises itself, it could soon develop this activity into the trade of WHRs representing title to commodities stored elsewhere. For example, in a first phase, an exchange could trade on the basis of physical samples to which an exchange grading certificate is joined. When sufficient trust in this system is developed, trade could be just on the basis of the grading certificates. The exchange could then make the prices for which different grades are traded publicly available. It would be useful to appoint a phone clerk responsible for responding to public inquiries and one may also consider putting this type of price information on an electronic network. Then, outside bids, from people outside the exchange, could be solicited; if there are different exchanges in the country (or economic region), outside bids could be accepted from all traders accredited to these exchanges. Another way to expand the number of people able to use the exchange is to stimulate the emergence of brokers on the exchange, who accept client orders. Simultaneously, the exchange could accredit non-exchange warehouses to deliver grading certificates, which, together with the relevant WHRs, could then be traded on the exchange. In other words, the exchange becomes national or, in the case of larger economic areas, regional or international. It is clear that this development path is not only interesting for exchange users but also for the exchange itself – the potential growth of trade volume is large. At the same time, the conditions for success are much less strict than in the case of the more complicated futures contracts.[1]

The jump from a localized exchange to a national exchange necessarily passes through the trade of WHRs. WHRs are very useful to a variety of actors. Farmers can store their product after harvest, instead of selling it immediately, and use the WHR to obtain a credit. Processors can use working stocks as collateral, ensuring that the need to store physical commodities is no longer a financial burden for them. The reduced costs of storage and the low costs against which farmers and others can borrow against goods in store will reduce seasonal price differentials, to the advantage of consumers. If these receipts are also traded on an exchange, there are many additional advantages. For example:

- Assuming that WHRs indicate a specific grade of the commodities stored, the exchange will be able to collect and distribute information on the prices at which each grade and delivery centre is traded. This greater transparency leads to a whole range of new possibilities for farmers, traders and processors. For example, they could give "open" orders to intermediaries active on the

1 The basic reason for this is that trade in WHRs represents trade in commodities that already exist. WHRs come into being once commodities have been deposited at a recognized warehouse, so every sale of a WHR is backed by the actual presence of the commodities (with safeguards built in against the risk that these commodities are no longer in the warehouse). This can be contrasted to a futures market, where everyone, whether they own the commodities or not, is free to sell contracts. Trade in WHRs is a flexible form of physical trade and if the exchange provides a forum for this trade, it will be used as long as the transaction costs of this trade are lower than the transaction costs of other mechanisms that can be used in physical trade.

exchange to buy or sell when a certain price for a certain commodity (stored at a certain warehouse) is reached.

- The greater transparency of price differentials and locations will improve spatial and quality relations. Thus, those who need commodities will be able to make more rational choices on the grade of commodities they need and on the place where they want to take delivery. Similarly, if differentials exceed certain thresholds, traders and others will undertake arbitrage transactions, for instance by moving commodities from one warehouse to another.
- Traders will also have more flexibility in selling short (that is, commodities that they do not yet own) because they know there is a market that provides access to a ready supply of WHRs.
- Speculators can become active, as it is much easier to hold a WHR than truckloads of commodities. This involvement improves market liquidity and thus reduces transaction costs.

The exchange can provide a package – products and the environment in which these products are traded – that provides superior functions than the rest of the market; cheaper, more effective and more reliable tools for what companies want to do anyway.

For example, an electronic exchange offers contractual opportunities at any time that it is open – the contract is just a few mouse clicks away. In physical trade, negotiating a contract can be a time-consuming business. Thus, it is clear that with an exchange, users can capture market opportunities that otherwise they would risk missing (e.g. in times of rapidly changing prices).

There is also a second, important market opportunity that users can only capture through an exchange. This is somewhat more complex and it relates to the fact that by using an exchange, users can separate the "price" and "volume" components of their physical trading transactions. When a "good buyer" comes along, the market price is not necessarily optimal; conversely, when the price information screen shows an attractive price, there is not necessarily a buyer at hand. With a forward or futures exchange, a user can fix a price when he considers that the price is good and fix a buyer for his physical product later or vice versa.

The exchange should strive to guarantee to all its users a perfect contract performance (this is generally called the exchange's clearing function). There should be no defaults for the trades executed on the exchange. For all transactions, the exchange, in a way, should put its own name against that of the original buyer or seller. Rather than being exposed to the risk that the original buyer or seller (or the warehouse issuing a receipt) defaults, those active on the exchange will be exposed to the risk that the exchange (or its related clearinghouse) defaults. This guarantee is only possible because the exchange, in turn, requires guarantees from all of its users.

If functioning as an auction house, the exchange could, for example, pay sellers at the moment that their commodities (deposited at the exchange's premises) have been sold, while the buyer pays only one or more days later, on taking delivery of the commodities. In the case of trade in (or backed by) WHRs, the exchange could guarantee the presence of the commodities represented on the receipts (made possible by a proper system to accredit warehouses, appropriate insurances of the warehousing companies and regular controls on the continuing solidity of warehouses' operations). In the case of forward or futures trade, the exchange could ask users to pay "margins". When one enters into a futures position, one deposits a "safety deposit", equivalent to a few percent of the price of the underlying contract (this deposit has to be sufficient to cover the total possible loss that may result from two days of relatively large price changes). If the futures market position is loss-making, one is asked to put up additional "margin calls", so that at any time, a sufficiently high guarantee is in place. If one is unable to pay these margin calls, positions are forcibly closed out.

In effect, the exchange reduces counterparty risk through a range of actions, from the way that it vets brokers to the way that it structures contracts, and through its controls on actual trade. A commodity exchange should strive to provide an island of excellence in an otherwise risky environment. The exchange can act as an "ecosystem" which creates, and in turn relies on, trust – trust in the exchange (and its clearinghouse), trust in the brokers to whom clients entrust their money and trust in the warehouses and collateral managers who will issue the pieces of paper that will actually be delivered on the exchange.

4.2 Forward contracts

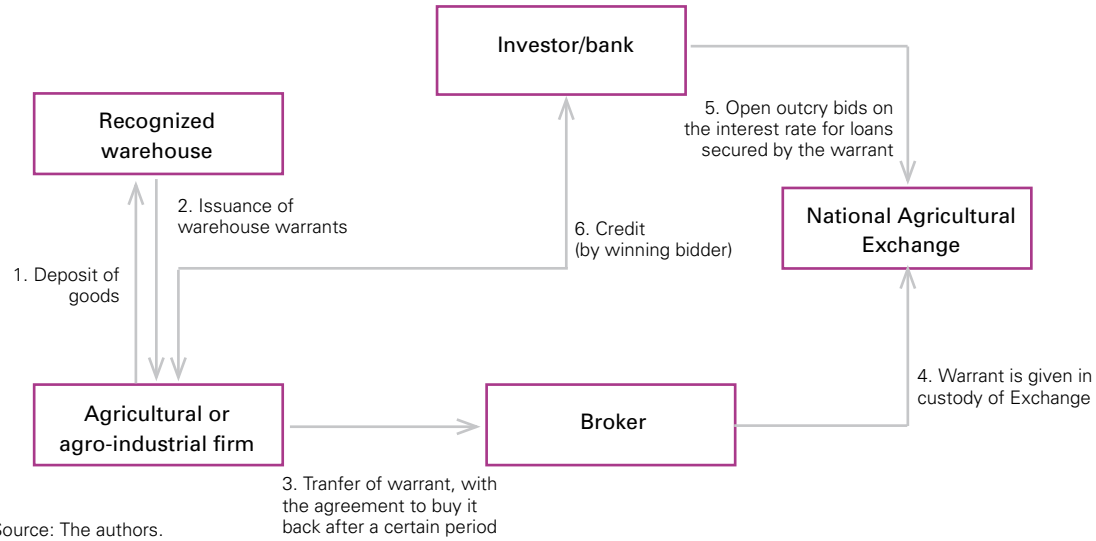
If a well-organized over-the-counter market is not yet in place, it is well possible that indeed, an exchange floor will be considered as a good focal point for forward trade. This will be especially the case if the exchange can offer some added value in terms of ease of finding counterparties, the standardization of contracting rules and the guaranteeing of contract performance. But exchanges need to be very careful when considering this latter aspect. It should be realized that in terms of risk of market manipulation and market failure, trade in forward contracts is much more dangerous than trade in futures contracts. Forward contracts remain, to a large extent, tailor-made: they are specific to certain delivery locations and certain grades and, thus, are not as easily fungible as futures contracts. So if something goes wrong with, for example, the production of one specific grade of a commodity for which many forward contracts have been entered into, or the supply of this commodity is manipulated, the market can react very strongly, causing large losses to those on the wrong side of the market. Exchanges would be faced with a potential public relations problem if this were to happen and would have even larger problems if they were actually guaranteeing contract performance. For this reason, it would probably be advisable for exchanges not to organize and guarantee trade of the forward contracts as already traded in the market but rather try to develop futures on the basis of these forward contracts.

4.3 Commodity repos

Where an economy is disorganized and markets are imperfect, the presence of an exchange can impose discipline on the commodity sector. An exchange is most often used to improve marketing and risk management possibilities but it can also be used to provide a new source of commodity finance, in effect linking farmers, agroprocessors and traders directly to the capital market. With this in mind, exchanges in Colombia and Venezuela have introduced an innovative new instrument, namely trade in commodity repos (Figure 2).

Commodities are stored with accredited collateral managers (specialized in, among other things, providing warehouse management services) who take responsibility for quality grading and issue receipts (double WHRs). This receipt is then transferred to an exchange broker and the owner of the commodities signs a repo to buy it back at a given price after a certain period. The credit component of the repo is then ready to be auctioned on the exchange. The purchaser knows that he will be entitled to a cash sum at a defined point in time, with the payment guaranteed by the broker and further underwritten by the physical goods in the storage facility. The sum paid by the winning bidder is then channeled to the depositor of the goods, e.g. the commodity producer. Not only does the depositor (farmer, processor, etc.) have access to more financing than would otherwise have been available but also finance is provided on better terms due to the reduced level of risk faced by investors.

Figure 2
The exchange-traded agricultural repos process



Source: The authors.

In 2000, Colombia's National Agricultural and Livestock Exchange (BNA) introduced a similar, albeit more complex, system for structuring repos around future receivables for livestock and poultry producers. Several series of securities were successfully issued. These instruments provide an interesting and safe investment tool for the capital market (including for individual investors – repos are traded in values of around US$1 000) and in the case of Colombia and Venezuela, halved the costs of credit for producers of agricultural crops, poultry and livestock.

In all ECA countries, there is scope for the introduction of repo contracts. How much scope there is depends, however, on the specific conditions as follows.

- Repo contracts are a way to link those owing commodity assets directly to the capital market. In other words, the banking system is bypassed. There are gains in the use of this mechanism for both "lenders" and "borrowers" (legally speaking, these people are buyers and sellers of assets). For the lenders, the gains depend on the usual spread between "prime" deposit rates and "prime" lending rates. In other words, in countries with a highly efficient financial sector (i.e. a small spread between these rates), the gains for lenders are small. For borrowers, the gains primarily depend on the terms at which they usually access finance. In countries with well-developed corporate rating systems and a strong legal system, farmers, processors and traders often already have good access to finance at acceptable rates. For these reasons, repo systems are not widely used in developed market economies. Looking at the history of agricultural finance in the United States, one can also observe that with the improvement of financial record keeping in agriculture, the role of WHR finance declined strongly. Specifically for the ECA countries, one can conclude that in countries of the EU and countries that will soon access the EU, a repo system for agricultural finance may have only limited benefits, insufficient to support a vibrant exchange trade in repo contracts.

Legally, repo contracts are not loans, but purchases and sales. They can thus be subject to VAT. VAT has indeed been a problem in the use of repo-based finance in the Russian Federation and banks had to set up special vehicles to deal with this issue (as part of which they basically had to prefinance VAT payments). There are two related potential problems. First, VAT systems can be so complex that it is not possible to find a reliable solution or VAT reimbursements can be so slow and unreliable that there is no workable solution. Second, a commodity exchange may not have the financial means to set up a special vehicle to deal with the VAT implications of repo trade.

4.4 Exchange-traded commodity derivatives

Futures contracts are the most commonly traded instrument on a derivative exchange. Put and call options are also widely traded instruments. Other derivative instruments, such as binary options and swaps, are normally not traded on an organized exchange but traded over-the-counter, directly between a buyer and a seller (although binary options are starting to make their entrance into futures exchanges).

Organized futures markets bring a range of benefits. They provide price transparency (futures market prices are widely available, including to producers, and act as a benchmark for negotiating physical prices); ensure price discovery (allowing information to flow efficiently to the market as a whole, ensuring that most of the time, prices are as close as possible to a true reflection of the supply/demand balance and eliminating most of the information asymmetries that prevail in commodity markets where no futures exchange exists); and make it possible to transfer risk. Contrary to insurance markets, risk transfer on futures exchanges, at least in the case of liquid futures contracts, is very efficient: many studies have shown that there is no "risk premium" transferred from hedgers, as a group, to speculators (in other words, if one abstracts from the impact of risk management on a hedger's wider business operations, other than a slight brokerage costs, average income is not affected by risk management – whether with futures or with options – so improved price certainty is achieved at little or no cost).

By using futures contracts, producers can lock in certain price levels independent of their physical trading operations. For example, by selling futures contracts when prices are attractive, they can lock in these prices even if they do not yet

have any product to deliver or they have them in storage but are not yet ready to sell. If by the time that the producer is ready to sell prices have fallen, the low price he will receive for his produce will be compensated by a profit on his futures position (realized by buying futures to offset the earlier sale). However, the use of futures markets for risk management purposes is only useful if the prices of the markets for one's physical products and the futures prices are well correlated. Using futures contracts can be cumbersome: timing decisions are difficult to make and cash flow requirements (to pay upfront margin depositions as well as later margin calls) can be demanding.

Options give the buyer the right, but not the obligation, to buy or sell an underlying asset (usually a futures contract) at a certain fixed price. This right expires on a certain date (the maturity date) and in order to procure this right, the buyer has to pay a premium. An option that gives the right to buy is called a call and an option that gives the right to sell is called a put. Buyers can have this conversion right at any time until the option's maturity (in this case, the option is called "American") or he could have the right to convert only at maturity (a "European" option). Options on futures contracts are easier to use than futures. From the perspective of a producer, they are similar to an insurance contract: he/she pays a premium to buy put options, and the "insurance" pays out when prices fall. Indeed, options can be used to replicate the price guarantee schemes abolished in recent years by many developing country governments. There are no margining requirements and operational requirements are not overly cumbersome.

Generally, futures provide coverage against price risk. But it is also possible to trade weather futures, which can allow farmers coverage against quantity risk. Weather risk management instruments, including futures, options and a range of over-the-counter products, provide coverage for a series of weather-related risks: rainfall, temperature, wind strength, cold days and number of hours of sunlight, etc. Exchange-traded products are still scarce but on the over-the-counter market, derivatives providing such coverage are in effect available in developed market economies and even a number of developing countries such as India In all these cases, an index is made available (e.g. number of mm of rainfall in location X) and people can take a position in this index. Payouts, then, will follow the development of the index. For example, if a farmer sells rainfall futures, and rainfall falls below the index, he will receive X amount for each mm that the rainfall has fallen. Presumably, this will compensate him for all or part of the production loss that he suffered as a result of the rainfall deficit.

In principle, weather risk management instruments can allow farmers to obtain coverage against much of the "quantity" part of their revenue (revenue = quantity produced x price obtained), complementing their price risk coverage. But these markets are only just emerging, and even in the most developed market, in the United States, possibilities are still limited. Even if a market exists in a country, the problem of basis risk remains large: how well correlated are the production of a farmer in Location Y and rainfall data in Location X?

5. Country-level scope for action

There is wide scope for efficient commodity exchanges in many ECA countries, in particular to boost agriculture sectors. The benefits and opportunities such exchanges can provide for enhancing price transparency, fostering market discipline, improving the existing commodity price risk management practices and integrating the local finance and commodity sectors. They can act as a conduit for funds and expertise between agricultural producers and processors on the one hand, and the capital market on the other hand. Establishing such exchanges and improving the performance of existing ones requires a range of actions, both at the level of the environment in which exchanges operate and at the level of the organization of exchanges. Finally, it also needs some challengeable implementation steps to show up tangible results in the modernization of the regional agricultural commodity market infrastructure.

Governments and donors can play an important role to facilitate the development of commodity exchanges and, in especially risk management instruments, by creating an enabling policy, legal and regulatory environment. The review of the current state of commodity exchanges in ECA in chapters 2 and 3 has shown that their roles in trade, finance and risk management – and the way in which they can support the achievement of government objectives – are still poorly understood by many governments. Hence, one important role of the international community is to play an advocacy function and spread knowledge about the commodity markets by documenting the experiences of successful exchanges and sponsoring studies that debunk some of the common myths about exchanges (e.g. that they are easily manipulated or lead to price inflation). Moreover, the importance of a coherent agricultural policy framework cannot be overemphasized. If governments want organized markets to play a key role in price discovery, then they should refrain from ad hoc and arbitrary market interventions, e.g. through export bans and restrictions.

The ECA region covers a wide range of countries of different sizes and with different economic conditions. Given this diversity, scope for action needs to be assessed on a per-country basis. For this purpose, countries are grouped into three broad categories:

1) current and aspiring EU members;[1]
2) large, diversified economies;[2] and
3) small, relatively poor economies with a large commodity sector.[3]

For each of these groups, the countries where donors may usefully support the commodity exchange process will be identified.

The first group of ECA countries, which are EU members or aspire to become members, are a fairly diverse group, generally with a high per capita gross domestic product (GDP) and a diversified economy (Table 5). Some of the countries of former Yugoslavia, ravished by war, are an exception and, in a way, Turkey, with a population far larger than that of the other countries in this group, is in a category of its own. As the example, Hungary shows, and the preliminary indications for the Bulgarian and Romanian commodity exchanges confirm, that there is generally not much room for an agricultural commodity exchange post-integration into the European economic sphere (in contrast, exchanges for trading electricity and emission allowances seem to do quite well). An important reason for this is the same reason commodity exchange initiatives focused on European farming have never done well, whether in France, Germany, the Netherlands or the United Kingdom: the safety net provided by the Common Agricultural Policy (CAP) does not sit comfortably with the idea of farmers being responsible for managing by themselves the

1 Group A: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, FYR Macedonia, Hungary, Kosovo, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, the Slovak Republic, Slovenia and Turkey.

2 Group B: Azerbaijan, the Republic of Belarus, Kazakhstan, the Russian Federation and Ukraine.

3 Group C: Armenia, Georgia, Kyrgyzstan, the Republic of Moldova, Tajikistan, Turkmenistan and Uzbekistan.

price risks to which they are exposed. However, this picture might change in the medium-term, depending on the outcomes of the post-2013 CAP reforms.

Azerbaijan, the Republic of Belarus, Kazakhstan, the Russian Federation and Ukraine comprise the second group (Table 5). They are relatively large countries, with relatively high per capita GDP (Ukraine has the lowest, at US$6 900) and an agriculture sector that may still employ a large part of the population but that has become small in terms of its contribution to GDP (less than 10 percent in all of these countries). These countries have economies that are, in principle, large enough to support commodity exchanges and, with the exception of Azerbaijan, there are indeed active exchanges and/or exchange projects in all of these countries.

The third group is comprised of relatively poor, relatively small countries where agriculture plays a large role (Table 5). In this group, per capita GDP tends to be below US$6 000 (with the exception of Turkmenistan, where natural gas exports boost average income levels), the population size is less than 7.5 million people (with the exception of Uzbekistan, with a population of 22 million people) and the share of agriculture in GDP is 17 percent or higher (with the exception of Georgia, where agriculture accounts for a still sizeable 12 percent). Most of these countries

Table 5
Key demographic and GDP data on ECA countries

Country	Population (million, 2011 est.)	GDP/capita (US$, 2010 est.)	Share of agriculture in GDP (%)
Group A			
Albania	2.9	7 400	18.9
Bosnia and Herzegovina	4.6	6 600	6.5
Bulgaria	7.1	12 800	6
Croatia	4.5	17 500	6.8
Czech Republic	10.2	25 600	2.2
Estonia	1.3	19 000	2.5
Hungary	9.9	19 000	3.3
Kosovo	1.8	2 500	12.9
Latvia	2.2	14 300	4.2
Lithuania	3.5	15 900	4.3
FYR Macedonia	2.1	9 400	8.7
Montenegro	0.7	9 900	NA
Poland	38.4	18 800	3.9
Romania	21.9	11 500	12.8
Serbia	7.3	11 000	12.6
Slovak Republic	5.5	22 200	2.7
Slovenia	2.0	28 400	2.4
Turkey	78.8	12 300	8.8
Group B			
Azerbaijan	8.4	11 000	5.5
Republic of Belarus	9.6	13 400	9
Kazakhstan	15.5	12 800	5.4
Russian Federation	138.7	15 900	4.2
Ukraine	45.1	6 700	9.8
Group C			
Armenia	3.0	5 800	22
Georgia	4.6	4 800	11
Kyrgyzstan	5.6	2 200	24.6
Republic of Moldova	4.3	2 500	16.3
Tajikistan	7.6	2 000	19.2
Turkmenistan	5.0	7 400	10.2
Uzbekistan	28.1	3 100	21.2

Source: CIA World Factbook. 2010.

were part of the FSU. Their economic size makes it difficult to support a full-fledged commodity exchange, yet the disorganization of physical trade left in the wake of the break-up of the Soviet Union and the continuing importance of agriculture make a well-functioning exchange very useful. Most of these countries have physical commodity exchanges but these have rarely moved beyond the open outcry, auction-type spot trading type

In this chapter, relevant actions for Groups A, B and C will be discussed, with due regard to the differences between countries within each group, and focusing on two different action areas: "macro" level issues on the one hand and "organizational" issues on the other hand. At the macro level are political, administrative, legal and regulatory issues; and the section on organizational issues will discuss management requirements, technology aspects, trading platform issues, clearing systems – that is to say, does the exchange offer guarantees on the transactions that take place on its platform, and how strong are these guarantees for the delivery and other systems. Each of the three final sections of this chapter contains a discussion of possible action for FAO and the World Bank, with due attention to country-specific possibilities.

5.1 New EU member states and aspiring candidates to the EU

Many ECA countries have in recent years become EU member states or can expect to accede to the EU in the years to come (Table 6).

The potential for commodity exchanges in these countries is, to a large extent, determined by the wider conditions in the EU, in the financial sector, in commodity trade and in laws and regulations.

Macro issues

At the macro level, there are three major issues that affect the viability of commodity exchanges and the actions necessary to make them thrive: the CAP; the advanced level of development of commodity sector support companies and structures; and the policy of the EC to establish standard rules and regulations for exchanges.

The CAP puts a safety net under prices of many agricultural commodities. This reduces the risks to which agricultural producers are exposed and, therefore, reduces the incentives for price risk management. Even in countries such as France, Germany and the United Kingdom, it has proven very difficult to entice commodity producers to use futures contracts for products such as barley, hogs, rapeseed or wheat, and the contracts servicing the EU market that exist in exchanges in these countries are either moribund or see very low levels of activity. The decline of activity on the BCE after Hungry became part of the EU is probably symptomatic of what aspiring futures exchanges in countries such as Bulgaria and Romania can expect. Focusing much attention on agricultural products that will fall under the CAP once a country has become part of the EU is a risky strategy; instead, futures exchanges should focus on a broader range of contracts, including commodity as well as financial sector products.[4]

The advanced level of development of commodity sector support companies and structures (such as banks, quality control companies, logistics companies, information vendors, industry bodies, commercial arbitration panels) means that it is more difficult for a commodity exchange to provide services that

4 However, as previously mentioned, this situation might change if post-2013 CAP reforms reduce market interventions, which might result in an increased demand for commodity futures as price risk management instruments.

Table 6
ECA countries and their status with regard to EU membership

EU member countries	Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia
EU candidate countries	Croatia, FYR Macedonia, Montenegro, Turkey
EU potential candidate countries	Albania, Bosnia and Herzegovina, Kosovo, Serbia

Source: http://ec.europa.eu/enlargement/index_en.htm

really make a difference. In other words, it sets to standards very high for an exchange that wants to succeed. Nevertheless, there are trading platforms similar to, for example, the FYR Macedonia's Agro Berza in countries such as Belgium, Denmark, France and the Netherlands. These are large agricultural auctions that make intensive use of electronic media and have highly advanced logistics systems, and that are so attractive as partners in physical trade that they even attract international users. Physical exchanges in new EU member states and aspiring members should study such examples and decide whether they would be able to attain similar levels of efficiency. The Warsaw exchange has already gone a long way but other exchanges still have to scale up their levels of operation. If they do not, their time is probably over.

Accession to the EU also means a rapid upgrading of the banking sector, including through the takeover of local banks by large western ones. Furthermore, one can expect an improvement of companies' accounting practices, and a stronger legal environment for the enforcement of contractual obligations. This implies that off-balance sheet financing, such as through WHRs, will be relatively less important: banks have the financial strength and expertise, and access to sufficient information, to provide corporate loans, including to companies in the commodity sector. While donor agencies (particularly USAID, through ACDI/VOCA) have made considerable efforts to improve WHR systems in countries such as Bulgaria and Poland, the relevance of WHRs for commodity exchanges or, for that matter, commodity finance is likely to be limited.

Futures exchanges that survive their country's accession to the EU will probably have to review their statutes, rules and regulations, as the EC is imposing a common framework on all securities and derivatives exchanges, the so-called MiFID rules. The BSE has already had to change its rules and regulations. MiFID focuses on issues such as transparency, reporting and competitive brokerage behaviour and, in order to comply, an exchange needs sophisticated technology and advanced administrative procedures. This is to a large extent a fixed cost and smaller exchanges, which have to pass these fixed costs on to a smaller number of users, thus face a competitive disadvantage compared with their larger brethren.

Organizational issues

Exchanges in Group Aare often quite well organized. Many have been members for many years of the Association of Futures Markets (AFM), an industry body headquartered in Hungary, and have been able to profit from the exchange of experience through AFM. Several have benefited from international support, particularly to improve their awareness and understanding of international best practices. They are, therefore, not unprepared for the challenges that they are now facing.

To survive in the context of the wider EU requires an exchange to provide genuine benefits to those in its target market(s), benefits that are larger than those offered by other market players. Exchanges cannot hide behind national barriers. They either reach a certain level (more or less a par with the best auctions in Western Union or the United Kingdom commodity futures exchange) or their future is in doubt. An exchange will have to be for-profit, demutualized and private sector run to meet such a challenge and will require the active support of its government to obtain the funds necessary for its transformation. Donor agencies, in particular those associated with the EU and its member states, may find it useful to support the most dynamic of such efforts in the accession countries.

Prospects for donor support

With the potential exception of Turkey, in terms of actions, there is not much that can be done by the international community. Exchanges have to understand these issues relevant to EU accession and act to mitigate its consequences. Governments, with support from the EC, can advise exchanges on the consequences to accession and help them to adapt their organization, rules and regulations. A USAID project started in 2002 provides a cautionary tale of what can be done in an environment where EU accession is the prime driver of agriculture sector organization. In late 2002, USAID started a project on the establishment of a "Regional Commodity Exchange", envisaging the creation of a grain futures market for the Black Sea Basin and the countries on the Donau river, in particular, Hungary, FYR Macedonia, Romania, Serbia and Turkey. On paper, the potential looked very good, as these countries are major grain

producers. A regional grain exchange servicing these countries would also be of relevance to the Russian Federation and Ukraine, two other major grain producers on the Black Sea. Nevertheless, there was not enough interest of the major grain stakeholders in the region to pursue the project and in 2003, it was halted. The only country that is somewhat different in this respect from the other countries in Group A is Turkey. While aspiring to become an EU member, its accession is still many years away (and by the time it actually enters the EU, the level of prices guaranteed by the CAP may have eroded considerably). Meanwhile, a large number of producers, processors and traders remains exposed to heavy price risk. This gives the Turkish commodity exchanges time to develop. TurkDex seems to have difficulty reaching out to the agriculture sector but perhaps the new initiative by the traditional spot exchanges and their supervisory Ministry to create the United Turkish Commodity Exchange Inc. will be more successful. In any case, experience has shown that to have two competing initiatives can stimulate a fast development of the commodity exchange sector. The large size of the Turkish economy, its unique economic fundamentals (as a bridge between Europe and Asia) and the large number of quite sophisticated financial sector companies can then result in one or two futures exchanges that are large and vibrant enough to benefit of EU accession, realizing the goals of the Regional Commodity Exchange project mentioned above and attracting new users from throughout the region (including the Central Asian countries). Donors could further support this process, in particular by assisting in the development of a proper electronic trading network for the projected United Turkish Commodity Exchange and by assisting in the development of a WHR system that will act as a firm basis for the exchange.[5]

5.2 Large, Diversified Economies

As is the case of Turkey, the Russian Federation and Ukraine are large economies with enough autonomous influence on global agricultural markets to support, in principle, their own commodity exchanges. The situation of Kazakhstan, a smaller country, is somewhat more difficult and Azerbaijan and the Republic of Belarus are borderline cases in terms of potential for supporting one or more viable commodity exchange initiatives. A number of commodity exchanges that act as mere auction platforms have done reasonably well, in a static sort of way. But at the same time, this is the part of the world where the largest number of commodity exchanges has failed, despite considerable donor support for commodity exchange initiatives.

Macro issues

The principal "external" factor (but as noted below, there is also an equally important "internal" factor) that has led to the broad failure of commodity exchange initiatives in Kazakhstan, the Russian Federation and Ukraine has probably been a lingering distrust of markets among both private sector and government decision-makers. The private sector in these countries, as far as commodity production and trade are concerned, tends to be dominated by a small number of very large enterprises. Between them, they have a fairly high level of control over markets (or at least believe that they have such control) and weakening their predominance by supporting the development of open, transparent marketplaces may not seem such an attractive idea. Government decision-makers, meanwhile, have not been able to resist the temptation of direct intervention in markets, be it through procurement operations or export controls.

Any project to promote commodity exchanges, then, has to have a significant component to "capture the minds" of private and public sector decision-makers, including a strong media strategy. Among other things, the regulatory structure for exchanges has to be clarified: the current situation in which a range of state entities has some nebulous form of regulatory oversight over exchanges in not conducive to investment and trade.

On the "positive" side, the institutional environment in which the commodity exchanges have to provide competitive services is likely to remain weak. This gives exchanges good opportunities to build up comparative advantages in the areas of security of trade (counterparty risk

5 WHR finance is relatively well-developed in Turkey, but it is predominantly done by banks using their own warehousing subsidiaries. Turkish banks own a large number of warehouses, especially at ports (they were particularly used for financing cotton and tobacco exports). So each banks used its own warehouses to enable it to provide WHR finance. It will be a bit of a challenge to convert this into a more "open" system, where warehouse owners agree to provide storage and WHRs for third-party depositors.

management), quality assurance and commodity finance. This makes the development of a WHR system in these countries of particular relevance. Government and donor agencies should support the development of efficient, electronic WHR systems, preferably linked to a system to trade these WHRs. There have been several WHR programmes in these countries, with limited success, but this was partly because of design flaws (a focus on paper-based WHRs, without any system to efficiently register and trade these receipts).

Organizational issues

While external conditions were not really favourable, it should also be noted that many of the commodity futures initiatives of countries in Group B were poorly conceived and badly executed. This was expressed in poor contract definitions (in terms of grades and delivery locations) and insufficient efforts to bring a representative group of users on board. There were international efforts (particularly by USAID) to provide technical expertise but this was often too skewed towards copying practices in certain western countries rather than adopting contracts and procedures suited to local conditions.

Many organizational problems have been self-inflicted, with unwillingness to cooperate being a major source of problems in both the Russian Federation and Ukraine. Quite a few groups have seen the potential of commodity exchanges in these countries – perhaps, too many groups, leading to a fragmentation of efforts. Certain producers backed one effort, other producers backed a competing attempt. Banks were behind one venture, exporters were behind another venture. As private sector groups were often linked to particular groups within the government structure, private sector competition quickly led to bureaucratic inertia. It would be desirable if the various groups could agree to cooperate or, at the very least, agree that there will be two or three competing ventures that are all operating in the same legal and regulatory environment.

Prospects for donor support

Nowadays, the most successful exchanges in Kazakhstan, the Russian Federation and Ukraine are the large financial marketplaces. Whether they are able to introduce successful commodity contracts remains to be seen. The recent efforts in the Russian Federation of MICEX, through its dedicated agricultural subsidiary NAMEX, can, perhaps, provide a model. The large financial exchanges do not need any international financial support but they could be given better access to international expertise and are likely to benefit from international "endorsement" (e.g. papers by international organizations which argue how such exchanges can benefit the national economy). Also, governments in these countries often have a limited knowledge of commodity futures market regulation and could be tempted to adopt inappropriate laws (as was recently the case in Kazakhstan, for example, where the new Law "On Commodity Exchanges" severely limits the chance of success of commodity exchange ventures, among other things because it stated that exchanges should be not-for-profit). Thus, FAO and World Bank support could focus on advice, awareness-raising and training, in particular in the following areas:

- Broad advice on the compatibility of having a modern commodity exchange and government interventions in agriculture. Some forms of intervention are compatible, while other forms have the potential to destroy an emerging exchange, and it would be useful if governments have access to a neutral overview of these policy issues.
- Drafting of government and exchange-level regulations. All three countries have seen ambiguous terminology and inappropriate rules in their draft rules and even, sometimes, in the rules and regulations adopted by parliament and other bodies.
- Advice to the government on the structure of the regulatory oversight on exchanges. Currently, too many ministries and other regulators are involved, making it very difficult for any group to obtain all necessary approvals. Having one leading regulator as a "one-stop-shop" can have evident advantages.
- The development of a proper regulatory structure to oversee the relationships between brokers and clients, including rules and implementing measures to combat bucket shops[6] and illegal brokerages.

6 Bucket shops attract clients for speculation on futures market but do not actually invest clients' funds in the market. If the market "moves against" the client, the bucket shop operator will use this as an argument to keep the client's funds; and should the client "win", then, through false account statements and other means, the operator will do his utmost to prevent the client from claiming his gains. Bucket shops are a common feature of countries with futures markets, even in countries with a strong, well-established legal enforcement system such as the United States.

- Advice to the government on the regulation of financial institutions in the light of commodity exchange development. Currently, financial sector regulations in these countries are too restrictive, putting strict limits on the ability of banks and institutional investors to become active in commodity exchanges. Also, such regulations often put certain limits for the commodity sector players to participate directly in the exchange's clearing system.
- The development of a clearing system, to properly integrate the country's commodity and financial sectors and to enable international participation in the commodity exchange.
- Contract design, including in terms of delivery specifications. There is good scope for repo contracts in these countries (repos are already used by a few international banks for financing Russian processors and trading companies).
- The development of local marketing campaigns and outreach programmes for retail investors, institutional investors and hedgers.
- The interface between the financial sector and commodity exchanges (issues that can be covered include the principles of cash and carry arbitrage, hedging as a tool to reduce credit risk and improving risk-adjusted rate of returns by investing in commodities).

In Azerbaijan and the Republic of Belarus, however, there may be scope for a wider programme of support. This could take the form of support for the privatization of the BUCE and the upgrading of its functionalities (to include forward and futures trading, and clearing operations). In Azerbaijan, an electronic spot exchange similar to that in the Republic of Belarus could be successful. In particular, Azerbaijan's sales of fruits, vegetables and flowers are now through the Moscow and St. Petersburg wholesale markets and it is perhaps possible to move this process back into the country.

5.3 Small, agriculture-dependent economies

In the many countries of the FSU, a large number of commodity exchanges were created in the early 1990s to cope with the fall-out of the disappearance of the old planned economic system. While in larger countries the size of the underlying economy may be enough to allow survival of an exchange (in an adapted form) even when other market institutions start emerging, what is the situation in smaller countries? Can commodity exchanges still be useful and do they deserve support?

Macro issues

Economies of the countries in Group C are small. The financial sector (which is to say, the investor base) is underdeveloped. The infrastructure for physical trade (including warehouses and grading laboratories) is deficient. The legal and regulatory regime is weak. Practices in commodity trade are unsatisfactory, with contract defaults a common occurrence. There is a lack of trust among the various players in the commodity sector. In sum, there is a whole range of issues that make it difficult for a commodity exchange to succeed. But these constraints are also opportunities.

Improved commodity finance and better control over the quality of products are likely to be the most invaluable services that an exchange can provide. WHR programmes are, therefore, very useful. This has the added advantage that an electronic system for trading WHRs is cheaper than a full-fledged commodity exchange system and can provide a stepping stone to a more advanced market.

At the same time, these countries share with larger ones the problem of a lingering distrust of markets among both private sector and government decision-makers. Advocacy, awareness-raising and training are thus essential, focusing on a broad group of players (not only in the commodity sector and governments but also in the financial sector).

Organizational issues

Economic constraints argue for small, low-cost, focused, highly efficient exchanges – micro-exchanges that use an electronic trading platform to trade a broad range of products. Such exchanges should use the Internet to increase their reach and provide a full range of support services in physical trade (i.e. grading, market information, WHRs). They should be driven by the private sector, and the most likely candidates for success would come from outside of the commodity sector (commodity sector players are more likely constrained by the legacies of the past). In some cases, they could initially focus on non-agricultural commodities to build up a critical

mass (particularly in the case of Turkmenistan, its large natural gas sector could make an energy exchange successful; on the basis of such an exchange with its ongoing revenue base, agricultural contracts could then easily be added). While in many of these countries spot auction exchanges survive, in many cases they are not likely to be a successful anchor for more advanced initiatives; one should thus be open to support relative newcomers to the sector.

Unfortunately, the private sector in the small economies of Group C countries often has a poor depth. The mix of skills and experience necessary for a successful commodity exchange may be absent. Extensive external support is needed for awareness-raising, advice and training. Venture-capital-like funding for exchange initiatives and related market institution-building projects could be most effective.

Prospects for donor support

If a commodity exchange manages to offer solutions to the common problems of the economy in which it operates, it has a valuable comparative advantage and could thus succeed, despite the small and underdeveloped state of these economies. The international community can provide assistance in various ways:

- Advice on high-level agricultural policies. Policies in some of these countries are still highly restrictive to producers and other private sector operators. For example, cotton is often a major source of government and foreign exchange income and in order to keep control over this revenue source, governments impose strict rules on production, local prices and exports of cotton. Exchanges are often the tool for such government intervention. These policies tend to discourage agricultural production and there are many reasons to modify them. If this were to happen, this would create room for genuine trade on these countries' commodity exchanges.
- In some of these countries, the existing commodity exchanges can be the "entry point" for bringing in a new agricultural policy. In Turkmenistan, CIDA and the Asian Development Bank are already engaged in such a programme. In Uzbekistan, there is room for working with the major exchange, UZEX. Such a programme could focus on identifying market-supporting initiatives that UZEX can undertake such as:
- introduce commodity repos to facilitate agricultural finance, both as a new instrument for the capital market (in addition to the existing financial instruments available to banks and others) and as a new financing tool for producers and processors;
- leverage the current activity of international cotton buyers on the exchange to develop a viable cotton "tradable forwards" or futures market, which enables cotton ginneries to hedge their forward sales; and
- expand the operations of the UZEX clearinghouse to underwrite forward and futures contracts. UZEX already has a reasonable approach to guaranteeing the transactions that take place on its platform, primarily by receiving guarantee payments from buyers and sellers and then providing a "cash against documents" type service whereby local exporters are only paid once they deliver the documents that prove they have shipped according to contract specifications. This system can be made more efficient and more comprehensive.

Such a programme should have a component that brings together key UZEX and government officials to discuss what these new UZEX operations imply for government policies, rules and regulations. It also needs to be accompanied by a programme to create a viable WHR system, preferably one that offers electronic WHRs.

- Spot auction markets (wholesale markets) can be improved and expanded. For example, proper quality standards and arbitration facilities can be introduced and information on the trade on the exchanges can be made available electronically and in a timely manner (including through SMS messages). One should also strive to expand the type of clearing (guarantee) functions that exchanges provide, to ensure those who use them a perfectly safe environment for trade. There may also be scope for national and regional spot exchanges, where each country's spot exchange guarantees the quality and delivery of the products sold through its electronic trading system.
- Support to initiatives by the private sector, possibly in cooperation with state enterprises, to create new electronic commodity exchanges or strengthen existing ones. This could include

financial support both for the establishment of the exchange and for its delivery system (i.e. warehouses). It could also include advice and training, similar to the recommendations made in section 5.5. Early-stage, strategic advice is likely to be relatively important for this group.
- Where there is a viable exchange initiative, advice to governments, along the lines of recommendations made in section 5.5.
- Certain of these countries are too small to support a viable commodity exchange other than wholesale agricultural markets. They include Armenia, Georgia and the Republic of Moldova.[7] Advice, training and education in these countries can focus on the possibilities for using exchanges in other countries in the region, not only as a place for risk management but also as a platform for trading repos specific to these countries (i.e. commodity repos established on the basis of warehouses in the Republic of Moldova could be traded on an exchange in another country which has a larger financial sector).

5.4 Regional aspects

In certain cases, developing a commodity exchange with a regional outlook may be feasible. In particular, there are the following possibilities:

- Revive the work done towards the establishment of a regional grain and oilseeds futures exchange for the Black Sea Basin and the countries on the Donau river, in particular, Hungary, FYR Macedonia, Romania, Serbia and Turkey. As discussed above, given the constraints on the development of a grain futures market that result from the EU's CAP, Turkey, with its large domestic production and consumption, has the best potential for developing such an exchange. But the window of opportunity for a regional initiative is small. With Internet trading increasingly popular and the financial sectors of the new EU accession countries steadily improving, one of the large western exchanges could well introduce a Black Sea wheat contract with delivery locations in one or more of the EU member countries in the region.
- Develop a grain and oilseeds futures exchange that serves the export-oriented grain sector (exporting through the Black Sea) of the Russian Federation and Ukraine. The grain exported from these two countries is very similar in quality and in export destinations, and export prices are well correlated. However, because of variable government policies domestic grain prices in the two countries do not necessarily move in tandem, which reduces the potential market for a regional futures exchange. Nevertheless, if the two countries could agree to coordinate their grain policies, a regional organized market becomes feasible.
- For Kazakhstan, Kyrgyzstan and Turkmenistan, develop a regional grain exchange (probably best based in Kazakhstan), trading a range of contracts (spot, forwards, repos, futures). The latter two countries are already importing much of their grains (in particular, most of their wheat flour) from Kazakhstan, and their importers would benefit much from the opportunity to buy through a Kazakh exchange or to hedge on such an exchange. Given the economic and political conditions in these countries, an exchange of this nature could be built gradually, starting with WHR-based spot trading, then bringing in financiers once enough trust in the system has been generated and, once volumes pick up, introduce futures.
- For Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, develop a regional cotton exchange. As Uzbekistan is the world's second largest cotton producer (after the United States), this is probably best based on the regional expansion of Uzbekistan's main exchange, UZEX, and the development of its contract base (e.g. it can include Kyrgyz warehouses among those where its cotton contracts are deliverable). In the long run, even though Kyrgyzstan and Tajikistan have reasonable levels of cotton production, the existence of a strong, multi-facetted cotton exchange in these countries, alongside an exchange in Uzbekistan, is unlikely. While in the short run, exchanges in these two countries could be strengthened to offer better services for physical trade (through the improvement of their wholesale market functions and the introduction of repo contracts), in the longer run they should be linked together with the Uzbek exchange, with a common electronic trading platform and a common set of delivery specifications.

7 It should be noted, however, that in 2009 a new commodity exchange was established in Georgia by the Tbilisi Chamber of Commerce and Industry. The "unique value proposition" of the exchange is to be its laboratory, which is to ensure that commodities meet quality standards. The exchange is to trade sugar, fuel and other goods.

There is evidently an overlap between the countries where cotton production is important and countries that could be part of a regional grain exchange. In practical terms, there does not need to be a conflict as long as the different governments and other stakeholders are willing to compromise (and historical precedent is, in itself, not enough of a reason to discard this possibility). There can be one electronic system providing shared services to both initiatives, reaching brokers, bankers and others with an offering that includes grain and cotton as well as other commodities. Only the centre of gravity (delivery locations, location of product committees and arbitration panels) of the two contracts would be different.

In the political context of the CIS,[8] there have been talks on the development of the so-called "CIS Common Market", which would include agricultural products. In this regard, the CIS Council is still trying to impose some unified customs rules and regulations in order to intensify agricultural trade among the CIS countries. Should a system of unified customs rules for the CIS Common Market countries indeed be realized, then the large national commodity exchanges can link electronically and act as a backbone for regional trade and price formation. The CIS Common Market has, as of 2010, not made much headway, but talks are still continuing. Meanwhile, three of the core countries (the Republic of Belarus, Kazakhstan and the Russian Federation) have created a Customs Union. As part of the work of this Customs Union, the agriculture ministries of these countries have decided that the BUCE, the Moscow Stock Exchange and KICE will coordinate their efforts to create a new organized marketplace for commodities, the Eurasian Commodity Exchange, to trade agricultural products. A protocol of intent to this effect was signed in February 2010.[9]

- There have also been talks among the Central Asian countries (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan and Uzbekistan) on how to intensify commodity trade in the region (for energy items, agricultural commodities and some other raw materials). Again, the political process would have to succeed first, followed by implementation of unified customs rules and regulations. If unified rules are indeed implemented, commodity exchanges (first of all in Kazakhstan, Turkey and Uzbekistan) could play key roles in the regional commodity trade, price formation and risk management practices.

While the potential for such regional approaches exists in principle, their practical viability depends on a number of rather demanding criteria.

First, as already noted, there should be a common economic zone for one or more common commodities. As price formation in many countries is still heavily influenced by government actions, this will to a large extent be a function of the commonality of government policies. This is being discussed among countries but over the last decade, they have made little progress. Indeed, in the current time of high food prices, one can observe that countries have been going their own separate ways, unilaterally announcing, for example, export bans on wheat and maize, and in the case of Kazakhstan, even on sunflower seeds.

This is the reason that at least for the medium term, one common contract for all of the countries that border the Black Sea is unlikely. Figures 3.a and 3.b provide illustrations. Although the wheat produced is very similar, as the figures indicate, prices in Bulgaria, the Russian Federation and Ukraine can diverge widely.

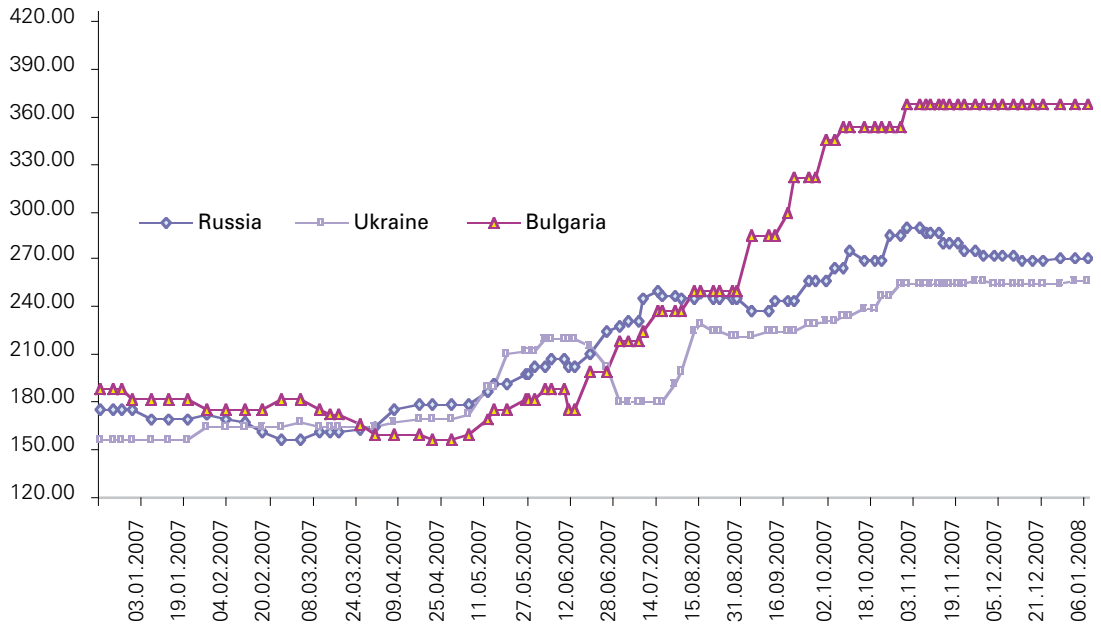
Second, rules and regulations have to permit cross-border usage of commodity exchanges. Currencies should be convertible, capital flows have to be sufficiently free (i.e. profits can be repatriated), exchanges should be allowed to offer "Direct Market Access" to international participants and foreign users have to be able to make and take delivery of physical commodities (this implies permissive and stable commodity import and export policies, regulations and tax regime).

Third, access to a regional exchange has to be practical. With the development of Internet-based trading technology at an affordable cost, getting the trading screens into the offices of prospective exchange users is no longer an issue by itself.

8 The CIS comprises Azerbaijan, Armenia, the Republic of Belarus, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Uzbekistan and Ukraine.

9 Earlier, in 2009, BUCE also signed an agreement with the SPBEX to create an electronic system for trading foodstuffs, metal products, construction materials, oil products and fertilizers but this agreement was not implemented.

Figure 3
Prices of milling wheat in Russia, Ukraine and Bulgaria in USD'ton for January-December 2007



Source: Sofia Commodity Exchange.

However, for people to actually be able to use the exchange they need to meet the exchange's "know your customer" requirements, they have to make financial arrangements for paying margin deposits and other guarantee fees, and they need to have access to a good level of technical support and training. This requires banks and brokers with an efficient regional network. Also, if an exchange is to be useful as a tool for improved spot trading, it needs to be possible for companies to make or take delivery of physical commodities in a different country, which implies the presence of a good transport system, efficient physical trading support agencies, reliable warehouses, etc. Many of the countries in the EC region still have a long way to go in these areas.

Finally, and perhaps most importantly, one needs a strong and committed group of private sector counterparts. The CIS Council, to give but one example, may well succeed in creating a truly common market in agricultural commodities in its member countries but it will not be able to create a regional exchange network by decree. Donor-funded research can show the potential of a Black Sea grain contract but this is not enough to make such a contract feasible. It is already proving quite difficult to get potential commodity exchange stakeholders within one country to agree among themselves and getting a powerful enough group to agree on a regional strategy will be a challenge.

5.5 Concluding Comments: Scope for International Action

Table 7 gives an entirely subjective summary overview of possible international support and its likely relevance/usefulness for the development of commodity exchanges in the ECA region.

As the table indicates, in a number of countries there would seem little prospect for effective support from the international community and, where there are good prospects for such support, its nature varies greatly from country to country.

The table gives an idea of where international support can have significant impact on marketing (by improving wholesale markets), finance (by introducing capital market finance for the commodity sector on the basis of repo finance) and risk management (through a futures and options market). In general, in EU member countries, the value added by international

support would be limited and partly because the necessary skills and resources already exist within these countries, partly because the EU has its own regional funds. There are only a few countries where international support could be highly effective in developing a commodity futures market and many more countries where such support could help improve agricultural finance by introducing trade in repo contracts (but keep in mind that such projects will only be effective if there is strong local support and ownership).

Table 7 also indicates how international support can best be focused or whether a multi-facetted approach would be most effective. How important would international support be in ensuring a proper policy framework (in particular, in terms of commodity market interventions and the degree of government control over physical trade) and in ensuring that a proper legal and regulatory framework can be put in place. Would the private sector really need financial support to set up a proper wholesale market or other exchange? Would technical advice to the private sector be successful in helping it to adopt an appropriate business model? This part of the table can also be read to indicate constraints. Where there is a "H" in the column "policy support to government", current government policy, at least in some critical aspects, is rather unfavourable to the development of markets. Where there is a "H" in the column "technical advice to private sector", it is likely that currently it would be difficult to find strong local stakeholders who can offer a unified vision on how to move forward with commodity exchange development.

Table 8 summarizes possible actions in the countries where the scope for successful international support could be best. This table includes one country where there is scope for establishing an electronic spot exchange (including for fruits and vegetables) – Azerbaijan; two countries with potential for improving the existing spot exchange, but only if the government changes its policies to provide more room to the private sector (the Republic of Belarus and Uzbekistan); two countries where relatively small but technically sophisticated exchanges could do much to improve agricultural wholesale trade and finance (Kyrgyzstan and Tajikistan); and four countries where international support can help create or strengthen existing commodity futures markets (Kazakhstan, the Russian Federation, Turkey and Ukraine).

It should be re-iterated that in all these cases, exchange development cannot be imposed from the outside. First, there needs to be political support. For example, where successful development requires a reduction of the role of the government, the government has to see the benefits of this. Second, one needs a strong buy-in from key parts of the local private sector. Work of international organizations can help build political consensus and private sector interest, through reports, policy advice, workshops, limited support to the private sector to kick-start initiatives and so on; but the "serious" work of commodity exchange development, with all the concomitant investments in infrastructure, can only be successful once a critical mass of local support is reached.

Table 7
Relevance/usefulness of international support to commodity exchange development in the ECA region

Country	Scope for action in the following domains			Importance of the following support			
	Whole-sale markets	Repos	Futures	Policy, to government	Regulatory, to govern-ment	Financial, to private sector	Technical advice, to private sector
Albania	M	M	L	L	L	M	M
Armenia	M	M	L	M	H	M	M
Azerbaijan	H	M	L	M	H	M	H
Republic of Belarus	H	H	M	H	H	L	H
Bosnia and Herzegovina	M	M	L	L	L	M	M
Bulgaria	M	M	M	L	L	L	M
Croatia	M	L	L	L	L	M	M
Czech Republic	M	L	L	L	L	L	M
Estonia	L	L	L	L	L	L	L
FYR Macedonia	M	L	L	L	L	M	M
Georgia	M	L	L	M	M	M	M
Hungary	L	M	M	L	L	L	L
Kazakhstan	H	H	H	H	H	L	H
Kosovo	M	M	L	L	L	M	M
Kyrgyzstan	M	H	L	H	H	H	H
Latvia	L	L	L	L	L	L	L
Lithuania	L	L	L	L	L	L	L
Republic of Moldova	M	H	L	M	M	M	M
Montenegro	M	M	L	L	L	M	M
Poland	M	M	L	L	L	L	M
Romania	M	M	M	L	L	L	M
Russian Federation	L	H	H	H	H	L	H
Serbia	H	M	L	L	L	M	M
Slovak Republic	L	M	L	L	L	L	L
Slovenia	L	L	L	L	L	L	M
Tajikistan	H	M	L	H	H	H	H
Turkey	M	H	H	M	M	L	H
Turkmeni-stan	H	H	M	H	H	L	H
Ukraine	M	H	H	H	H	L	H
Uzbekistan	H	H	M	H	H	M	H

Notes: L = Low, M = Medium, H = High.
These ratings are subjective impressions of the authors (which take into account the strength of the existing systems, existence of good potential project counterparts, potential given the economic conditions in the country – in agriculture as well as other commodity sectors that could support a futures exchange – and other factors influencing the likelihood that support will lead to successful results).

Source: The authors.

Table 8
Summary of country-level actions for developing exchanges in the ECA region

1	Azerbaijan	Product: Establishing Electronic Spot Exchange similar to the one in the Republic of Belarus or Uzbekistan but privately-owned. Issues: Limited size of local agricultural market and, therefore, need to include export trade (which has already well-established patterns). Recommendations: Fruit (dried and fresh), vegetable and flower sales are through Moscow wholesale markets; the sales and pricing point could be brought back to Azerbaijan. Evaluate private sector interest in such an initiative and move forward accordingly.
2	Republic of Belarus	Product: Improving State Commodity Exchange and supporting it in a policy of privatization, if the government expressed the desire to do so. Issues: Government policy, which sees exchange primarily as an instrument of government control. Recommendations: Provide advice on the benefits of privatization of BUCE, include the possibilities to introduce forward trading and trade in commodity repos, and enhance clearing operations. Provide assistance in the privatization process, if desired.
3	Kazakhstan	Product: Futures, improving WHR system with electronic trading, regional integration. Issues: Too much government interference as well as unwillingness of parts of the private sector to support a more transparent marketplace. Recommendations: Active marketing awareness-raising campaign, proper regulation on derivatives (structure, rights of investors and clearing system).
4	Kyrgyzstan	Product: Improving wholesale markets, introducing repo contracts. Issues: Lack of awareness and expertise. Recommendations: Provide advice on commodity exchange development. Assist in development of local commodity repo market. In the medium term, assist in building links with Uzbek (for cotton), Kazakh (for grains) and other regional exchanges.
5	Russian Federation	Product: Developing further the commodity derivatives market, expanding the number of contracts traded and increasing the efficiency of physical delivery procedures through the introduction of electronic WHRs (including a system for trading such receipts). Issues: Slow process of regulatory reform; private sector oligopolies and an active state interference into economic activities. Recommendations: Assist with national derivatives legislation, marketing and development of new price risk practices, integrating into world exchanges, WHR legislation.
6	Tajikistan	Product: Improving wholesale markets, introducing repo contracts. Issues: Lack of awareness and expertise. Recommendations: Provide advice on commodity exchange development. Assist in development of local commodity repo market. In the medium term, assist in building links with Uzbek (for cotton), Kazakh (for grains) and other regional exchanges. Note: existing Canadian/Asian Development Bank project may provide entry point.
7	Turkey	Product: Improving commodity derivatives market operations through the expansion of the number of contracts traded and the development of reliable physical delivery procedures. Introducing regional exchange (in the long term, servicing Hungary, FYR Macedonia, Romania, Serbia, Turkey plus Azerbaijan and Central Asian countries). Issues: Non-operational WHR system, two different government bodies (CMB and the Ministry of Industry and Trade) trying to oversee the sector. (It should be verified that government and other role players are ready to move towards a specialized commodity derivatives exchange.) Recommendations: Assist the existing derivatives exchange (number of standardized agricultural contracts, number of instruments, IT technologies, marketing activities to agriculture sector) and/or assist the planned umbrella exchange.
8	Ukraine	Product: Establishing derivatives market, electronic WHRs (including a system for trading such receipts), regional contracts (wheat and sunflower seeds and oil). Issues: A draft project plan for commodity exchanges did not go through in 2005. State intervention in terms of export control and state-operated Agrarian Exchange (private sector initiatives encounter disagreement between parts of the state and government and are thus prevented from moving ahead). Recommendations: Investment in storage facilities, delivery procedures, grading, improved WHR system, marketing of commodity derivatives, new legislation on derivatives.
9	Uzbekistan	Product: Improving main commodity exchange through introduction of repos, forward and futures markets, viable electronic WHRs, regional integration (with Kyrgyzstan and Tajikistan), improving the links of UZEX with global buyers. Issues: Government policy, which discourages private sector production and marketing, and use of exchange as tool for export controls. Recommendations: Expand operations of UZEX clearinghouse to underwrite forward and futures contracts; introduce system for trading cotton WHRs, accessible to local as well as international entities

Source: The Authors

Glossary

arbitrage The simultaneous sale and purchase of equivalent contracts in different markets (e.g. the sale of a June contract and the purchase of an October contract) for the purpose of benefiting from a discrepancy in prices.

auction A public sale in which goods are sold to the highest bidder.

basis risk The unexpected risk (and conversely, profit opportunities) associated with the fluctuations of the basis around its "normal" level for a certain grade of a commodity at a certain location, between the time a hedging position is established and the time it is lifted.

basis The difference in price between a physical commodity and its corresponding futures quotation. The basis reflects different time periods, product grades and/or locations.

bid An offer to buy a commodity (in casu, a futures or options contract) at a pre-stated price.

bid-ask spread The difference, at a given moment, between the price offered for the purchase of a contract and the price asked for the sale of a contract.

binary option An option that pays out a fixed amount when a certain event occurs or does not occur (e.g. the underlying financial instrument on which the option is based reaches its strike level, or a certain external event such as a corporate merger or an earthquake does not happen before expiry of the option).

broker A person or company paid a commission for accepting or executing the buy and sell orders of a customer.

call option A contract giving the right, but not the obligation, to buy a futures contract at a specified price at or before some later date.

cash settlement A method of settling certain futures or options contracts whereby instead of physical delivery, contracts are closed out at a certain settlement price.

clearinghouse An institution that guarantees futures contracts by automatically substituting itself as the seller to any buyer and as the buyer to any seller, for all transactions undertaken on a commodity exchange.

close out To reverse a futures trade (by an opposite transaction), and thus end a long or a short position. Also called liquidate.

commission Fee paid to a broker for the execution of an order.

commodity exchange Any organized marketplace where there is effective competition among buyers and among sellers; can serve as a forum for the trade in spot commodities, warehouse receipts, forward contracts, or futures and/or options contracts. Generally refers to a futures market.

counterparty risk The risk that a counterparty will default on an obligation (such as fulfilling obligations under a physical trade contract or an over-the-counter risk management contract).

default Failure to meet an obligation, such as paying margin calls or delivering against a contract.

delivery month The specified month during which a futures contract matures and can be settled by delivery.

delivery The process of supplying physical commodities in settlement of an expiring futures position.

deposit Amount required by a clearinghouse as security when a position is opened. Also called initial margin.

derivatives Contracts whose price depends directly upon the value of one or more underlying contracts, securities, commodities or any other agreed pricing index. Derivatives include both exchange-traded instruments (futures and options) and over-the-counter instruments (swaps, commodity bonds and other "hybrid" instruments).

differential The discount or premium allowed on delivery against a futures contract for grades or locations better or worse than the standard grade or location specified in the futures contract.

electronic market A market forum in which traders buy and sell contracts through a computer network, with the computer system automatically matching bids and offers.

forward months Futures contracts, currently trading, calling for later delivery.

forwards Contracts for the purchase or sale of a commodity for deferred delivery; different from a spot contract only in that delivery is at some time in the future.

futures Contracts to deliver at a future date a standard quantity of a commodity of a standard quality traded on an organized exchange with a limited membership; generally closed out before delivery.

futures market An organized marketplace providing the facilities for futures market trade. A futures market can be an open outcry exchange or an electronic market.

grading The inspection of physical goods, necessary for ensuring that they are of a tenderable quality for a futures market.

hedge A purchase or sale on a futures market or options market intended to offset a price risk on the physical market.

life of contract Period between the day a futures contract starts trading and the day it expires.

liquidation The closing out of a long or short position.

liquidity Indicates the ease with which orders can be executed without undue effects on price levels.

lot The unit of trading on the market.

manipulation The deliberate attempt to move market prices away from their true equilibrium.

margin call A demand for additional security arising from an adverse price movement. Also called variation margin.

margin The security required for a position by a broker or a clearinghouse. Also called deposit or initial margin.

maturity Period within which a futures contract can be settled by delivery of the underlying commodity.

MiFID Markets in Financial Instruments Directive is a common framework of rules imposed by the EU on all securities and derivatives exchanges.

offer An indication of the willingness to sell at a given price.

open outcry A method of public auction where participants are together in one place and make bids and offers through shouting out and through hand signals.

option A contract giving the right, but not the obligation, to buy or sell a futures contract at a specified price at or before some later date. To obtain such a contract, the buyer needs to pay a premium; his maximum loss is limited to this premium. The seller of an option receives the premium but his potential loss is theoretically unlimited. See also call option and put option.

over-the-counter Refers to a risk management market that is not part of an organized exchange, or to the risk management instruments that are traded on this market.

physicals The underlying commodities on which a futures contract is based.

price discovery The process of determining the price of a commodity based on supply and demand factors.

put option A contract giving the right, but not the obligation, to sell a futures contract at a specified price at or before some later date.

recognized warehouse A warehouse recognized by a commodity exchange as acceptable for delivery of commodities against futures contracts. Such a warehouse needs to fulfill certain necessary requirements in terms of supporting infrastructure (including transport and loading infrastructure), storage facilities, capacity and location. Also called exchange warehouse or licensed warehouse.

repo A sale-and-repurchase agreement; a contract in which the seller agrees with the buyer to buy back the security/contract/warehouse receipt that he has sold at a given price in a certain number of days.

settlement price The daily price at which the clearinghouse clears all trades, used to determine margin calls. Also refers to a price established by an exchange for contracts to be closed out through a cash payment rather than through physical delivery.

speculation The taking of positions on a futures or options market in an attempt to benefit from a correct anticipation of future price movements.

spot contracts Contracts for immediate delivery – that is, the same day or within a few days.

spot exchange A commodity exchange in which commodities are traded for immediate delivery or delivery within a few days.

swap An agreement in which two parties agree to exchange two payment flows (e.g. the payment of a fixed price for a commodity versus the payment of a fluctuating market price).

tender To make delivery; or to give notice to the clearinghouse of the intention to initiate delivery of the physical commodity, against an open short position in the futures market.

terminal market Synonym for futures market.

volatility A statistical measure of the tendency of a market price to vary over time.

volume The number of contracts traded on a market.

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