Kazakhstan's wheat, beef and dairy sectors: An assessment of their development constraints and recent policy responses

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Abstract

Kazakhstan is now widely regarded as a key player on world agricultural markets, with considerable export potential in the wheat, beef and dairy sectors. Based on unique farm-level data covering all production systems currently relevant, this analysis offers new insights into the constraints that hamper further economic growth and provides an assessment of the government's agricultural development strategy.

A frequently mentioned bottleneck is agriculture's lacking access to finance. But most farm managers in the farm survey doubt that agricultural investments deliver a sufficiently reliable return required for credit funding and thus do not take loans. Despite the vast land resources, a lack of land supply is now the most cited constraint to farm expansion in the highly regulated land market of the northern grain region. Another set of constraints in wheat production is related to the market power of elevators, the vagaries of trading over long distances in an underdeveloped rail and seaport infrastructure, and the intervention activities of state agencies. In the cattle sector, there are significant problems in year-round fodder supply. The value chains for beef and dairy are bifurcated into an import-dependent chain for industrially processed products serving urban consumers, and a local chain of raw products serving rural consumers and urban bazaars.

In his recently released "Kazakhstan 2050" strategy, President Nazarbayev expressed a firm commitment towards improving the competitiveness of the economy by an ambitious modernisation package. This is also clearly visible in the "Agribusiness 2020" programme, in which a hitherto unprecedented budget volume was earmarked for boosting the productivity of the sector. But these strategies tend to focus on the provision of subsidised capital, while they underestimate the knowledge and incentive problems inherent to a state-guided management of sector development. The government should rather focus on providing impartial, reliable and high-quality public services to the sector, making sure that the weakest links in food chain development are identified and private entrepreneurs are provided with the necessary incentives to strengthen them. Our evidence suggests that a bundle of measures improving the local institutional environment of agriculture is more important than massive state funding of certain production lines.

Keywords: Agricultural development strategy, agricultural finance, agricultural marketing, livestock feeding, Kazakhstan.

JEL codes: O13; P32; Q12; Q18.

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1 Introduction

Based on a solid overall economic performance along with relative political stability, Kazakhstan has gained an internationally recognised position among the post-Soviet countries. While much of the economic growth is driven by Kazakhstan's oil and gas sectors, the country has also become one of the top ten global exporters of wheat and flour. International observers see the agribusiness sector as a key investment target deriving its attractiveness from the country's extensive arable land resources, positive demand prospects in neighbouring countries, growing domestic consumption, and a relatively liberal trade regime (OECD 2011). However, with rising incomes, many countries are shifting towards more protein-rich diets, creating opportunities in addition to the export of wheat. Domestic beef and dairy production may well have considerable development potential, thus opening up regional export perspectives as well.

Analysts have repeatedly pointed out the bottlenecks of further sector development (OECD 2011; 2013): restricted access to finance for agribusinesses; low land productivity, land tenure restrictions, and an underdeveloped transport infrastructure in grain production; and too small livestock inventories, constraints in fodder supply, inadequate quality standards, and truncated value chains in beef and dairy production. The vast distances of the landlocked country to markets pose considerable logistic challenges for all land-dependent producers in the country. At the same time, after the collapse of most of the industrial livestock producers during the transition crisis of the 1990s, cattle and sheep are now spread across 2.5 million households and mostly small-scale individual farms.

The direction of Kazakhstan's policy response to these opportunities and challenges is codified in a number of strategy documents issued by the President's office and his cabinet of ministers. In December 2012, a new long-term strategy ("Kazakhstan 2050") was announced by the President, followed by a more specific sectoral programme for agriculture ("Programme for the Development of the Agro-Industrial Complex in the Republic of Kazakhstan for the years 2013-2020 (Agribusiness 2020)"), passed in February 2013.[1] While the goal of the overarching Strategy 2050 is to make Kazakhstan one of the 30 most developed countries in the world by 2050, the single objective of Agribusiness 2020 is to "create the conditions for an enhanced competitiveness" of agribusiness in Kazakhstan. To this end, an overall budget of approximately 3.1 trillion Kazakhstani tenge (KZT) (approx. US$ 21 billion) was earmarked for spending until 2020. The overwhelming share of this budget is supposed to be public funding of crop inputs, fodder purchases, restocking of livestock herds, and preferential capital access for agricultural producers. In addition, outlays for phytosanitary and veterinary services as well as public research and development (R&D) are foreseen.

Against this policy background, the paper provides an empirical analysis of some of the farm-level constraints to the further development of Kazakhstan's wheat, beef, and

[1] The "Kazakhstan 2050" and "Agribusiness 2020" documents are available for download at the website www.strategy2050.kz. We quote from the officially provided English translation of "Kazakhstan 2050" below. Translations from the original Russian language version of "Agribusiness 2020" (*Programma po razvitiiu agropromyshlennogo kompleksa v respublike Kazakhstan na 2013-2020 gody (agrobiznes-2020)*, Astana 2012) are our own.

dairy sectors and examines the plausibility of the official policy response to these challenges. In the following section of the paper, we present an original analysis of current constraints to agricultural development based on unique farm survey data collected by the World Bank and IAMO in 2003 and 2012. A hallmark of the survey data is that it covers the entire range of farm types currently operating in Kazakhstan. The survey data is particularly instructive with regard to farmers' access to the key production factors capital, land, and fodder. We provide an overview of current production and marketing structures of the industry and comment on some recent developments, based on additional information from domestic sources. In a subsequent section, we outline the Kazakhstani approach to agricultural policy making and analyse the main policy document, the "Agribusiness 2020" programme. We conclude with a discussion of the shortcomings of the official strategy and present a number of policy recommendations based on our own findings.

2 Contemporary constraints to agricultural development in Kazakhstan

2.1 Data sources

The bulk of data for this analysis comes from two farm surveys conducted by the World Bank in 2003 and by IAMO in 2012. It was collected in Akmola and Almaty provinces, two important agricultural regions of Kazakhstan. Akmola is part of the northern grain region and its agricultural output is mostly grain, whereas agricultural production in the southern foothills province of Almaty is more diversified and oriented towards livestock. Many of the questions were identical in both surveys. Furthermore, both surveys were carried out in the same counties and in mostly the same villages. They were administered by the data collection firm BISAM with headquarters in Almaty, Kazakhstan. The identification of specific farms across the two survey rounds was not possible due to anonymity restrictions. In each of the two provinces, the survey administrators of the 2003 survey had pre-selected two counties, one close and one distant to the provincial capitals (which in this case are the new and old capital of the country, respectively). These counties were surveyed again in 2012. Following Petrick et al. (2011) and OECD (2013), there are four important farm groupings in Kazakhtsan:

1. *Household producers*. These used to be an integral part of the rural food supply during the Soviet period, particularly with regard to vegetables and livestock products (during transition, many of them took over some of the livestock from the collapsing former state farms).
2. *Small- to medium-sized individual farms*. These were created during the land reforms of the 1990s.
3. *Agricultural enterprises*. Many of these are former state farms.
4. *Agroholdings*. These are agricultural enterprises that belong to a horizontally and/or vertically integrated business group, often established by outside investors (but in Kazakhstan, typically domestic investors).

Within the given counties, representatives of the second to fourth group were selected randomly on the basis of company registers provided by the local government administration in each of the two survey years. Enumerators then arranged standardised face-to-face interviews with the farm managers. Household producers were identified by a snowball sampling system and interviewed at home. The 2012 survey targeted the villages surveyed in 2003 in the same fashion. In 2012, data collection was carried out during summer and fall, often before the crop was fully harvested and marketed. All economic performance indicators therefore refer to the cropping year 2011. Results of the 2003 survey were published separately by Dudwick et al. (2007).

The data includes information about the legal status of the farms. In 2012, there was a quota set that at least 50 entities registered as an agricultural enterprise were to be included in the Akmola sample and 10 in Almaty. Furthermore, the 2012 survey instrument asked whether the enterprise belonged to a parent organisation such as an agroholding. In this way, it is possible to distinguish four farm types: household producers, individual farms, agricultural enterprises and agroholdings. The latter were only observed in 2012. In the following, the category “agroholding” denotes a single enterprise

location or branch, not the entire holding company. Agroholding companies are sometimes active in several provinces or even countries (Petrick et al. 2011; 2013).

Table 1: Operational scale of different farm types in the survey data

	Households	*Individual farms*	*Agricultural enterprises*	*Branches of agroholdings*
No. of farms in 2003 survey sample	300	86	14	0
Utilised agricultural area (ha) in 2003 *	0.06 (0.05; 0.1)	170 (23; 270)	1,552 (76; 10,406)	-
No. of farms in 2012 survey sample	300	245	47	8
Utilised agricultural area (ha) in 2011 *	0.04 (0.01; 0.07)	75 (20; 421)	12,800 (4,732; 18,136)	24,000 (17,152; 34,618)
Farms with cattle 2011 (%)	55	37	36	13
among which: size of cattle herd 2011 (heads) *	2 (1; 4)	30 (10; 89)	271 (77; 408)	920
Farms with dairy cows 2011 (%)	52	32	13	13
among which: size of cow herd 2011 (heads) *	1 (1; 2)	10 (4; 30)	225 (32; 350)	480

Notes: * median (first; third quartile). All statistics based on non-missing data.
Source: Authors' calculations based on IAMO 2012 farm survey data.

Table 1 gives an overview of the sample structure and some key measures of operational scale in the different subsamples. It demonstrates the enormous variation in utilised area and herd sizes per farm across farm types. Household producers work on a tiny plot of land and keep one or two cows. Many individual farms have a size comparable to that of family farms in the West. Their median utilised area was 75 hectares (ha) in 2011, and the median farm with cattle kept 30 animals or 10 cows. The enterprises are larger by order of magnitude, utilising 12,800 ha of land at the median for ordinary enterprises or even double the size for the median agroholding. Cattle herds on enterprises are also much larger than on individual farms.

2.2 Farmers' access to credit

In 2011, total bank loans worth US$2.3 billion were taken by companies in the agricultural and food sector of Kazakhstan. In that year, nominal interest rates for loans to legal entities stood at about 10% to 13% for loans in national currency and 7% to 10% in foreign currency. The majority of loans to the agricultural sector is made in the national currency. In late 2007 and 2008, with commercial lending to the agricultural sector in Kazakhstan strongly contracting due to the unfolding global financial crisis, the sector has suffered from high default rates. For example, in September 2011, 10.6% of loans to agriculture were non-performing, and 33.7% were at risk (Issayeva 2012). Even so, the situation was even worse in other sectors of the economy. Due to a large share of non-

performing loans and recent government bailouts, international observers regard the Kazakh banking industry as weak (EBRD 2012).

As a reaction, the Kazakhstani government promoted access to funding from the state-owned holding KazAgro. Officially, the government declared that it feared negative consequences for domestic food security from the contracting private credit supply. The Agrarian Credit Corporation (ACC) as a KazAgro subsidiary has been the key government agency providing farmers with subsidized credit (see OECD 2013, 138-150, for a detailed account). To this end, it is linked to a network of some 160 so-called Rural Credit Partnerships. These partnerships consist of 30 to 40 farms whose managers have to make a deposit in order to become members and thus eligible for funding. Based on available farm collateral, farmers submit their credit proposals via the Credit Partnerships to the ACC. If the proposal is accepted, the ACC grants a credit at a subsidized rate (4% in 2011) to the Credit Partnership. Loans offered to farmers then carry an interest rate that is twice the level of the subsidized rate (i.e., 8%). Unlike traditional credit cooperatives in other countries, the Credit Partnerships have no autonomy in decision making (Gaisina 2007). They are not allowed to take regular savings and have no control over the deposits made by farmers. Only registered enterprises (including individual farms), not private individuals, can become members. Rural Credit Partnerships are simply the local branch of a centralized governmental subsidy program. Recently, default rates have also been high. While well-managed individual farms and enterprises can attract funding from the ACC (Petrick et al., 2011), overall participation is low. Even in the provinces with the highest penetration of credit partnerships (South Kazakhstan and Almaty), less than 2% of all agricultural entities are members (OECD 2013: 142).

In addition to the Credit Partnerships, there are also direct channels through which ACC provides funding for the agricultural sector, and there is a separate leasing program for farm machinery funded by KazAgro.[2]

The 300 agricultural enterprises, including agroholdings and individual farms, that were in the 2011 survey sample obtained a total of 39 loans in that year. Of these loans, 49% were extended by KazAgro and 31% via commercial banks. The rest came mostly from private money lenders, and concerned the co-financing of investment projects on smaller individual farms. These figures imply that only 6% of all farms and enterprises in the sample obtained credit from KazAgro and 4% from a bank loan. Reported annual interest rates ranged from 1.5 to 13%, with a mean of 6.5%. KazAgro loans had a mean interest rate of 5.8%, and bank loans of 7.8%.

[2] A number of grain enterprises in the north of the country were successful in attracting outside equity via agroholdings (Petrick et al. 2013). This source of funding was not investigated in depth in our analysis, but there is casual evidence that it has resulted in a widespread modernisation of equipment among the holding branches.

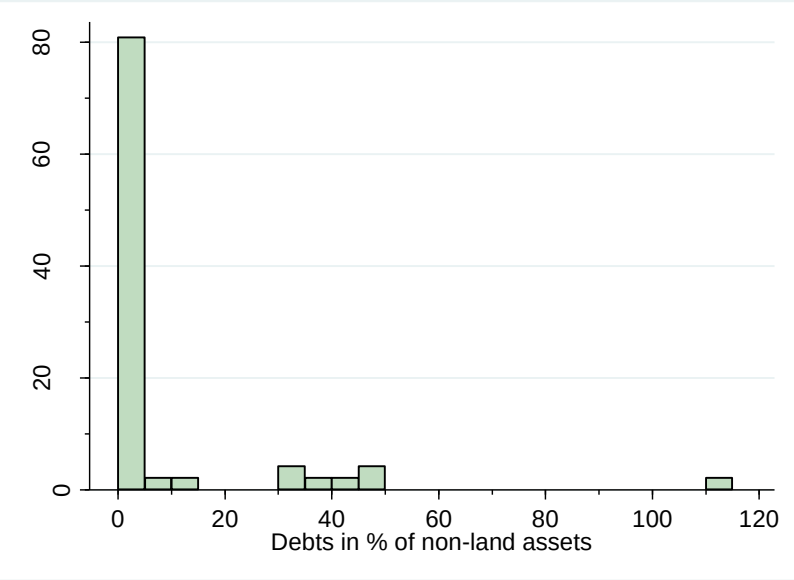
Table 2: Credit rationing outcomes for different farm types in 2011 (% of respondents)

	House-holds	*Individual farms*	*Agric. en-terprises*	*Agro-holdings*	*Grain farms [a] Akmola*	*Households with dairy*	*Individual dairy farms*
Took a loan in 2011	**7.0**	**11.0**	**25.5**	**50.0**	**25.9**	**7.1**	**15.4**
Price rationed borrowers	7.0	7.8	17.0	25.0	15.7	7.1	12.9
Quantity rationed borrowers	0	3.3	8.5	25.0	10.2	0	2.6
No new loan in 2011 [b]	**93.0**	**88.9**	**74.5**	**50.0**	**74.1**	**92.9**	**84.6**
Price rationed non-borrowers	90.0	81.6	70.2	37.5	66.7	89.7	75.6
Quantity rationed non-borrowers	1.0	3.3	0	0	0	0	5.1
Risk rationed non-borrowers	76.3	69.4	42.6	25.0	38.0	76.3	61.5
Transaction cost rat. non-borrowers	47.7	23.7	14.9	0	6.5	53.9	23.1
Liabilities (% of non-land assets, sub-group mean) [c]	**-**	**3.8**	**7.7**	**5.0**	**6.7**	**-**	**5.4**
Number of respondents in subgroup	300	245	47	8	108	156	78

Notes: [a] Individual farms and agricultural enterprises incl. agroholdings located in Akmola province. [b] Multiple classifications possible among non-borrowers. [c] Based on non-missing observations.
Source: Authors' calculations based on IAMO 2012 farm survey.

Borrowing behaviour according to subgroups of respondents is summarised in Table 2. In this table, clear trends become visible along a continuum of farm organisation from households at one end and agroholding branches at the other. While every second agroholding took a loan in 2011, only 7% of households did, with individual farms and agricultural enterprises displaying intermediate levels. The last but one row in the table suggests that debt levels on the farms' balance sheets are generally low. 80% of farms and enterprises actually have debt levels below 5% (Figure 1).

Figure 1: Distribution of debt levels on individual farms and enterprises incl. agroholdings in 2011



Source: Authors' calculations based on IAMO 2012 survey data.

Based on the survey data, we analyse producers' access to funding using a method that directly elicits individual borrowing status from the respondents. For both types of evidence we use a conceptual framework summarised recently by Boucher et al. (2009). This framework distinguishes the following four categories of credit rationing outcomes:

1. *Price rationing*. The credit demand by price rationed respondents is determined by the level of the interest rate they face. Such respondents may be borrowers who satisfied their credit demand at the going interest rate. Alternatively, they may be non-borrowers who did not demand credit because they found the interest rate offered to be exceeding the revenue generation capacity of their investment. As this rationing mechanism follows conventional market price signals, the respondents may be classified as unconstrained with regard to credit-specific obstacles to borrowing.
2. *Quantity rationing*. Quantity rationed respondents face a binding credit limit which prevents them from borrowing as much as demanded, due to unresolved problems of financial intermediation. Quantity rationed borrowers would have liked to borrow more at the going interest rate than they actually obtained. Quantity rationed non-borrowers applied for a loan and thus expressed some notional demand but were fully rejected by the lender. Such respondents are typically prepared to service the interest rate offered. But the bank turns down their credit application because they cannot provide enough collateral or the offered contract does not match the cash flow schedule of the investment project.
3. *Risk rationing*. Risk rationed respondents refrain from borrowing because they fear the risk of defaulting on the loan and possibly losing the collateral they pledged. They thus do not face a binding credit limit. Their credit demand is nevertheless affected by the uncertainties of generating their investment return and/or the collateral arrangements of imperfect credit markets.

4. *Transaction cost rationing*. Alternatively, respondents may abstain from borrowing because they regard the application procedures as too complicated, or because there is simply no lender available in their area. Effective demand by such respondents is driven down to zero because of credit-specific costs that add to the interest rate.

In the farm survey, we made an attempt to measure the empirical relevance of the above categories in the Kazakh agricultural credit market. The individual rationing outcomes were elicited by a cascade of interview questions following Boucher et al. (2009) and the literature cited therein. Among the non-borrowers, multiple answers were possible to the question why they did not like to borrow. The results are summarised in Table 2. This data is only available for 2011.

Among the borrowers who took a new loan in 2011, both price and quantity rationing increase from households to agroholdings, but price rationing is more prevalent in all subgroups of farms. It is thus primarily the level of the regular debt service that discouraged borrowers from taking bigger loans, not so much the non-price elements of the contracts, such as collateral requirements.

Among the non-borrowers, multiple reasons for the absence of effective loan demand were recorded in the survey. Price and risk rationing were the two dominant motives for not borrowing, with the former being mentioned even more often. That is, farmers do not take loans at all because agriculture revenue streams are regarded as too low and too fluctuating to service regular interest and repayment rates. As the share of non-borrowers goes down with more commercialised farming operations, i.e., from households to agroholdings, so does the share of price- and risk-rationed farmers in per cent of all subgroup respondents. Among the households, nine out of ten are price rationed and three fourths risk rationed. Within the agroholdings, only three out of eight are price rationed and one fourth risk rationed. For about one half of the households and one quarter of the individual farms, high transaction costs are a main reason for not borrowing, whereas this reason is much less important for enterprises and agroholdings. Quantity rationing is generally negligible among non-borrowers. By implication, farmers who expect that they are not creditworthy refrain from applying to a bank altogether.

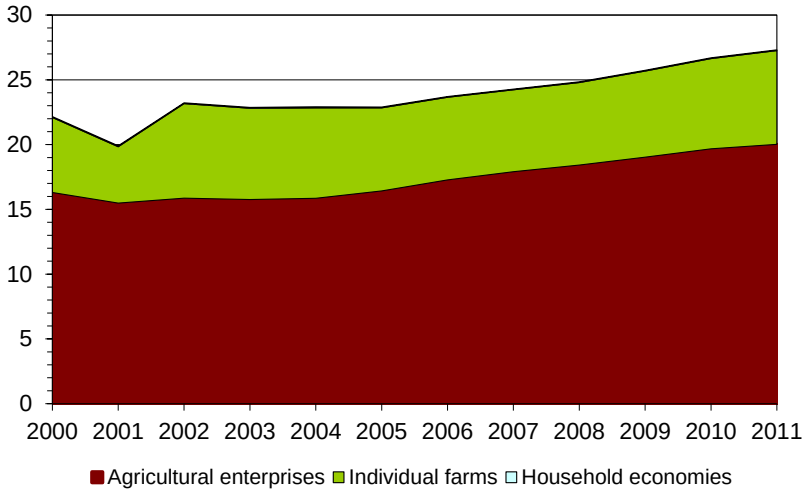
Hence, the by far dominating driver of credit market outcomes is the *lack of effective demand* given the low and uncertain returns from farm production. Given this evidence, most farm managers seem to be convinced that agricultural investments cannot currently deliver a sufficiently stable revenue stream which could serve the going repayment rates. They are subject to price and risk rationing. Only a relatively small number (namely the quantity and transaction cost rationed respondents in Table 2) think that it is the *lacking access* to these sources of funding that ultimately prevents them from borrowing.

2.3 Wheat sector

Kazakhstan has huge land resources for wheat production, although the latter suffers from a lack of rainfall and a low and highly fluctuating yield level. Recent average yields of rain fed wheat production varied between 6.8 dt/ha (in 2010) and 16.4 dt/ha (in 2011). Even so, there is a high potential for quality wheat and, in international comparison, production costs are low (Oshakbaev 2010). Relative to the EU, Australia, or the

United States, Kazakhstan supposedly also enjoys a transport cost advantage to regional export destinations (OECD 2011, 111).

Figure 2: Land use by farm types in Kazakh grain region (million ha)



Notes: Figure includes Akmola, Kostanay and North Kazakhstan provinces. Agricultural enterprises include agroholdings.
Source: Authors' calculations based on Statistical Yearbooks of Agriculture, Forestry and Fishery in Kazakhstan.

About 80% of Kazakhstan's wheat is produced in the three northern provinces of Akmola, Kostanay and North Kazakhstan bordering to Russia, and these regions are the origin of the country's grain exports. Figure 2 shows the size of the total agricultural land area in the grain region and the type of farms that are cultivating it. Overall land use by all types of farms has been continuously increasing since 2001. Practically all farmland growth occurs in agricultural enterprises, which are taking back land into cultivation that had fallen idle during the transition period of the 1990s. Following official statistics, the average size of agricultural enterprises in 2013 was about 10,000 ha. In addition, a more or less stable area of land is cultivated by individual farms (called "peasant farms" in official terminology). Average individual farm sizes are now at above 500 ha, and have been increasing since 2005 (see Petrick et al. 2011 for more statistical information on farm structural development). A final layer of land users, the household economies, is barely visible in the figure. Household economies operate on small plots of land that include an extended backyard.

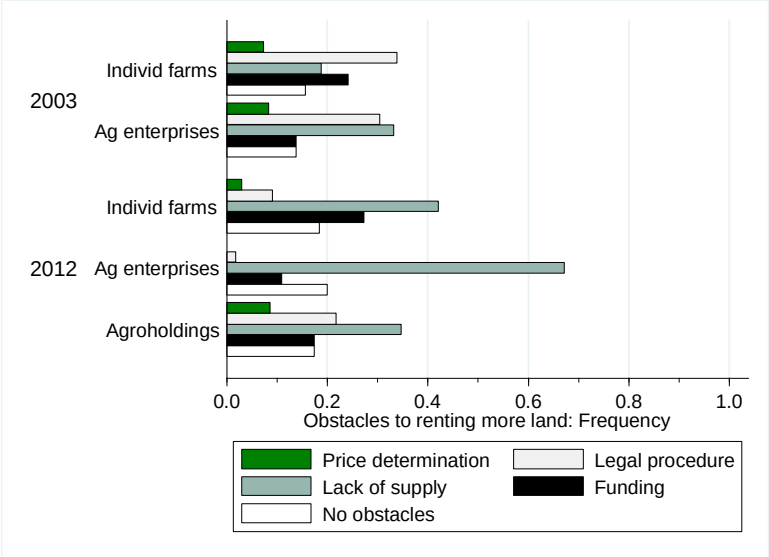
2.3.1 Constraints to land access

After stop-and-go land reform policies in the 1990s which led to the distribution of paper shares to rural citizens, the new land code of 2003 (implemented in 2005) established the legal conditions for fully private land ownership. Yet, most land is still state property and leased to farmers for a 49-year term at a very low rate (OECD 2013, 151-54; Petrick 2013). In the northern grain region, many beneficiaries of the initial land redistributions of the 1990s contributed their land share to the transformed agricultural enterprises. As secondary rentals of land leased from the state are prohibited, short- and

medium-term adjustments in land use outside the land sales market are difficult. Interviews with farmers and local experts evaluated in Petrick et al. (2011) revealed that they mostly occur when existing farms change ownership, due to liquidations or mergers, and the land shares are transferred to the new owner. Land transactions are largely controlled by local land commissions, in which directors of existing farms and local officials are represented. Agricultural enterprises benefitted from the new legislation more than individual farms, as the latter could not acquire land shares from rural residents.

The survey data confirms that land purchases are very recent and rare (see Petrick 2013, for more details). There were no reported land purchases by any of the farm entities surveyed in 2003. But also the 2011 survey round documents only four land purchases among all individual farms surveyed, and one among the enterprises. There was more activity on the land rental market, which has become increasingly liquid recently. We consider only rentals from non-shareholders or from the government that occurred after the legal constitution of the farm or enterprise. While none of the individual farms rented any land in 2003, 20% of enterprises did so at that time. By 2011, however, 52% of individual farms rented extra land, as did even 64% of the enterprises and 38% of the agroholdings.

Figure 3: Obstacles to land access in Akmola province



Notes: Multiple answers possible, total number of responses was 270.
Source: Authors' calculations based on World Bank 2003 and IAMO 2012 survey data.

Both surveys contained questions about the nature of the constraints on the land rental market among individual farms and agricultural enterprises (Figure 3). It is instructive to note how the relative importance shifted over time and among farm types. In 2003, problems with the legal procedure of land renting and funding problems were salient among individual farms. The legal procedure was also an obstacle for many enterprises, although lacking supply of land for renting was the most frequently noted difficulty among them. Both farm types also reported price determination, i.e. how to find an appropriate price, as a relevant problem. In 2011, the constraints were clearly shifting to the supply side. A lack of supply was by far the most frequent response. From the sur-

vey data, we know that the overwhelming majority of existing rentals (98%) were from the government. So apparently most available land from the government is now rented out. Problems with price determination played no longer a role in 2011. There was rather an increasing number of managers who stated that they did not see any obstacles to land access, most frequently among the agroholdings.

Along with overall agricultural recovery, the land rental market has become much more active over time. This activity is mostly limited to transactions in which the government is the lessor of the land. As the land rental price is fixed at a low level by law, it is not particular surprising that there is now an excess demand and widely perceived rationing on the supply side. Estimates provided in Petrick (2013) demonstrate that there are both large agricultural enterprises and smaller individual farms of about 100 to 500 ha in size in the survey sample whose willingness to pay for land considerably exceeds the state rental rate.

2.3.2 Marketing constraints

Kazakhstan has inherited the Soviet system of grain storage infrastructure where the grain is mainly stored in large, centralised storage and trading facilities, the elevators. After privatization and a series of re-sales, ownership and management of elevators ended up mostly in the hands of large grain producers. Storing and handling of their own grain is the top priority for them, while delivering storage services to other producers and traders is just an additional source of income. Particularly in a bumper crop year like 2011, elevators can exert considerable market power and producers struggle to access the elevators. As the interest rates on loans are high and the payback period for storage facilities is relatively long, many farmers cannot afford to set up their own on-farm storage. Moreover, the government introduced a grain warehouse receipt system in 2001, to which now some 200 elevators are licensed (OECD 2013, 145). Trading arrangements are typically based on grain warehouse receipts issued for a certain elevator station. Farmers thus need to deliver wheat to the elevator anyway sooner or later, in order to fulfil the contract obligations. Smaller individual farmers typically do not sell directly to the elevator but rather use local traders or middlemen to market their grain. Household producers are usually not engaged in significant wheat production.

Farmers often complain that elevator laboratories try to underrate the gluten content in wheat and overrate humidity, impurities and admixtures. In the first case, the elevators may mix high quality wheat with lower quality and thus benefit from an improved average quality. In the second, the elevator obtains more wheat for less money. An overrated content of impurities and admixtures allows charging more for cleaning services.

Some elevators try to make their own arbitrage gains from grain trading using the grain stocks that are the property of their customers. The elevator management may sell a portion of stored grain on attractive terms and then return it after the next harvest, when the prices are relatively low. This is illegal to do, because the grain receipt system implies that holders can withdraw their grain at any time. As long as holders do not withdraw massively, the elevator's grain deals will not be noticed. But once elevator stocks are depleted, the management may fail to find other sources quickly in case a farmer's grain is to be returned. Grain owners may thus see themselves unable to withdraw their grain. Such hold-ups may considerably delay farmers' trading activities, resulting in fines imposed by their business partners. Experienced farmers or traders thus keep black lists of

elevators that are active in illegal trading practices. A recent report of the Kazakhstani Committee on State Inspection in Agriculture said that there were unsupplied grain receipts worth 180 thousand tons of grain between 2008 and 2010.

One of the few alternatives is to sell wheat to a grain mill. As flour exports have become increasingly important since 2000, this is now supposed to be a more frequently accessed marketing channel (OECD 2013, 208). In the farm survey data for 2011, 34% of grain producers sold directly to the elevator and the same fraction via intermediate traders. Only 8% sold to a grain mill. 14% did not sell any grain at all in the previous 12 months, and the rest used other channels.

The transport of harvested grain has become an increasing problem in recent years. Kazakhstan is a landlocked country with the closest access to international ocean freight via the Black Sea ports. However, transition by rail via the Russian railway system is fairly expensive. There is a small section of Russian railways crossing the Kazakhstani territory in North Kazakhstan oblast. The wheat price at elevators which deliver only via Russian railways is typically lower than in neighboring ones that have access to the Kazakhstani system, due to significantly higher transportation costs. Due to these costs, exports in the southern direction have become more attractive: in August 2013, the wheat price at the Saryagash railway station, the main gate to Uzbekistan, was USD 22 higher than at the Tobol station, the gate to Russia. Figure 4 gives a snapshot of wheat prices in different parts of Kazakhstan. The contracts on the domestic market are typically on an elevator basis matching EXW (Ex Works) rule of INCOTERMS 2010. EXW means the seller delivers when he/she places the goods at the disposal of the buyer at the seller's premises or at another named place. Export contracts usually follow DAP (Delivered at Place) rules, when the seller is responsible for delivering it to a border station and has to clear customs. FOB (Free on Board) types of contracts are used solely in Caspian Sea trades via Kazakhstan's only grain port in Aktau.

Figure 4: Regional prices of third class wheat in Kazakhstan USD/tonne, August 2013

Source: Authors based on data from http://kazakh-zerno.kz

The Aktau sea port grain terminal is the most attractive point for exporting to Caspian Sea countries, to Iran, Turkmenistan, Russia, Azerbaijan and further to Georgia. The annual capacity of the terminal is 0.5 mln tons, which was sufficient for only 30% of exports to these countries in 2009/10 (OECD 2013, 211). It is thus a crucial transition bottleneck for this inexpensive mode of transport. Recently, the Aktau sea port grain terminal management was accused of providing priority access for only a privileged group of exporters. Although further inspections found no confirming evidence, the Kazakhstani government started negotiations to outsource port management to DP World, a global port operator. In 2006, Kazakhstan invested into the construction of a grain terminal in Baku (Azerbaijan) which was constructed in 2008. It was expected that the terminal would handle another 0.5 mln tons of grain annually. But between 2008 and mid-2012 its turnover amounted to only 122 thousand tons, of which only 65% came from Kazakhstan. Investments in a grain terminal at Batumi Black Sea port in Georgia with an annual capacity of 2 mln tons are currently under negotiation.

Trading with Central Asian countries also involves risks. Railways to Afghanistan, Turkmenistan and Iran pass through the Uzbekistani territory. Complaining on overloading, Uzbekistan unexpectedly stopped rail transits for a short period in 2009. Since 2010, political tensions between Uzbekistan and Tajikistan have provoked a series of rail service interruptions. To avoid transit deliveries, Kazakhstan and Turkmenistan are constructing a direct railway connection that is supposed to also link Iran. In the beginning of 2010, railway car delays have occurred on the side of Iran. Delays in railway car returns also happened in Black Sea terminals when these froze up in winter 2011/12. Kazakhstani railways own 5,200 railway cars, a number supposedly sufficient for operations in years with an average harvest. But in peak periods, especially when problems appear at the destination, railway car shortages need to be compensated by expensive rentals from Russian companies.

Key reasons for a low level of exports to China are the high transportation costs and non-tariff barriers applied by China for grain delivery. Supposedly for phytosanitary reasons, the Chinese government prohibits in-bulk transportation and requires grain to be packed in 50 kg bags. Packaging adds USD 20 to each ton of wheat, making it uncompetitive on Chinese and South-east Asian markets.

Additional market risks for producers emerge from the activities of the Food Contract Corporation (FCC), a public agency managing the state grain reserves (see OECD 2013 for details). Since 2003, it has also assumed the role of a market regulator through intervention purchases. It has a priority claim for storage and transport facilities. Beginning in 2009, the FCC pursued a counter-cyclical price stabilisation strategy in the wheat market. In good harvest years, FCC prices may be higher than market prices, but transport to delivery points with FCC concession may be particularly hard to get for farmers. In bad years, FCC prices may be lower than market prices, but mandatory deliveries may be established. The implied purchase licenses or obligations supposedly made farmers bribe for access to selling in good years and for exemptions in bad years.

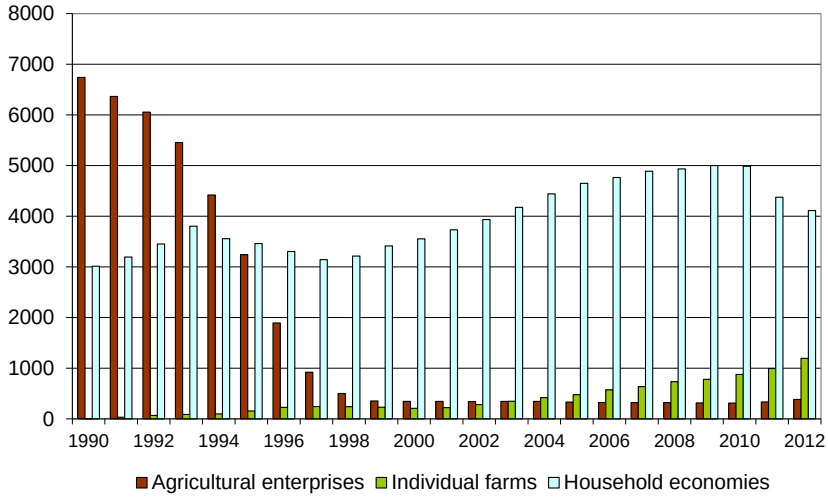
In 2013, the President initiated the creation of the United Grain Holding (UGH) in response to persistent complaints from grain producers about low prices. UGH is supposed to be a consortium of actors on the grain market and will buy grain from farmers and then sell it on both domestic and external markets. The FCC is foreseen as the executive body of UGH responsible for all operations. It is expected that participants of

the UGH benefit from the preferential access to UGH grain purchases and by obtaining a profit share to be expected from grain sales. The real effects of this state-mandated marketing association will to a large extent depend on the details of implementation and remain to be seen.

2.4 Beef and dairy sector

Before forced settlement under Russian rule, extensive pasture resources provided the basis for nomadic cattle production on Kazakhstan's territory. Low production costs and geographical proximity to the Russian market suggest a revival under current market conditions (OECD 2011). But large-scale livestock production on former collective and state farms completely collapsed during the transition recession of the 1990s. With the disruption of mechanised supply channels of field forage as well as downstream processing and marketing in other Soviet republics, the socialist model of industrial cattle production was no longer viable (Pomfret 2008). Illiquid enterprises either sold and slaughtered their cattle or distributed them to small household producers in the course of farm privatisation and decollectivisation. At the turn of the millennium, some of the emerging individual farmers realised the potential inherent to domestic livestock production, and recent herd growth has been most prominent among the latter type of farms (Figure 5). The number of agricultural enterprises engaged in livestock production has remained small. Whereas livestock numbers in households increased considerably until 2010, they have been decreasing since then. Some of this contraction may be a statistical effect due to more accurate measurement. The government introduced new registration requirements for cattle in households in 2010, which made obvious a discrepancy between (so far) recorded and actually existing stocks - many cows existed only on paper. Thus, the decline of cattle in households was likely more gradual before 2011 than reported in the statistics.

Figure 5: Cattle number by farm types in Kazakhstan (thousand heads)



Source: Authors' calculations based on Statistical Yearbooks of Agriculture, Forestry and Fishery in Kazakhstan.

2.4.1 Feeding and management constraints

Given the fact that most cattle is now kept in small scale farming units, many analysts agree that an improvement of feeding quality as well as sanitary and management standards are necessary for further upgrading of the livestock sector (World Bank 2004; FAO 2010). In fact, Kazakhstani meat and dairy products often neither meet EU nor Russian food quality standards. Such products therefore cannot be exported to these countries.

Table 3 gives a snapshot of current feeding practices among different types of cattle producers in the farm survey data. It shows that the large majority of household producers depend on communal grazing land, which is typically available close to the villages. But also individual farms and even agricultural enterprises typically make use of this public land. We do not list agroholdings separately in the subsequent analysis any more, as there is only one livestock producing agroholding in our sample. Households have to purchase most of the supplementary fodder, which they cannot produce themselves due to a lack of land resources. Individual farms and enterprises, on the other hand, tend to engage more in the production of hay in summer or use fodder stocks from previous years.

Table 3: Performance indicators of cattle producers in Kazakhstan 2011

	Households	*Individual farms*	*Ag. enterprises*
Using communal grazing land (% of farms)	82	53	44
Strategies for winter feeding (% of farms, multiple answers possible):			
Complementary fodder purchases	95	47	28
Reduction of animal stock	13	10	6
Sending animals to distant pastures	4	0	0
Producing hay in summer	1	10	33
Using fodder stocks from previous years	1	44	33
Typical cattle live weight when sold for beef production (kg) *	n.d.	280 (225; 350)	290 (250; 350)
Typical cattle age when sold for beef production (months) *	12 (10; 24)	24 (18; 24)	24 (24; 24)
Average daily gain (grams)	n.d.	403 (333; 657)	416 (361; 486)
No. of respondents in subgroup	166	90	18

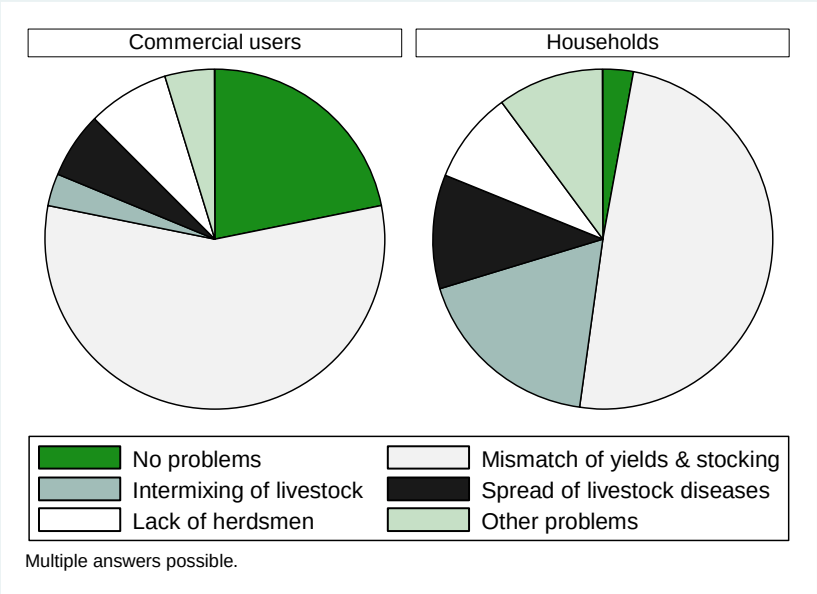
Notes: * median (first; third quartile). n.d.=no or insufficient data. All statistics based on non-missing data.

Source: Authors' calculations based on IAMO 2012 farm survey data.

Compared to Western standards, cattle live weight when sold is low, whereas the fattening period in individual farms and enterprises is relatively long. Both lead to low daily gains, taking into account, for example, that even Holstein bulls do gain one kilogram

per day under the feeding conditions in Europe. The fattening period is particularly short among household producers who probably sell their livestock early if winter feeding is scarce and fodder purchases expensive (see FAO 2010a for model calculations on different fattening systems).

Figure 6: Problems with communal grazing land by type of user in 2011

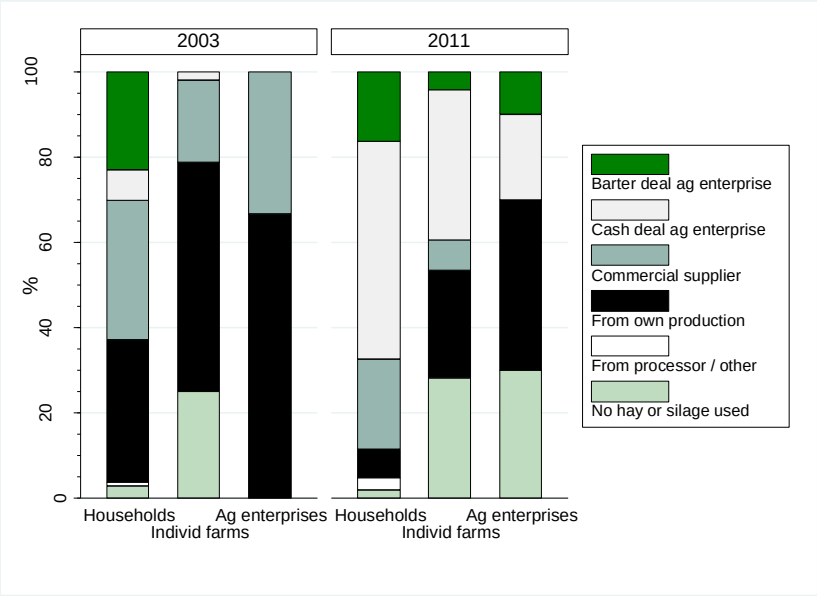


Note: Statements by communal range users.
Source: IAMO 2012 farm survey data.

A likely reason for low daily gains is insufficient fodder. In fact, the prevalent use of communal grazing land is far from unproblematic. Figure 6 shows that practically all households using public grazing land complained about management problems. The most prominent one is the overstocking of pastures, a classical common pool problem. Other typical concerns include the intermixing of livestock and the spread of diseases. Also more than three fourths of statements made by commercial farmers (i.e. individual farms and enterprises) identified a management issue, again with a mismatch between stocking and yields as a leading problem. Consistent with earlier findings (e.g. by World Bank 2004a), producers are clearly unsatisfied with the operation of this fodder source and overstocking is likely to be a key reason for poor fattening results.

Fodder shortages are generally critical in winter, where the main source of raw fodder for cattle is hay and silage. Figure 7 shows that households now more than in 2003 rely on commercial sources of purchased raw fodder. Their main channel is forage produced on agricultural enterprises, which sell this for cash. Cash deals have also become more important for individual farms and livestock keeping agricultural enterprises, although they continue to produce a significant share of raw fodder themselves. But compared to Western standards, the share of raw fodder purchases (not concentrate) appears to be high. It raises concerns about economic and ecological sustainability with regard to this sort of labour sharing in the rural economy. For example, exports of raw nutrients via fodder sales through the market are unlikely to be returned to the farm of origin in the form of manure.

Figure 7: Main source of hay & silage supply by farm type and year



Note: Statements by producers with cattle.
Source: Authors' calculations based on World Bank 2003 and IAMO 2012 survey data.

The share of farms and enterprises that apparently do not use any hay or silage for winter feeding at all is astonishing. Options for farms that do not engage in complementary winter feeding include year-round grazing, possibly combined with livestock migration, or the temporary reduction of the animal stock (FAO 2010; World Bank 2004a). As Table 3 shows, livestock migration to distant pastures rarely occurs in the sample, neither does a temporary reduction of the number of cattle. A closer inspection showed that farms which did not use raw fodder and said that they have enough fodder during winter were located in the south of the country where milder climatic conditions prevail. Another alternative to hay and silage feeding is the use of milling by-products or other fodder crops such as wheat straw, oats, alfalfa, broken grain, or peas.

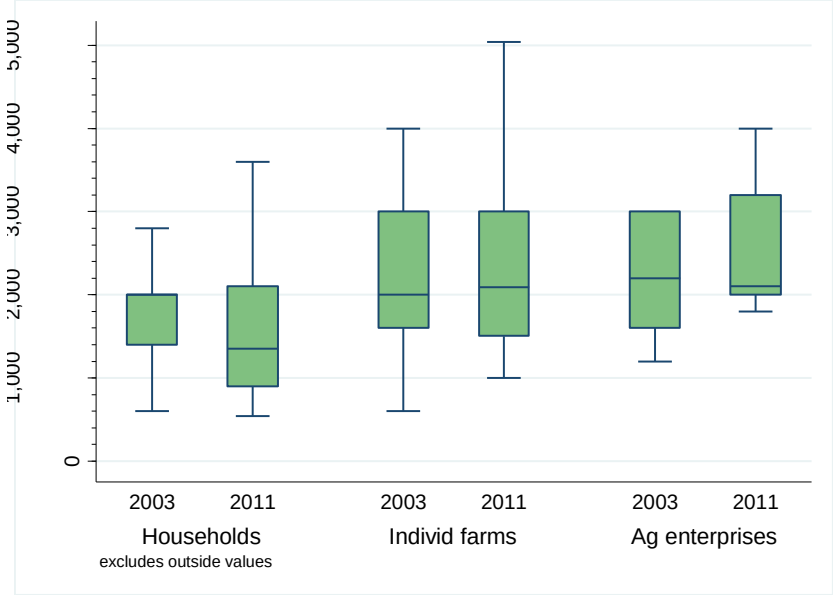
Cattle fattening on agricultural enterprises includes large feedlots which the government has promoted by a series of support measures. Given current management practices and price levels, it is unclear to what extent this system is economically viable (FAO 2010a). In fact, it has not yet seen a breakthrough in absolute livestock numbers and output value. Existing meat processors rather tend to maintain overcapacities and are widely dependent on the import of frozen meat (OECD 2013). A crucial issue in the Kazakh context is whether feedlots based on purchased and/or self-produced field forage can effectively compete with production systems utilising the vast pastures on an extensive basis.

Table 4: Performance indicators of dairy producers in Kazakhstan 2011

	Households	*Individual farms*	*Ag. enterprises*
Cow milk yield (kg/year) *	1,350 (900; 2,100)	2,090 (2,000; 3,200)	2,100 (2,000; 3,200)
Calving rate on farm (annually calving cows in %) *	100 (67; 100)	100 (50; 100)	65 (30; 100)
Using artificial insemination (% of farms)	n.d.	18	n.d.
Using pregnancy tests (% of farms)	n.d.	0	n.d.
No. of respondents in subgroup	156	78	7

Notes: * median (first; third quartile). n.d.=no or insufficient data. All statistics based on non-missing data.
Source: Authors' calculations based on IAMO 2012 farm survey data.

Figure 8: Cow milk yield in different farm types 2003 & 2011



Source: Authors' calculations based on World Bank 2003 and IAMO 2012 survey data.

By international standards, dairy yields of Kazakh farms are also low, particularly among household producers (Table 4). In the box plots of Figure 8, the line dividing the box represents the median, whereas the lower and upper limits of the box represent the first and third quartiles of the distribution. Lower and upper whiskers delimit the most extreme data point within first (third) quartiles minus (plus) 1.5 times the inter quartile range. Compared to the situation in 2003, milk yields have increased little, although the distributions of milk yields in the subsamples generally moved a little upwards. But farms with a milk yield higher than 5,000 kg per year and cow are still exceptional.

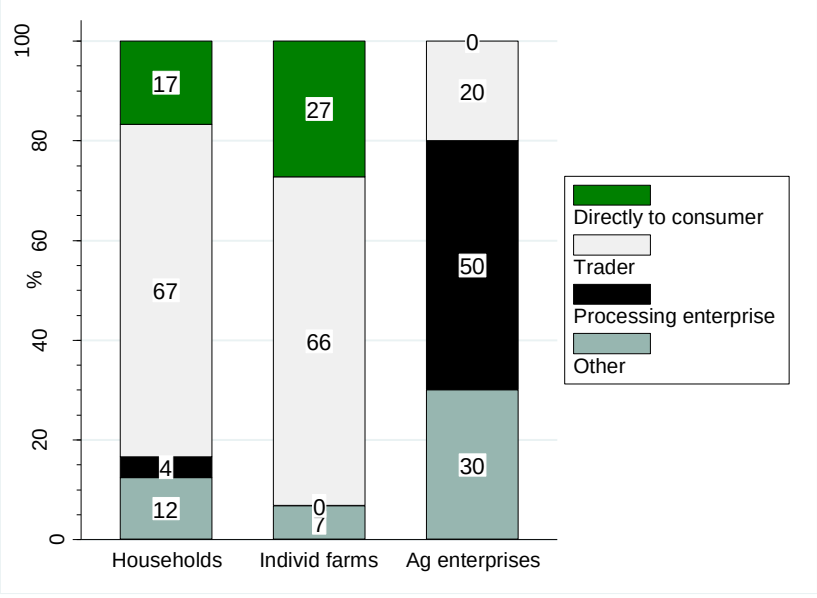
In the household and individual farms, fertility problems appear to be less prevalent. The calving rate is high, at least at the sample medians. Among large-scale enterprises, fertility is more of an issue. For individual farms, we also have data about the use of ar-

tificial insemination (AI) and the use of pregnancy test. The latter are not used at all in the sample, and less than one fifth of the individual farms make use of AI. These observations are consistent with the view that most farms operate on a low-intensity, low-output basis.

2.4.2 Marketing constraints and the value chain

We finally turn to the cattle and dairy value chains which are required to access high-value markets for processed high-quality livestock products. Figure 9 shows that the typical marketing channels differ considerably between household producers and individual farms on the one hand and agricultural enterprises with much bigger herds (Table 1) on the other. The large majority of the former either sells to local consumers, i.e. to their own extended family or to villagers by the road, or traders, i.e. middlemen who collect live cattle from small producers in order to sell them on urban bazaars for fresh meat. Such middlemen also organise slaughter and take care of the necessary veterinary certificates (see OECD 2013, 231-34, for instructive case studies). If there are no local slaughterhouses available, home slaughter apparently is a widespread, though illegal practice. Neither of these channels is subject to the strict quality and sanitary standards typical of high-value meat chains. Yet, given the relative importance of the different production systems (Figure 5), the large majority of cattle in Kazakhstan today are marketed in either of these ways.

Figure 9: Main marketing channels for live cattle by type of producer in 2011



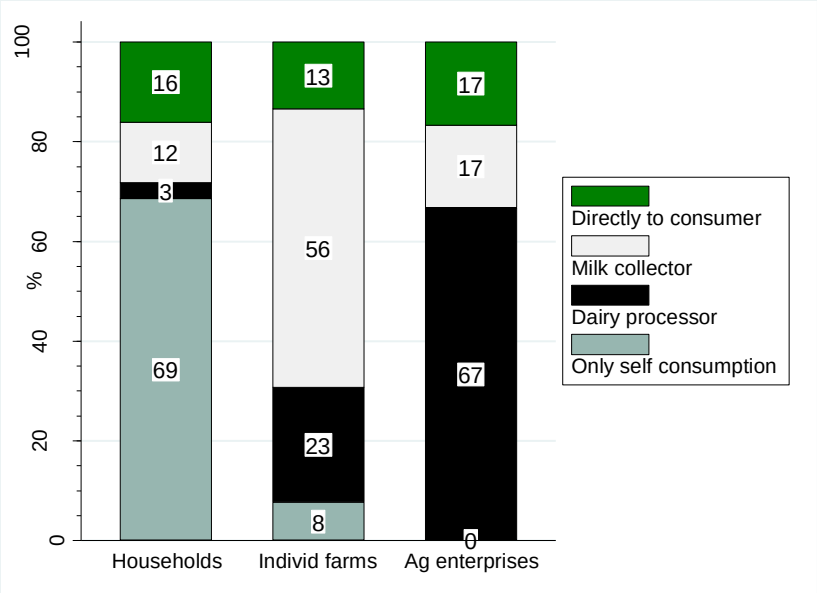
Source: IAMO 2012 farm survey data.

Cattle producing agricultural enterprises typically sell directly to the processor or have other marketing channels at their disposal, including the direct export to foreign markets in our sample.

The picture is similar in milk marketing (Figure 10). Most households keep one or two cows solely for their own consumption or otherwise sell directly to consumers in their

vicinity. The typical herd size of individual farms exceeds that necessary for subsistence consumption, so that these farms commonly have a commercial orientation. The most widespread marketing chain for individual farms runs through local intermediaries who collect the milk and deliver it to the dairy processor for a certain monthly rate (see OECD 2013, 217-19). Seasonality and milk quality are important issues for this chain, as appropriate cooling and sanitary production conditions are not necessarily given. Transport of fresh milk over large distances is increasing transaction costs for producers and processors.

Figure 10: Main marketing channels for fresh milk by type of producer in 2011

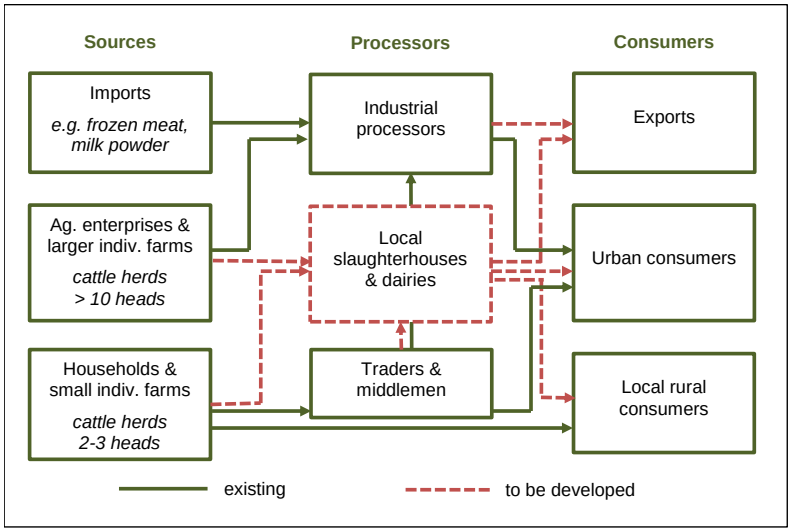


Source: IAMO 2012 farm survey data.

In contrast, the (few) agricultural enterprises keeping dairy cows are often directly linked to a dairy processor, possibly even under the umbrella of the same company. But many existing large-scale dairy processors are also undersupplied and depend on milk powder imports or source their raw milk from Kazakhstan's southern neighbour countries (e.g., the Kyrgyz Republic).

Both beef and dairy value chains are subject to a problematic bifurcation that prevents the integration of small-scale producers with high-value processing and outlets (Figure 11). Existing industrial processors supply to urban consumers with higher incomes, but they are dependent on imports of their raw material. Significant export channels of domestically produced livestock are not developed. On the other hand, small producers mostly produce for local consumers; with at best some limited connection to high-value markets through semi-professional intermediaries. Local slaughterhouses and dairies represent the missing link between these two branches of the value chain, but this link is yet to be established.

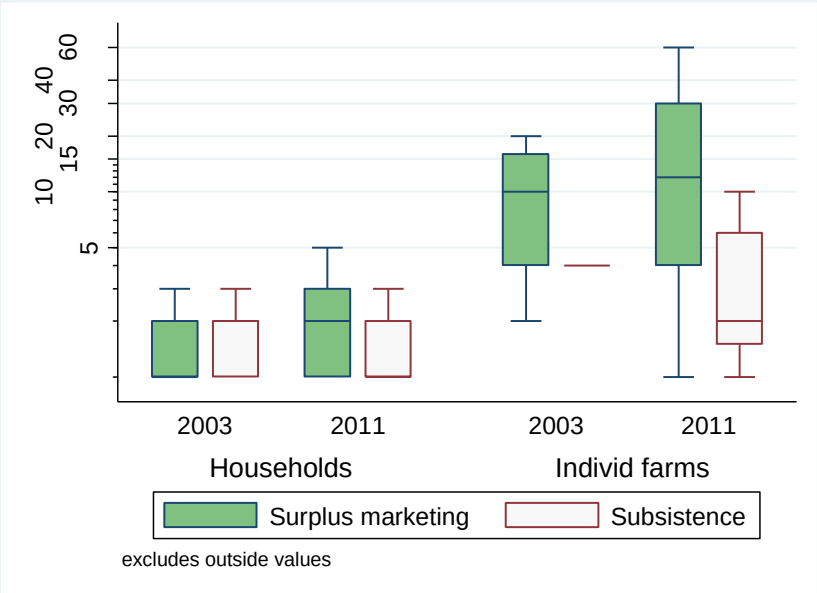
Figure 11: Value chains of beef & dairy production in Kazakhstan



Source: Authors.

The growth of cattle numbers supports the idea that individual farming based on medium-sized herds is a viable business model under current conditions, curbing the risks of herd size and a large number of workers requiring constant wage payments (Figure 12). Yet, from the aggregate statistics in Figure 5 it is not evident whether growing cattle numbers were due to an increase in the number of operators, or in herd size per operator. Figure 12 further splits the household and individual dairy farms in the survey data into those that produce only for own consumption and those with some surplus marketing. It illustrates that there indeed is an emerging stratum of commercial farms among both types of producers, but that (quite naturally) significant herd growth is only possible within the group of individual farms. Some of the individual farms in the sample had just registered as such recently and have thus likely grown out from household production. Two-digit herd sizes among individual farms are now a more common phenomenon than in the 2003 data. Interestingly, the subsistence-oriented farms are not those which are run by elderly managers or pensioners. It is rather the other way around: those farmers who commercialise are the older and probably more experienced ones. This also supports the view that subsistence farming is still prevalent among younger rural families who may have other cash incomes as their main source of livelihood.

Figure 12: Herd sizes of commercial and subsistence dairy producers 2003 & 2011



Source: Authors' calculations based on World Bank 2003 and IAMO 2012 survey data.

3 The competitiveness strategy of Kazakhstan's political leadership and its agricultural priorities

3.1 The "Kazakhstan 2050" strategy

In his annual state of the nation address on 14 December 2012, President Nazarbayev announced a new long-term strategy called "Kazakhstan 2050 – New Strategy of the Established State". A central goal of the strategy is to further enhance the country's competitiveness and make it one of the world's 30 most developed states by 2050. "Kazakhstan 2050" replaces the strategy document "Kazakhstan 2030", which was issued in 1997 and outlined the ultimate goal of building an independent, prosperous, and politically stable state of Kazakhstan. Diversifying the economy and increasing the competitiveness of the non-oil sectors were considered key to achieving this goal. In his 2006 address to the people of Kazakhstan, the president had substantiated the goal of "Kazakhstan 2030" by setting the aspiration of Kazakhstan to be among the 50 most competitive countries of the world. In his December 2012 speech, the President considered this goal to have been achieved ahead of schedule, so that further steps to implement the "Kazakhstan 2030" strategy became literally redundant.

Among the future economic challenges for the country, "Kazakhstan 2050" names a growing demographic imbalance, the need to sustain energy self-sufficiency in light of the exhaustibility of mineral resources, revolutionary technological changes in industry, the turmoil on global financial markets, growing social instability, and pending water deficits. The latter are deemed particularly relevant in post-Soviet Central Asia, and are considered a "threat to global food security". Even so, they are also regarded to provide "a great opportunity" for Kazakhstan to play a leading role in satisfying the growing global demand for agricultural products given its abundant endowment with arable land. Therefore, as in the earlier "Kazakhstan 2030" strategy, the agro-food sector is once more a key area singled out for further economic development and, hence, strategic government support.

Yet, in order to meet these challenges, "Kazakhstan 2050" calls for "new principles of economic policy", and in the context of global food security a "new type of thinking". The essence of the new course is named an "all-embracing economic pragmatism based on profitability, returns on investments, and competitiveness". As shown in Wandel (2009), the measures undertaken so far to implement the goals of "Kazakhstan 2030" have led to a complex mix of liberal and interventionist economic policies, with the portion of the latter seemingly on the rise since the early 2000s, not least in agriculture (see also Pomfret 2013). This raises the question how the "new" policy approach differs from the hitherto applied course and whether it can notably advance the competitiveness of Kazakhstan's economy.

3.2 Agricultural development priorities and the "Agribusiness 2020" programme

Since the turn of the millennium, official declarations of policy objectives in agriculture have focused on three main goals (OECD 2013, 28; 114-118):

1. The agro-food sector is part of the overall strategy of *economic diversification* to avoid a resource curse, i.e. a one-sided dependency on the export of natural resources without genuine development of the economy. It is expected that the development of agriculture will promote the growth of related industries and create multiplier effects in the entire economy (Prime Minister of Kazakhstan 2013).
2. There was the desire to *compensate for the decline* in the agricultural sector experienced during the transitional recession between 1992 and 1998.
3. Agricultural output growth has always been viewed as a key factor of *national food security*, i.e. the independence from food imports (Wandel 2009). The increasing level and volatility of global food prices after 2008 have strengthened this concern.

Against this background, "Kazakhstan 2050" calls for "a large scale modernization of the agricultural sector". Above all, this means the expansion of sowing area as well as livestock numbers and a focus on productivity growth, "primarily by introducing new technologies". Moreover, the development of small and medium enterprises, in particular in agro-food marketing (food processing and trade), the creation of competitive brands with a focus on eco-friendliness and product diversification "to win major export markets" is advocated. Given the need of "colossal volumes of water for our agricultural purposes", the strategy calls for the introduction of modern water-saving agricultural technologies and a stop of water wasting. New mechanisms of leveling the social and economic imbalances between urban and rural regions are demanded. The 2050 strategy also sets some specific quantitative goals for boosting agricultural development. In order to ensure food security, the share of agriculture in the country's GDP is supposed to grow by a factor of five by the middle of the century, and the level of state support for agricultural production should increase by 4.5 times until 2020. The weight of small and medium enterprises in Kazakhstan's annual agro-food production is supposed to have at least doubled by 2030.

The President's national long-term development strategies are typically implemented by a hierarchy of strategic plans, in which specific measures for each decade are foreseen in sequential five-year development programmes (OECD 2013, 114-118). The current sectoral programme for agriculture is the "Programme for the Development of the Agro-Industrial Complex in the Republic of Kazakhstan for the years 2013-2020 (Agribusiness 2020)". It was approved in February 2013, following the president's instruction for preparing it in the new 2050 strategy.[3]

Interestingly, the document is not a mere proclamation of policy goals and instruments. It sets out with an "analysis of the current situation of agribusiness" which culminates in a SWOT matrix for the Kazakhstani agri-food sector, i.e. an analysis of its strengths, weaknesses, opportunities and threats. We reproduce the matrix in Table 5.

[3] In the hierarchy of strategy documents, the "Strategic plan for the development of the Republic of Kazakhstan until 2020" (adopted in February 2010) is the next higher document in relation to "Agribusiness 2020". Significant work on the latter was concluded before the official publication of "Kazakhstan 2050".

Table 5: Kazakhstan's agribusiness through the lens of the government's SWOT analysis

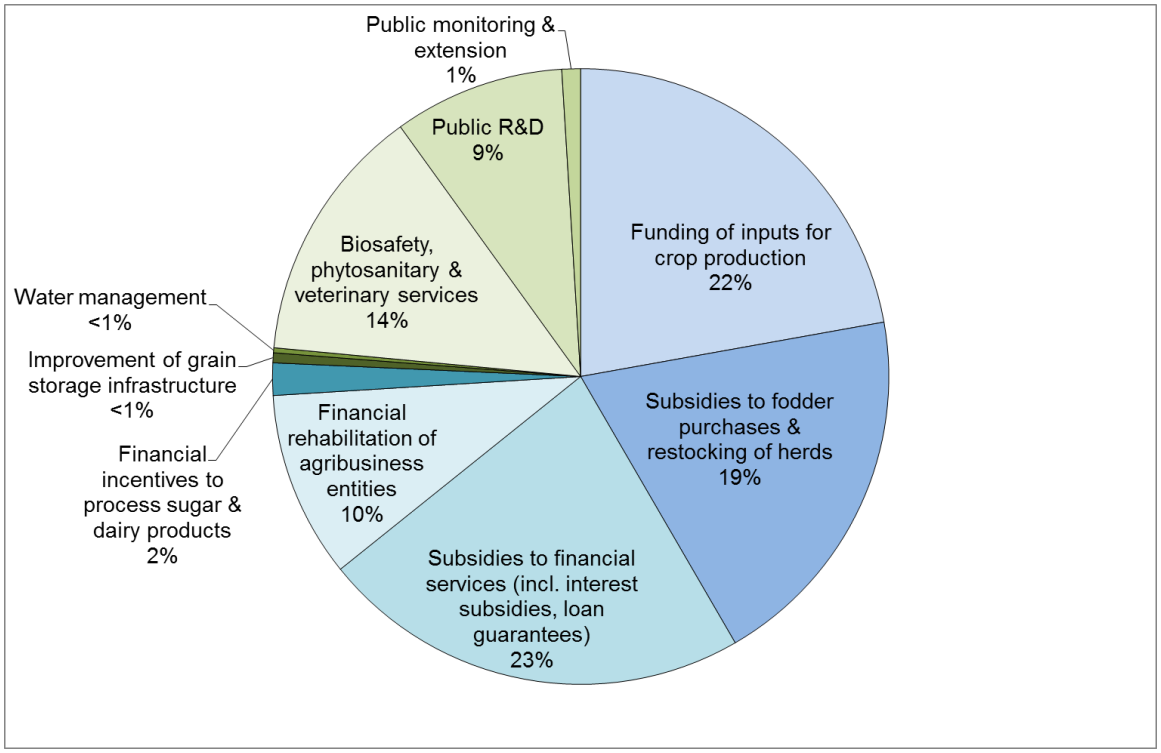
Strengths:	**Weaknesses**:
• Persistent growth of total output • Kazakhstan is a world leader in the production of wheat and flour • Domestic agribusiness obtains considerable public support • Availability of land and water resources • High production and export potentials for organic products	• A small market share in several branches • Low labour productivity • Low livestock productivity • Low yields of major crops • Low penetration of R&D • Modern agro-technological knowledge is not commonly used • The financial and insurance system is underdeveloped
Opportunities:	**Threats & risks**:
• Possible import substitution and realisation of export potentials in a number of branches • Promotion of effective government support • Market development for fish production, beef export, transhumant livestock, apples, oil and other types of products	• Macroeconomic risks, declining world market prices • Increasing competition on world markets caused by WTO accession • Negative consequences of climate change, such as an increase of arid and semiarid regions, dwindling water resources, increasing weather risks • A critical degradation of transport infrastructure • Spread of animal and plant diseases, pollution of the environment and parasites may constrain the availability of land, water and other resources, and thus production and export potentials • A low level of profitability in agribusiness • Depleting potentials of land, water and biological resources, livestock genetics, plants and fish, resulting from a short-term orientation on profits, deficit financing, and the neglect of best practices • Ineffective public regulation of the sector, which may lead to increasing transaction costs, ineffective utilisation of public support means, biased market signals, imbalances in production and processing structures

Source: Authors' translation from "Agribusiness 2020" policy document, pp. 33-34.

Based on the agenda set by the President and following the SWOT analysis, "Agribusiness 2020" maintains the orientation of previous agricultural policy documents with regard to output growth and increasing competitiveness. The other challenges of the 2050 strategy associated with agricultural development - the sustainable use of natural resources and rural development - are not included in the programme. This underscores the overall importance the government attributes to the enhancement of agribusiness competitiveness (Prime Minister of Kazakhstan 2013). In order to achieve this goal, the strategy document emphasises a series of measures defined by the following four policy objectives: (1) the financial rehabilitation of agribusiness, (2) improving the access to material inputs and services, (3) the development of a governmental service supply system for agribusiness entities, and (4) improving the effectiveness of government regulation in the sector. The document moves on to detail a set of specific actions for each of the goals, accompanied by quantitative success indicators. Together with a statement of indicative budget allocations for each of the actions, the "Agribusiness 2020" pro-

gramme boils down to a plan with clearly visible priorities summarised in Figure 13. As can be seen, the largest part of the budget is earmarked for capital subsidies or direct capital transfers to agribusiness entities.

Figure 13: Budget priorities of the "Agribusiness 2020" programme



Source: Authors' calculations based on Agribusiness 2020 policy document, pp. 77-95.

It is planned to allocate an aggregate of KZT 3.1 trillion (USD 21 billion) over the eight years of the programme's implementation (2013-2020), of which 80% will be provided from the national budget, 7% from local budgets, 10% through the emission of government securities, and 3% from the state KazAgroHolding and its daughter companies, such as the Food Credit Corporation (OECD 2013a). A significant part of the overall budget, including fuel and input subsidies as well as livestock upgrading, will be spent under the responsibility of the provincial administrations (akimats). Altogether, according to government officials, "over 10 trillion tenge of investments are planned to be attracted to the sector" (Prime Minister of Kazakhstan 2013). As a general tendency, there will be a move from direct support of certain products to a more general support via credit and leasing arrangements (Agribusiness 2020, p. 36). Indeed, this would be a notable move away from the more product- and output-related measures that the government had introduced after the turn of the millennium.[4] In addition, the tax system will be subjected to a review. Future changes will aim at ensuring a level playing field for Kazakh producers within the WTO and the Common Economic Space within the Eurasian Customs Union.

[4] There were rumours that the government could not carry through its initial goal against farm lobby groups to abolish all product-related subsidies and turn them into credit support. Existing product subsidies were rather kept and financial support will be granted on top of it.

3.3 An assessment

3.3.1 General policy approach and the role of the government

The analysis so far suggests that in agriculture, Kazakhstan pursues a highly centralised policy approach based on key interventions funded from the national budget. As detailed in Kalyuzhnova and Nygaard (2011) and Wandel (2009; 2010), agricultural thus follows the model of hydrocarbon and finance, two other sectors regarded as pivotal for Kazakhstan's economic development. In both sectors, a set of instruments is used to further the government's industrial policy goals. It includes the National Wealth Fund "Samruk-Kazyna" as the principal platform for the strategic investment of oil revenues, the state ownership of enterprises, equity shares in private banks and enterprises, as well as government representatives on corporate management boards (Kalyuzhnova and Nygaard 2011). By the end of 2012, "Samruk-Kazyna" managed assets worth USD 100 billion, which equals about 50% of Kazakhstan's GDP.[5] 72% of these assets are invested in the oil, gas and financial sectors, and one third of corporate deposits in banks belong to the National Wealth Fund (IMF 2013, 16).

At least with regard to the key sectors of the economy, Kazakhstan's policy approach could thus be characterised as "state-guided" capitalism described by Baumol et al. (2007, 62-79):

"[G]overnments, not private investors, decide which industries and even which individual firms should grow. Government economic policy is then geared to carry out those decisions, using various policy instruments to help out the chosen 'winners'. The overall economic system nonetheless remains capitalist because … the state recognizes and enforces the rights of property and contract, markets guide the prices of the goods and services produced and the wages of workers employed, and at least some small-scale activities remain in private hands."

Yet, there are a number of drawbacks of state-guided variants of capitalism that are well documented in the literature (Baumol et al. 2007, 67-79):

- "Picking winners" from the central perspective of the government neglects the "seemingly chaotic, unplanned, rough-and-tumble process" (p. 69) typical of competitive markets which is nevertheless necessary to select out the most productive and efficient producers.
- Government-administrated industrial policies are susceptible to corruption, which in turn diverts entrepreneurial energy away from productive activities, increases the cost of doing business and thus discourages both domestic and foreign investment.
- "Pulling the plug" (p. 70) and redirecting government support is difficult once such commitment has created its own constituency and politically powerful interest groups have been formed.
- An asymmetric distribution of the rents from state-supported industries may lead to highly unequal income distributions which create and preserve wealth only for some favoured few.
- Apparent role models from other countries or early successes may convey the false lesson that reaching the wealth levels of the most competitive nations is possible

[5] Some of the activities are listed on the Fund's website, http://sk.kz/. ADB (2013) provides a useful review of the recent history of industrial policy in Kazakhstan.

with this development model. "After picking the low-hanging fruit, the difficulties of harvesting grow much greater" (p. 67).

- Excessive and misdirected investment based on governmental rather than commercial criteria may lead to over-indebtedness of the target companies and possibly trigger financial crises.

Among the key problems government authorities face when they try to develop new markets, technologies or business structures are *deficient knowledge* and *flawed incentives*. The knowledge required to target promising industries or business structures is dispersed among many people in a society and cannot be possessed by just a few policymakers, due to the limited cognitive ability of every human. In addition, government bodies generally operate without the profit motive and when they do, they often do not face the same constraints as private firms, like e.g. the menace of bankruptcy in the case of long-term losses (Kirzner 1985, 140). Any particular promotion of a branch, technology or form of business organization that is deemed superior and hence supported by a central authority is what Hayek (1974) called "pretence of knowledge". In this view, it is both unnecessary and counterproductive that the government nudges or pushes private entrepreneurship into certain directions with financial incentives.

However, even in emerging economies following more liberal models of economic policy, there are good reasons why government should not limit itself to the role of a night watchman. Market imperfections abound not only in classical areas of government intervention, such as health or education policy, but also in many sector-specific areas (Rodrik 2007). Our analysis in section 2 indicated where these are relevant in Kazakhstan's agricultural sector, for example with regard to rural financial markets, the regulation of public grazing land, or competition on downstream markets. Furthermore, the government may have a useful role in coordinating a "big push", i.e. the simultaneous improvement of business conditions on many fronts (Murphy et al. 1989). We argue below that such an encompassing programme of sector development may be required in Kazakhstan's agribusiness value chain. Under such conditions, the question is not whether, but how the government should be involved (Rodrik 2008, 2). But given the potential pitfalls of a state-centered approach mentioned before, some best practices for government involvement should be followed. Rodrik (2008) summarises these under three headlines:

1. *Embeddedness*. As the knowledge about market failures, positive externalities and other constraints is widely diffused within society, the government should ensure a close, strategic collaboration and communication between state agencies and the private sector.
2. *Carrots and sticks*. Governmental support measures should be conditioned on the performance of the targeted enterprises. Strict success criteria should be established in the beginning of the support phase and the government should be willing to "let the losers go" (Rodrik 2008, 22), i.e. terminate support where performance goals are not met.
3. *Accountability*. To ensure that bureaucrats are effectively monitored, transparency and accounting standards towards the public should be in place. The government should make clear why certain industries are favoured and clearly identify who is responsible for the success of the measures.

Interestingly, "Kazakhstan 2050" departs from the imagination that "the entire country will work as a corporation, where the decisions will be made only in terms of economic viability and development of the global competitiveness of Kazakhstan" and where, based on the principle of public-private partnership, private entrepreneurs and the government work hand in hand as equally strong partners to implement the ambitious goals of the "new" 2050 strategy. Upon a closer look, however, the essence of this course turns out to be a similar balancing act between private business promotion and state planning that has been characteristic for Kazakhstan's economic and agricultural policy already under the previous 2030 strategy (Wandel 2009). Hence, the "new, pragmatic economic policy" is actually a continuation, rather than a radical break with the past.

For example, the 2050 strategy recognises and underscores private entrepreneurship as the driving force of the "new economic policy", based on the insight that "private businesses are normally more effective than state run enterprises." From this follows the call for further privatisation, a radical liberalisation through the minimization of the government's participation and intervention in business, the strengthening of private property rights and contract fulfillment as well as a comprehensive overhaul of the existing tax system in order to stimulate saving, investment and exports. At the same time, the state is also attributed the leading role, namely in showing the entrepreneurs where to become active. The President stipulated that "the state, represented by national companies must stimulate the development of the economy of the future." This includes the task of defining priorities and new markets as well as promoting exports. To this end, state planning and forecasting systems shall be improved. The driving seat in this process is assigned to the National Wealth Fund, which manages the revenue windfall from the natural resources sector and should direct resources to long-term strategic projects.

Similarly, the commercial banks are called to provide the economy with monetary resources. At the same time, the state wants to keep control over the financial system not only to restructure battered banks from problematic loans, but also ensure that they fulfill their purpose of meeting the demand of the private sector for loans. Moreover, only so-called non-strategic enterprises and services are eligible for privatisation, while companies deemed "politically vital" shall remain state-owned.[6]

Hence, the Kazakhstani government realises that entrepreneurs are critical to economic development, but it does not accept the notion that entrepreneurs are best at finding profitable business opportunities (Wandel 2010). Rather, the government still wants to determine which sectors need to be developed and then provides private business with various investment incentives to achieve the desired ends.

Yet, remarkably often, the new 2050 strategy emphasizes accountability, efficiency, profitability, professionalism and business-orientation of state officials, agencies and companies. This means, for example, that the government shall continue to support "only those industries that execute socially important, strategic functions and can demonstrate their effectiveness." The main criterion for effectiveness is supposed to be the rate

[6] In previous months, a public debate in the Kazakh business media revolved around the question whether the country needs a "second wave of privatisation" to overcome the legacies of "state-oligarchic capitalism" and to encourage individual entrepreneurship. Domestic observers complained that no progress was made on this front. Moreover, the state enterprises seriously envisaged for privatisation were coming from public services, such as hospitals or waste management, and not from strategic sectors of the economy (Kasenova 2013; Temirkhanov 2013).

of return on investment. As soon as a national project that promotes infrastructure, innovative organizational forms, or technologies, turns out to be unprofitable and senseless, it must be stopped, because, "in the worst case scenario innovation becomes just a waste of money". The decentralisation of transfer responsibilities and authority from the center to the regions shall further enhance the effectiveness of government activities. Thus, the state agencies shall act as if they were client-oriented private businesses. This seems to be meant by "all-around economic pragmatism".

In some regard, experimentation with different policy and institutional approaches might even be easier in an authoritarian political environment than in democracies, by following the maxim "first the economy and then comes politics". An authoritarian regime can insulate itself from distributional pressures of various interests groups and avoid critical influence of an electoral cycle. Hence, it does not have to fear the loss of votes from vested interests to stay in power, in case it stops a policy approach that turned out unsuccessful. In fact, a feature of policymaking in Kazakhstan has been the government's flexibility in learning and adapting policies (Pomfret 2013). For example, after the turn of the millennium, a redirection of land policy took place (Petrick et al. 2011), and more recently various approaches to credit facilitation for agricultural operators were tested. On the other hand, abrupt changes lead to policy uncertainty and resource misallocation on the side of potential beneficiaries. Moreover, there was little change in the hierarchical way political programmes are invented, designed and implemented – with the Presidential office as the key agency.

We thus conclude that the new Kazakhstani development strategy still has a long way to go towards a true embeddedness of policies in the wider public and the strategic decentralisation of economic governance. To us, the relationship between government and entrepreneurs appears highly asymmetric and incoherent. However, we concede that the administration showed a remarkable willingness to experiment with policy instruments, and also calls into question measures that turned out unsuccessful. The administration is trying to establish benchmarks that allow the judgement of performance, and it is fairly clear that the key members of cabinet bear responsibility for the implementation of sectoral programmes. Even so, given the political realities in Kazakhstan, they are accountable to the President and have to fear his disgrace, not a general public that can influence the course of politics via free elections.

It seems credible that top officials of government, including the President, are indeed impatiently waiting to see some short run effects of their strategies and policies. They do this in the firm belief that they are the best judges of what is in the interest of the nation and how to achieve it. This attitude is different from lower-ranked administrators and bureaucrats, who care much more about the rents they can derive from the budget at the end of strategy documents rather than the political rhetoric in the text.

3.3.2 The agricultural strategy

In general, there are good reasons to strengthen the role of the agricultural sector in the Kazakhstani economy, given the relative resource endowments of the country. The same is true for the goal to diversify away from natural energy resources and to consider other sectors which provide a basis for adding value, employment and export growth. Given the limitations of the overall policy framework as discussed in the previous section, to look for ways how policy can help to achieve this goal appears quite reasonable.

However, the problems are in the details. Many of the individual measures are inconsistent with the principles of good governance outlined before, and important areas for public action are missing from the menu of government activities. Some of the quantitatively set policy goals formulated in "Kazakhstan 2050" look strange to the economically educated observer. In particular the wish to increase agriculture's share in GDP by five times seems odd given the typical decline of this share in the course of economic development. It is true that the SWOT analysis included in the Agribusiness 2020 document identifies many important constraints and seems overall realistic and balanced. In particular, the weaknesses and threats summarised in the matrix make clear that the government is well aware of the dangers potentially jeopardising the sustainable use of its natural resources. Yet, the budget priorities and the specific measures foreseen make it very clear how the political goals of the programme shall be achieved: by a massive subsidisation of key production factors deemed necessary for the realisation of government targets. This applies to the funding of all kinds of variable inputs (fuel, seed, fertiliser, plant protection, fodder) and fixed factors (livestock, fixed capital), which occupies almost 75% of the budget (blue shaded in Figure 13). Only a small share of credits will be channelled through commercial banks in the form of long-term loans (Agribusiness 2020, 50-52), the rest will be extended by one of the KazAgro daughter holdings (see section 2.2).

Also the factor land is given to its users almost for free, at least the significant share of land that is rented from the government (see section 2.3.1). Inevitably, it is thus the government which determines to a large extent exactly which types of inputs should be used and by whom.

On the other hand, only about 25% of the funding (green shaded in Figure 13) concern genuine public goods to the agricultural sector, such as biosafety control or public R&D. Several key issues mentioned in the SWOT analysis receive only minimal funding or are completely disregarded in the budget, such as water management or dealing with climate risks, the management of public grazing land and fishing grounds, or improving the transport and storage infrastructure. Furthermore, very little funding of institution building in the direction of embeddedness and accountability is visible in the programme. Although the "Agribusiness 2020" document was circulated and discussed among private sector associations and interest groups at the drafting stage, collective action of private stakeholders in agribusiness is often very limited. According to OECD (2013, 120), it tends to be underfunded and its benefits little appreciated.

While it is laudable that almost all policy instruments foreseen in "Agribusiness 2020" are accompanied by benchmark indicators, these often come in the form of "hectares covered by subsidies" or "number of livestock bought under the national programme". It is not clear how such indicators actually measure the contribution to the overall policy goal of increasing competitiveness. It is also not apparent what role such evidence may play in the future review of policies, despite the rate-of-return rhetoric in the "Kazakhstan 2050" document.

4 Conclusions

4.1 Main empirical findings

Kazakhstan is now widely regarded as a key player on world agricultural markets, with considerable export potential in the wheat, beef and dairy sectors. While wheat cultivated in the vast northern cropland area is already a main export commodity of the country, beef and dairy products are not yet generated in structures that easily connect to international value chains.

A frequently mentioned bottleneck is agriculture's lacking *access to finance*. Following this argument, subsidised credit is one of the main instruments employed by the Kazakhstani government to stimulate farm investments. However, by far the dominating driver of credit market outcomes is a lack of effective demand given the uncertainty of revenue streams from agriculture. In the face of subsidised interest rates ranging from 5 to 8% annually, close to the domestic inflation rate, most farm managers believe that *agricultural investments cannot currently deliver sufficiently reliable returns* to service such loans and thus do not enter a loan contract. Only a small minority thinks that it is the lacking access to these sources of funding or high transaction costs that ultimately prevents them from borrowing.

Farmers thus regard an unpredictable stream of revenue as the major reason for low financial investments in agriculture. At the same time, recent ratings of Kazakhstan's financial sector suggest that some of the problems are on the supply side of finance, reflecting a *poor liquidity and stability of the banking industry*. While it seems plausible that the overall competitiveness of the agricultural sector needs to be enhanced if external funding is to grow, it is a crucial question whether this demand problem can be resolved in isolation from the supply problems of the banking sector. One might argue that lacking competitiveness reflects a lack of money, so that better funding options allow an upgrade of farm equipment, which leads to higher and more stable returns in agriculture. This seems to be the logic of the governmental credit programme. However, despite low interest rates, penetration into the farming sector has been very modest so far. Among the likely reasons are that operations are very centralised and subject to interference by higher-level bureaucrats, whereas management capacity at the branch level is low and there is no active involvement of farmers, e.g. as depositors of savings (Gaisina 2007).

The question remains whether the availability of funding is the most constraining problem. Farmers suggest that this is not the case. In fact, our analysis has identified a number of areas where the *changes necessary to raise the sector's profitability are not primarily dependent on more credit* for farmers. The evidence rather suggests that operators' management skills and the institutional environment at the local level should be improved. It is here where the government should become more active, thereby making financial investments by outsiders more likely to occur in Kazakhstan.

Wheat production is dominated by large and super-large farms operating in the northern rain-fed grain region. Agricultural enterprises cultivating 10,000 ha per farm control about three fourths of total cropland in that region, a share that is increasing. Smaller individual farms with some 500 ha each produce on the remaining land. Despite the vast

land resources, the strategy to raise production by expanding the cropping area has apparently reached its limits. *A lack of land supply is now the most cited constraint to land expansion*. Almost all land is rented from the government at a symbolically low price. There is hence little competition for land based on the economic performance of the land users. Land is rather allocated through other, probably less transparent, mechanisms, in which local land commissions play a key role. Contrary to interest payments, farmers consider annual payment obligations for land to be low and manageable. Furthermore, land users receive annual area payments for priority crops (OECD 2013, 135).

Wheat producers are *further restrained* by the market power of elevator companies, the vagaries of trading over long distances in an underdeveloped rail and seaport infrastructure, and the intervention activities of the state-mandated Food Contract Corporation (FCC).

Domestic beef and dairy chains are currently much less developed than the wheat chain and suffer from atomised production structures with a weak resource base and a fragmented processing and marketing network. There are significant problems in year-round fodder supply for cattle and dairy producers. The large majority of households depend on communal grazing land, where problems of overstocking are prevalent. In winter, they have to rely on fodder purchases mostly from agricultural enterprises. Sales weight of fattened cattle is low in both household and individual farms, as are the daily gains achieved during the fattening period. Artificial insemination is rarely used among individual farms, although fertility outcomes appear to be acceptable. The value chains for beef and dairy are bifurcated into an import-dependent chain for industrially processed products serving urban consumers, and a local chain of raw products serving rural consumers and urban bazaars for fresh meat and dairy products.

A more favourable economic environment for medium-sized individual farms engaged in beef and/or dairy production requires *simultaneous improvements on many fronts*, which makes this goal difficult to achieve. Among the key constraints are a deficient fodder base and the absence of a processing chain that allows output marketing into high-value segments of urban consumers and export channels. Improved local pasture management is at the heart of the former. Little is known about the constraints that hamper the development of medium-sized slaughterhouses and dairy processors. This is an important area for further research.

Another question is to what extent companies of the trade and retail sector may have an incentive to establish medium sized processing units, similar to the experience in Central and Eastern Europe (Dries et al. 2009). In any case, an emerging stratum of medium-sized livestock producers is now clearly visible in the official statistics and the survey data. It is likely to expand further if the environment and the overall income development in Kazakhstan continue to improve.

4.2 Policy implications

We started the analysis of Kazakhstan's state-guided development strategy with the insight that a government faces fundamental *knowledge and incentive problems* when actively interfering in the organisation of business. At the same time, there is a role for the state in overcoming market failures and coordinating the modernisation of the economy. If one is ready to accept this dilemma, an evaluation of Kazakhstan's policy approach

yields mixed results. The government has shown a willingness to use its undisputed power for the benefit of economic development in some policy areas, whereas there are inherent problems in dealing with others. These latter deficits are often due to the de-facto political structures of the country and will be hard to tackle without more fundamental reforms towards decentralisation and the redistribution of political power.

In his recently released "Kazakhstan 2050" strategy, the President expressed a firm *commitment towards improving the competitiveness of the economy* by an ambitious and comprehensive modernisation and innovation programme. With regard to agriculture, this is clearly visible in the "Agribusiness 2020" document, in which a hitherto unprecedented budget volume was earmarked for boosting the productivity of the sector. The government seems determined to upgrade crop and livestock production to the technological frontier, thus to make a clear step beyond existing production systems, rather than to just preserve them. One perceives a willingness to engage in uncompromising benchmarking of the programme's success, by providing a catalogue of performance indicators. The administration has shown in the past that it is ready to abandon approaches which did not yield the desired results, and thus "let losers go". Moreover, the Minister of Agriculture carries responsibility for the success of the programme at a high and visible political level. All these factors create incentives to make productive use of public funding, rather than to simply pour money into an ailing sector.

Even so, the key problem with this agenda is that successful agribusiness entrepreneurs, who detect business opportunities, create value and put the country's resources to productive use, *require more or even something else than just cheap access to inputs and capital*. First and foremost, they need the freedom to discover and seize the business opportunities they perceive to be profitable in their given local environment. The relevant information and knowledge to pursue this business goal successfully is highly dispersed and requires efforts in trial and error on the side of the entrepreneurs as well as a lot of flexibility and adjustment capacity to local market conditions. If the government makes costly and long-term financial commitments towards specific activities the entrepreneurs are expected to perform, these commitments may turn out to be misguided given the specific circumstances of businesses. As a result, the involved subsidies may turn out to be a waste of money. Furthermore, they may crowd out private initiative to provide the necessary resources in an economically more sustainable way.

There is a role for the Kazakhstani government to *coordinate and monitor the modernisation process of agribusiness*. It means providing impartial, reliable and high-quality public services to the sector, making sure that the weakest links in food chain development are identified and private entrepreneurs are incentivised to strengthen them. This typically requires effective institutional arrangements at the local level. Such public services should be endowed with the necessary human, financial and political resources to support entrepreneurs in a flexible and timely manner without overly interfering in their individual decisions. Our empirical analysis helps to pinpoint a number of areas where the government might thus reconsider its priorities:

– The *know-how of individual farmers* should be improved, in particular with regard to fodder management and livestock fertility (see section 2.4.1 above). The national vocational and higher education systems and research facilities related to agriculture should be further upgraded. The government should take into account that the relevant knowledge may be location-specific and that it needs to reach the local decision

makers. Therefore a regionalised system of applied agricultural research and extension that also provides services to small-scale producers should be strengthened. Foreign exchange programmes related to the agribusiness sector should be facilitated, to import relevant knowledge about state-of-the-art technologies and institutional arrangements to serve the sector. Apart from applied training in specific production technologies, also general farm management skills should be improved.

- Constraints in the *access to land* and its relative immobility should be tackled by gradually lifting the rental price of state land and further liberalising the land market (section 2.3.1; Petrick 2013). In the medium term, higher rental prices would make land purchases more attractive and thus lead to more widespread land ownership and a more liquid land sales market, which in turn improves the collateral availability on farms. More liquid rental and sales markets for land tend to increase land productivity if they allow land transfers to the more productive user. The 2003 land code appears to be a suitable legal basis for such transactions. Higher revenues from state land rentals may generate financial resources to relax other agricultural development constraints.
- Competition in *grain transport and storage infrastructure* should be enhanced; extending private storage capacity should be promoted. The abuse of market power among grain elevators should be monitored and appropriate legal sanctions exercised (section 2.3.2). Better transport and storage facilities will make trading and shipping more reliable and financial gains at the farm gate higher. The Kazakhstani government has pursued this route for a number of years. It should be followed further, even if bumper crops like in 2011 do place exceptional demands on the existing infrastructure. Whether a centralised approach to grain marketing such as envisaged in the new United Grain Holding (UGH) will lead to better results for farmers and make trade more transparent is at least questionable. Placing marketing decisions in the hand of bureaucrats is likely to add another dimension of unexpected surprises and a new layer of opacity over the access to export opportunities.
- "Kazakhstan 2050" encourages the development of *small and medium sized enterprises* in the whole economy and in particular in food processing and trade. The government should clarify what this means and whether support really reaches the smaller operators in the rural economy. Inherent distortions of support towards bigger agricultural enterprises and agroholdings should be removed. Examples of biased access to production factors include higher transaction costs for smaller loan applicants (section 2.2) and possibly uneven access to agricultural land (section 2.3.1). The support of "mini-dairy farms" with a size of 24 to 200 dairy cows in the new master plan for milk goes into the right direction.
- Local governments should be encouraged and empowered to play a facilitating role in the sustainable *management of public grazing land* (section 2.4.1). Appropriate community organisations which further this goal should be established (see the contributions in Kerven 2003). The legal basis for effective management of public grazing land should be scrutinised and revised if necessary.
- Local public action may also be a key to the development of *downstream processing facilities* that are well accessible for small scale producers. The local public should support investors from the agribusiness who have an interest in more stable, high-quality sources of raw products. Central government agencies are well positioned to coordinate the nationwide upgrading of downstream facilities in livestock processing and marketing, so that they face a level playing field in the markets for pro-

cessed livestock, both at the national level and beyond (Eurasian Customs Union, WTO).

- Upgrading the value chains in livestock will be highly influenced by the way future *food quality and safety standards* are being implemented. The government should use a tightened and impartial introduction of these standards to promote structural change in livestock production. If such standards are enforced quickly, many small scale producers might go out of business or be forced into informality. If they are implemented hesitantly and unevenly, structural change will be slow and the gap between supply and demand will persist (section 2.4.2). A socially acceptable balance between these poles will have to be found.

The existing funding problems on the supply side of agricultural finance should be tackled as follows:

- The government should continue to promote *overall banking sector recovery and reform* to increase the liquidity and stability of the financial sector in general. The effectiveness of measures to tackle the problem of non-performing loans should be increased (IMF 2013, 10).
- More specifically, the government should encourage commercial banks to *upgrade their rural banking operations* so that they can provide the necessary funding for innovative agribusiness activities. State representatives on the boards of commercial banks should raise the awareness for this strategic sector and initiate investments in the human resources dealing with agriculture. There appear to be deficits in the ability to write up and assess agricultural business plans on both sides of an agricultural loan contract. Self-help organisations such as credit cooperatives should be supported.
- The system of state-mandated *rural credit partnerships* has had a very limited impact so far and should be reconsidered (section 2.2). Management capacity at the local branch level of credit partnerships should be improved. Recent attempts to make lending decisions of credit partnerships more flexible and tailor-made should be pursued further. Farmers should become more actively involved into strategic lending decisions.
- The government should continue to follow the route of making public funding available through the *existing networks of commercial banks*, and in this way foster the cooperation between banks and agribusinesses.
- A more *integrative view of agricultural finance* should be developed that does not leave out small scale operations which might grow into future medium sized businesses. It is surprising that the microloan activities of the Fund for Financial Support of Agriculture (FFSA) are not mentioned at all in the "Agribusiness 2020" document. A full integration into the strategic support to the agricultural sector is recommended.

The role of the state agencies involved in agricultural support should be scrutinised and their performance subjected to strict monitoring:

- Administrators should make sure that the state agencies responsible for implementing the agribusiness strategy have the *necessary competences* to do so and that they can renovate themselves sufficiently quickly to adjust to changing circumstances. The transparency of state agencies towards the private sector and the general public

should be further improved; appropriate platforms for pursuing this goal should be installed. Salaries in public agencies should be competitive with the private sector.

- The transparency of *budget allocations across various layers of government* should be increased and accountability for spending decisions clearly assigned. If provincial governments (akimats) are entrusted with spending of republican funds, an appropriate reporting system should be in place that allows the monitoring of agricultural policy measures.
- *Performance evaluation* should be evidence-based and should focus on achieved impacts towards overall policy goals, not simply counting money that was handed over to farmers. Appropriate evaluation tools should be developed that allow the generation of data relevant for this task. Meso- and micro-level indicators should be collected that allow, e.g., the quantification of firm-level profitability, sales and employment growth, or production costs in relation to the participation in policies (ADB 2013, 52). The government should consider the establishment of a farm data network, perhaps similar to the EU's Farm Accountancy Data Network (FADN).
- *Intervention purchases* by the FCC introduce an additional element of uncertainty into grain markets and open the door to opaque trading practices by those affected by these interventions. The government should reduce rather than increase the influence of bureaucrats on trading arrangements in agriculture.
- "Kazakhstan 2050" advocates the concept of *public-private partnerships*, but they should be supported with caution. Public-private partnerships are essentially contracts between a public agency and a private company where assets, risks, and rewards are shared in providing a good or service to the public. The rationale is typically that private enterprise provides greater efficiency and quality of service, while the government agency furnishes additional capital. Hence, it is expected that investment is less likely to flow to uneconomical projects that are chosen for political or ideological reasons and that the projects are more likely than pure government projects to be completed on-time and on-budget. However, it is not clear if or to what extent these positive effects occur, because the private enterprise that enters into a partnership with the government often receives a monopoly position for the period of the project. Yet, less (or no) competition decreases the incentive to increase efficiency and provide better quality services and products at lower costs and prices. Here it is essential to follow the President's maxim expressed in the new long-term strategy to stop projects as soon as they turn out to be unprofitable and not to subsidise losses.

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