Kazakhstan's agricultural subsidy system in the light of international experience

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Abstract

Since 2013, Kazakhstan has maintained notable productivity growth in the agricultural sector while focusing its policy portfolio on subsidies supporting variable and fixed capital input. During the same period, Russia displayed similar productivity growth, while agricultural productivity stagnated in Ukraine. Comparing the growth record and the subsidy regimes of the three countries suggests that subsidies on fixed capital appear to foster output growth more effectively than subsidies on variable inputs. However, it also shows that other factors than the specific subsidy policy have a strong effect on output. The report concludes that policy can promote agricultural growth by focusing on these other factors, such as banking reform, enhanced public knowledge management, better local policy making, reducing policy uncertainty and improving policy monitoring and evaluation.

Keywords: agricultural subsidy, agricultural productivity, Kazakhstan, Russia, Ukraine.

1 Introduction

In December 2012, the then President of the Republic of Kazakhstan Nursultan Nazarbayev proclaimed "Kazakhstan 2050 – New Strategy of the Established State". This long-term strategy for economic and social development declared "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. Consistent with the policy priorities of economic modernisation, competitiveness and private sector growth, it singled out the agro-food sector as a key to further economic development and diversification away from hydrocarbons, and thus for strategic government support.

Subordinate to this long-term strategy, the government published a series of medium-term strategy documents for agricultural sector development, notably the State Programmes for the Development of the Agroindustrial Complex. The first one, the "Programme for the development of the agro-industrial complex in the Republic of Kazakhstan for the years 2013–2020 (Agribusiness 2020)", was passed in February 2013 (Petrick et al. 2014). Several updates followed in subsequent years, before the expiry of the formal planning period. Some updates implied notable changes in policy instruments

and focus, or altered the set of public ministries and agencies responsible for implementation. For example, the update decreed in February 2017 emphasised the role of small- and medium-size farms and the formation of agricultural cooperatives (ADB 2020). But the overall goals of productivity increases, import substitution and export promotion, efficient resource use and technical modernisation remained key. Capital subsidies have represented the major form of government transfers to agricultural producers in Kazakhstan for the past years (APD 2020; OECD 2021). Even so, agricultural subsidy reform has been the subject of ongoing debate in the government and among policy advisors and the donor community.

This report aims to evaluate Kazakhstan's agricultural subsidy policy in comparison to its two close peers, the Russian Federation and Ukraine. Among the post-Soviet successor countries, Kazakhstan, Russia and Ukraine (KRU) represent the leading agricultural producers and have gained wide attention by international investors and policymakers (Schmitz and Meyers 2015). Compared to the Trans-Caucasian and the other Central Asian successors, the evolution of farming structures in the KRU countries has been fairly homogeneous, following a distinct path of commercialisation and recapitalisation along with labour shedding and the consolidation of corporate farming (Petrick 2021). At the same time, the three countries followed different policy approaches, with the attempts at westward orientation by Ukraine marking a distinct policy turn after the annexation of Crimea by Russia in 2014.

As explained below, the analysis takes 2013 as the reference year for comparing subsequent productivity shifts and policy changes in all three countries. It addresses the following guiding question:

- How did Kazakhstan's sector performance fare in comparison to its peers Russia and Ukraine?
- What can be learned about the relation between agricultural subsidy changes and output growth in KRU?
- How does recent policy reform relate to other international experience?

The report shows how Kazakhstan and Russia maintained notable productivity growth in the agricultural sector while focusing their policy portfolio on subsidies for variable and fixed capital input. During the same period, agricultural productivity stagnated in Ukraine. However, the heterogeneous co-evolution in productivity and policy regimes across KRU suggests that other factors than the specific subsidy policy have a strong effect on output. The report concludes that policy can promote agricultural growth through these other channels, such as banking reform, enhanced public knowledge management, better local policy making, reducing policy uncertainty and improving policy monitoring and evaluation.

2 Analytical approach

The current report tracks agricultural productivity indicators in KRU by distinguishing gross agricultural output (GAO) and livestock at the national level for all three countries. As the promotion of livestock production and export is a key policy goal in at least Kazakhstan and Russia (Petrick 2014; OECD 2021), the growth of livestock output is presented separately. The report draws on data published by the Statistics Division of the United Nation's Food and Agricultural Organization (FAO), i.e. the Gross Production Index Number (2014-2016=100) for total agriculture per country (FAO 2021). Agricultural

output includes series of crops and livestock. GAO is net of seeds and fodder and includes technical crops. Livestock includes processed dairy products and technical products derived from animals, such as wool or skins. The indices are composed of quantities weighted by constant 2014-2016 international prices. This procedure avoids biases due to fluctuating exchange rates, domestic hyperinflation, or price controls (see Petrick 2021 for further discussion of this data).

Disaggregated data on the composition and level of agricultural subsidies at the national level is taken from OECD's (2021) Producer Support Estimate (PSE) for all three countries and given in constant 2014-2016 US dollars. The report distinguishes three types of government transfers to agriculture (OECD 2021):

- subsidies to agricultural producers, such as payments related to output or capital use,
- market price support (MPS), via border protection, subsidised output prices or taxes,
- support to agricultural services, such as on knowledge transfer or infrastructure maintenance.

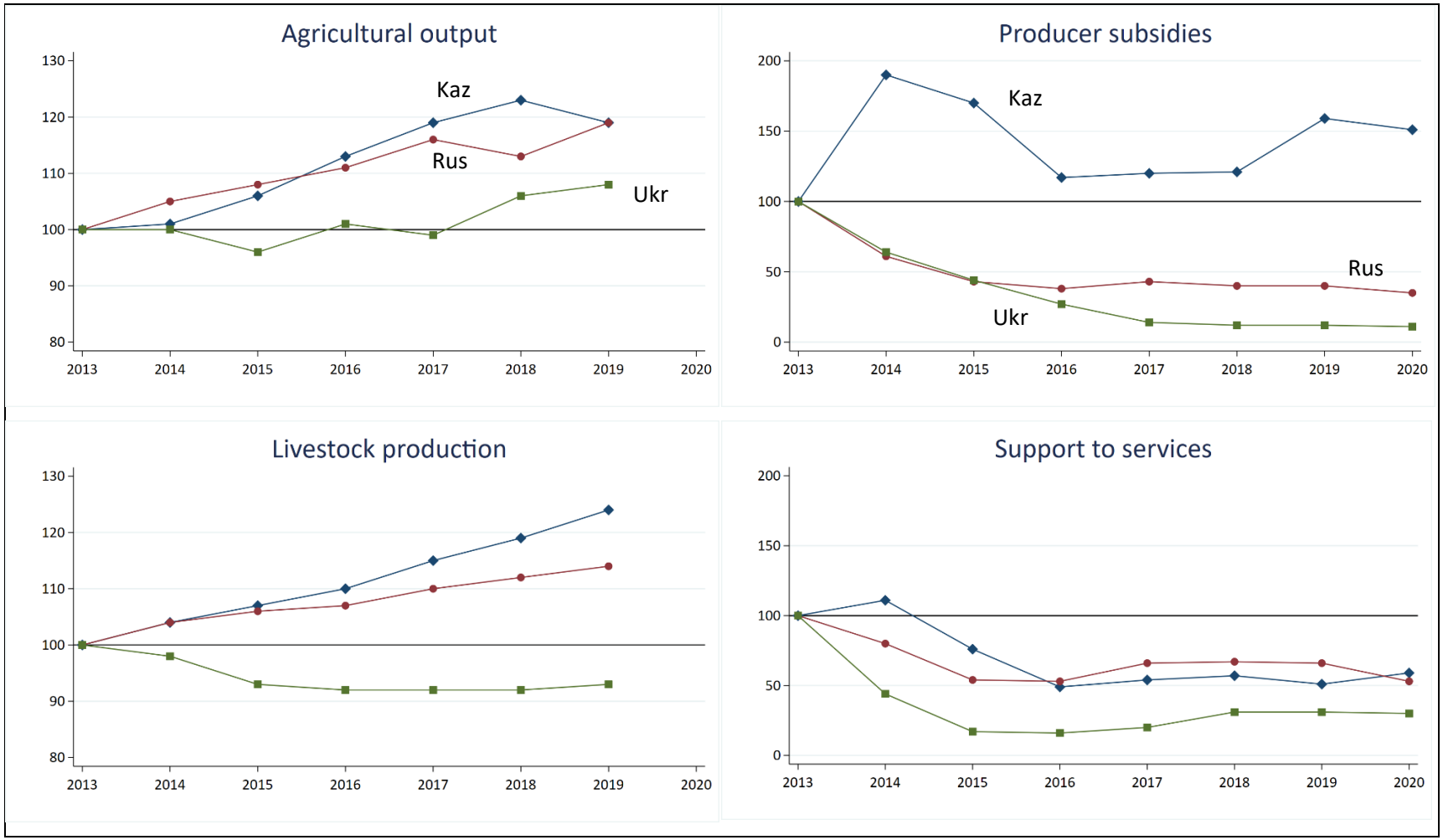
See appendix, Table A 1 on how the terminology used here relates to the published OECD data.

The annual data below is expressed either in relation to the 2013 value or divided by current hectares of arable land per country, as published by FAO, or current production value, as published by OECD. The report considers 2013 as a pivot year for comparison for the following reasons:

- In Kazakhstan, 2013 was the first year covered by "Agribusiness 2020", the first agricultural sector strategy put in force after the announcement of "Kazakhstan 2050".
- In Russia, it was the first year covered by the second State Programme for Agriculture. After Russia's accession to the World Trade Organization (WTO) in 2012, it prioritised import substitution and export promotion in agriculture and possibly provided a blueprint for Kazakhstan (Petrick 2014; OECD 2021).
- Ukraine entered a process of policy reorientation after the change of government following public protests in the course of "Euromaidan" in 2013/14 and the Westward orientation of the country. Ukraine liberalized its agricultural markets and reduced the public support to producers. In 2014, it agreed on a Deep and Comprehensive Free Trade Area (DCFTA) with the European Union (EU) (OECD 2021).

The three countries thus provide a spectrum of policy approaches that will be compared in the following.

Figure 1: Agricultural output and subsidy change in KRU, 2013=100



Note: Indices based on values expressed in 2014-2016 USD.
Source: Author based on FAO and OECD data.

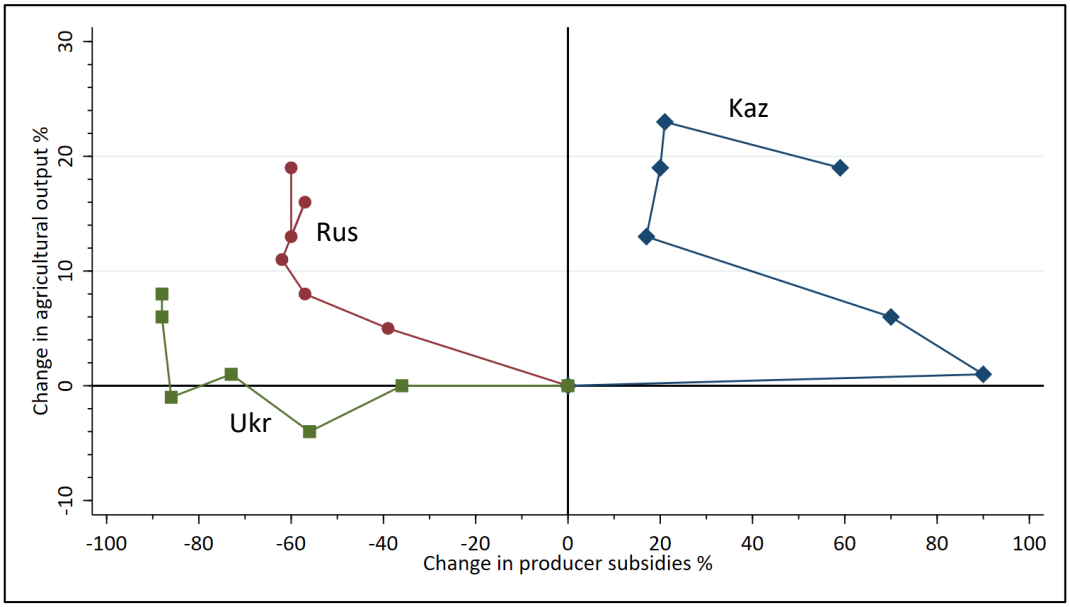
3 The coevolution of agricultural output and producer subsidies in KRU

All three countries recorded growth in total agricultural output between 2013 and 2019 (Figure 1, top left panel). Kazakhstan stands out with the strongest relative output growth of more than 20 percent between 2013 and 2018. In 2019 its growth figure equalled that of Russia and stood at about 120% of the 2013 value. Ukraine displays lower growth rates. After a period of output stagnation, the output value in 2019 stood at less than 110% of its 2013 value. However, Ukraine generally exhibits a higher level of output per hectare than Russia and Kazakhstan (appendix, Figure A 1). It has been only recently that output grew less in Ukraine than in Russia and Kazakhstan. On the other hand, farm restructuring in Russia has boosted labour productivity to the highest levels among the three (Figure A 3), possibly due to the most significant outflow of farm labour (Petrick 2021).

Kazakhstan also takes the lead in livestock growth, which clearly exceeded that of Russia in relative terms (Figure 1, bottom left panel). Livestock output in 2019 exceeded the 2013 figure by 24% in Kazakhstan and by 14% in Russia. The number for Ukraine fell to 93% of its 2013 value during the same period. In the longer term and on a per hectare basis, Russia caught up with Ukraine in terms of livestock output (Figure A 2).

Under the hypothesis that higher subsidy payments trigger stronger output growth, these growth patterns should also reflect the change of subsidy payments in KRU. We focus on producers subsidies and support to services, as these are the more important ones across KRU. The right panels in Figure 1 suggest that, among KRU, Kazakhstan was the only country that increased its producer subsidies between 2013 and 2019. During the reported period, all three countries reduced their financial support to agricultural services.

Figure 2: Agricultural output change following subsidy change (% change of 2013 value)



Note: Indices based on values expressed in 2014-2016 USD.
Source: Author based on FAO and OECD data.

To investigate the relation between producer subsidies and output growth further, Figure 2 plots the change in total agricultural output against the change in producers subsidies, both relative to 2013.

Figure 2 makes clear how the three countries represent very different patterns of output change following subsidy change. Kazakhstan boosted subsidy payments to producers and experienced notable output growth in turn. But Russia achieved similar growth while reducing subsidy payments to producers. Ukraine strongly reduced subsidies while still observing some growth. The relation between subsidy payments and output growth is thus highly diverse among the KRU (Table 1).

Table 1: Subsidy and output change in KRU after 2013

Country	Producer subsidies	Agricultural output
Kazakhstan	++	++
Russian Federation	–	+
Ukraine	––	0

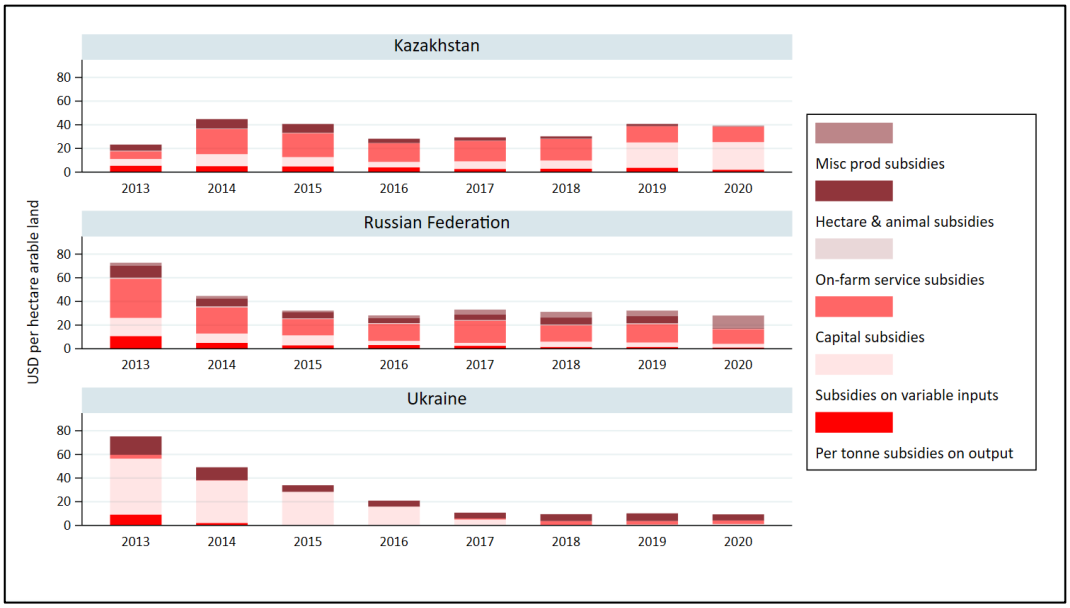
Source: Author.

These observations suggest two alternative conclusions:

- Either it is not the level but the type of subsidies and how they are administered that matters for agricultural growth, or
- subsidies have no significant effects at all, so that one needs to look for other output determinants to explain the diverging growth patterns across KRU.

We explore the first one next and the second one in the following section.

Figure 3: Level and composition of subsidies to agricultural producers in KRU, 2013-2020



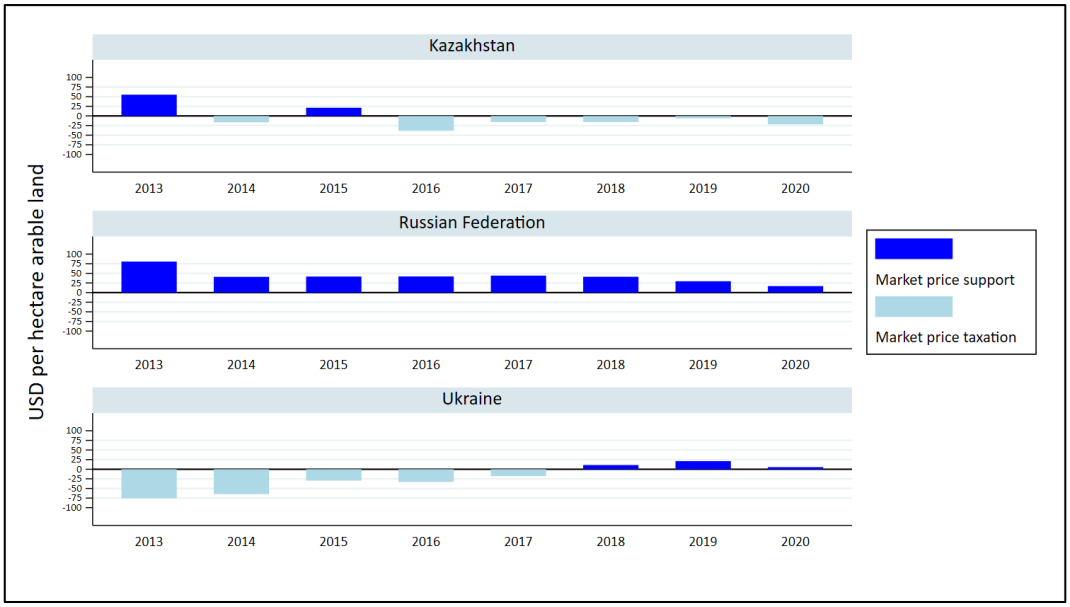
Note: Payments expressed in 2014-2016 USD.
Source: Author based on OECD data.

Figure 3 displays not only the level but also the composition of subsidy payments to agricultural producers in KRU in real USD per hectare of arable land. The numbers are given for each of the three countries, for the period 2013-2020. While the level of

payments is broadly the same in Kazakhstan and Russia, Ukraine phased out the payments almost completely. Moreover, capital subsidies play a major role in Kazakhstan and Russia. Ukraine used to pay considerable subsidies on variable input use. This happened in the framework of a reimbursement of value added tax (VAT) that was abolished in recent years (OECD 2021). Whereas Russia phased out subsidies on variable inputs between 2013 and 2016, Kazakhstan expanded them after 2018. So if we hold producer subsidies accountable for output growth, these trends suggest that subsidies on fixed capital, i.e. such as on machinery or buildings, are more effective in spurring growth than subsidies on variable inputs, such as seeds or fertiliser.

Russia banned food imports from a range of Western countries that had imposed economic sanction in the course of the political conflict over the annexation of Crimea. Beyond these measures, Russia maintained a regime of moderate border protection within the Eurasian Economic Union, e.g. on livestock products or sugar beet (OECD 2021). While farmers in Russia benefit from such trade measures in the form of higher output prices, producers in Kazakhstan and Ukraine faced even lower than world market prices and were thus effectively taxed during many of the years covered in the reporting period (Figure 4). Interestingly, the DCFTA that Ukraine had concluded with the EU hardly made any difference in MPS to Kazakhstan that integrated into the Eurasian Economic Union at the same time.

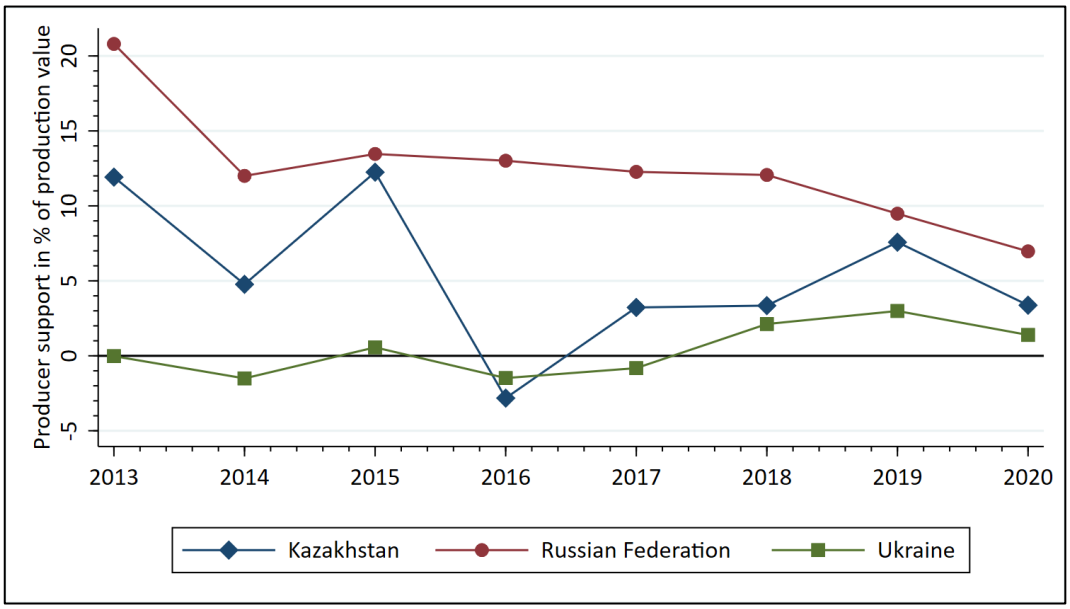
Figure 4: Market price support in KRU, 2013-2020



Note: Support expressed in 2014-2016 USD.
Source: Author based on OECD (2021).

Adding up the producer subsidies and the market price support yields the producer support estimate (PSE) (OECD 2021). Expressed in percent of current production value, it is a relative measure of total public support to agricultural producers that can be compared across countries (Figure 5). It shows that Russia maintained higher support levels than the other two countries, especially before 2019. Compared to Kazakhstan, lower levels of producer subsidies were partially compensated by higher MPS.

Figure 5: Producer Support Estimate in KRU, 2013-2020



Source: Author based on OECD (2021).

Summing up the observed trends, credit subsidies helped to promote agricultural growth in Kazakhstan and Russia, whereas Ukraine's output stagnated in the absence of such subsidies. Subsidies on variable inputs did not seem to exert a visible impact on output growth. Also border protection appears to be no precondition for growth, as Kazakhstan experienced sizable output growth despite negative market price support between 2016 and 2018 (Figure 1, Figure 4).

4 Problems with agricultural credit subsidies and alternative ways to promote output growth

Governments in KRU typically promote fixed capital formation in agriculture in the form of subsidised interest rates for producers. In addition, they may offer preferential credit terms to specific target groups or for specific purposes via state-mandated banks or lending programmes. In Kazakhstan, the bulk of agricultural finance is provided through the state-owned holding KazAgro, via its subsidiaries KazAgroFinance and the Agrarian Credit Corporation (ACC) (APD 2020; OECD 2021). In Russia, state-owned banks and development corporations such as Rosselkhozbank and Vnesheconombank play key roles in servicing the agricultural sector with preferential access to finance. Also Ukraine continues to hand out subsidised investment loans to agricultural producers (OECD 2021).

Given the popularity of credit subsidies among governments in Eastern Europe and the former socialist countries, international analysts have pointed out various problems that emerge from this sort of agricultural policy (Swinnen and Gow 1999; Petrick 2004; 2014):

- *Credit rationing*. Irrespective of the actual interest rates to be paid, lenders may be unwilling to fund agricultural activities. Borrowers do not obtain the amounts of credit they apply for ("quantity rationing") or they may not apply in the first place, fearing their inability to repay the loan later ("risk rationing"; Petrick et al. 2014). In tandem with unresolved issues of asymmetric information between lenders and borrowers, the reason for credit rationing is typically that lenders

and/or borrowers consider agriculture a too risky and ultimately uncompetitive business. Credit subsidies tend to disguise this lack of competitiveness.

- *Credit diversion*. Governments often intend to make farmers invest preferential loans into certain production lines deemed desirable from the public perspective. But due to the fungibility of capital, farmers may divert the funds to other uses that are more in line with their preferences, such as private consumption.
- *Lacking additionality*. Subsidies support projects that farmers would have carried out anyway, so that credit subsidies make little difference. Farmers may declare projects as qualifying for subsidies ex post, after they decided to implement them based on private cost-benefit considerations anyway. Due to fungibility, targeting or tying loans to certain purposes may not prevent this practice.
- *Misdirected targeting*. Farmers with the most profitable projects may not be able to access subsidies if governments tie preferential loan access to formal criteria such as legal type or organisational form (e.g. corporate farms or cooperatives). Governments may also define unrealistic minimum thresholds for the size of investment activities, or make subsidy disbursement conditional on the implementation of production lines that farmers consider unprofitable from a commercial point of view.

Government-mandated lending institutions such as agricultural sector banks rarely manage to overcome these difficulties. Instead, their operations often suffer from excessive bureaucracy. An unclear separation of political and economic goals may curtail the profitability of sector banks and hamper effective management, and the discretion of bureaucrats in granting loans may invite rent seeking and political patronage (Swinnen and Gow 1999).

In Kazakhstan, the ongoing restructuring process of the KazAgro holding and the fluctuation in its central management personnel indicate that it has not fulfilled the government's expectations (APD 2020). Survey data shows that farmers in Kazakhstan shy away from borrowing because they fear they cannot repay the loans and their operations are not profitable enough to service the given interest rates (Petrick et al. 2014). The livestock sector has suffered from poor targeting of subsidised loans and an excessively complex application process made credit effectively inaccessible for smaller producers (Robinson et al. 2021). At the same time, many of the large agro-holdings active in grains and oilseeds have been unable to service their debts and were forced into a financial rehabilitation programme of the government (Petrick et al. 2018, p. 34).

Following international experience and recommendations, the government should therefore consider alternative ways to promote agricultural growth (Petrick et al. 2018, pp. 51-63):

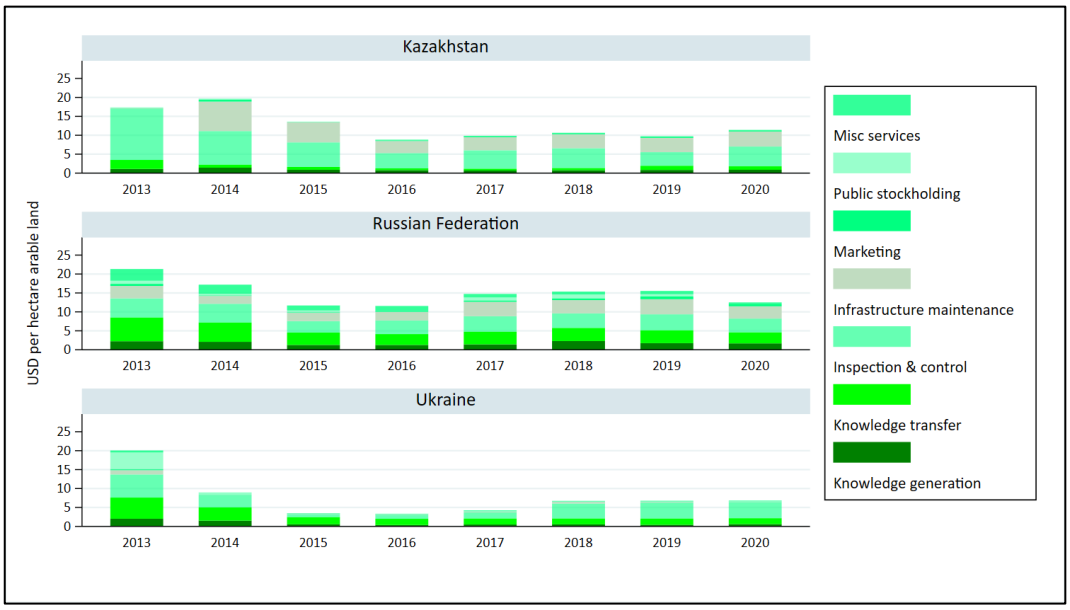
- *Agricultural finance reform* should entail a broader approach to banking reform that allows agricultural producers to harness commercial credit sources. Steps in that direction include more transparency in credit risk appraisal, a more independent role of credit cooperatives, and broader reforms of the regulatory environment.

The following activities will increase the competitiveness of the agricultural sector and thus also make it more interesting for commercial credit providers:

- Given the emphasis on modernisation, science and technology in "Kazakhstan 2050", *innovation and knowledge management* in agriculture should be

enhanced. Spending on knowledge generation and transfer in agriculture in Kazakhstan has been low by international standards, e.g. much lower than in Russia (Figure 6). The same figure for the European Union stands at about 60 to 70 USD per hectare (OECD 2021). The agricultural extension services should be further promoted and adopt modern knowledge transfer methodologies.

Figure 6: Public support to agricultural services in KRU, 2013-2020



Note: Payments expressed in 2014-2016 USD.
Source: Author based on OECD data.

- *Local policy making* is crucial in many policy areas that are relevant for agricultural growth, including the allocation of agricultural land to producers, tenancy of publicly owned land, irrigation and pasture management, local transport infrastructure, and disaster management. The governance capacity and decision making power of local government bodies should thus be strengthened.
- Frequent changes in public policies directed to the agricultural sector add to the business risk that emerges from a volatile economic environment, climate change or natural disasters. The government should attempt to reduce such policy risk and commit to long-term policy goals and principles. Such *policy stability* will also increase the attractiveness of the sector as a private investment target.
- Improved *policy monitoring and transparency* will help the government to better identify weaknesses and ineffectiveness of current subsidy programmes. Such monitoring requires investments into high-quality data sources and analytical capacity. The government has demonstrated in the past that it is willing to let go non-performing policy measures. Further steps to enhance the embeddedness of policymaking into the broader public should be taken. Transparent policy monitoring will help to make bureaucrats more accountable and policies more effective in the long run (Rodrik 2008; Petrick et al. 2014, 27-30).

Several of these recommendations go beyond the narrow confines of an agricultural sector policy. Addressing them at a higher level may turn out more sustainable than reshuffling subsidies into yet another funding programme for agricultural producers. It will also provide benefits to the economy at large.

5 Conclusions

Compared to its peers Russia and Ukraine, Kazakhstan has experienced stronger relative output growth in agriculture over recent years. However, it also started from a lower output level per hectare than the other two countries. Other than in Russia and Ukraine, output growth in Kazakhstan went in parallel with an increase in agricultural producer subsidies. This may be a sign of the effectiveness of the agricultural subsidy policy. On the other hand, Russia experienced only slightly lower growth while downsizing the overall level of producer subsidies. Ukraine's agricultural output at least stagnated, while the government phased out farm subsidies almost completely. In light of its peers, Kazakhstan's policy approach thus appears excessively costly. The comparison also suggests that the composition of the subsidy portfolio and the specific types of subsidies matter a lot, perhaps more than the overall level of payments. Moreover, other factors determine output growth possibly more than the level of subsidies. While some of those factors are beyond the control of the government, such as weather conditions or price fluctuations on the world market, several others can be promoted by specific policies.

Comparing the subsidy portfolio of the KRU countries shows that reducing the level of subsidies on variable inputs hardly harmed Russia's agricultural growth record. At the same time, Russia maintained subsidies on fixed capital formation, a measure that has also been promoted by Kazakhstan during its strongest growth period. This could be taken as an indicator that subsidies on fixed capital foster output growth more effectively than subsidies on variable inputs, such as seeds or fertiliser.

However, international experience suggests that credit subsidies come along with several downsides. They may not prevent credit rationing of borrowers that suffer from lacking competitiveness or that see themselves unable to service a loan in the first place, e.g. because they don't wish to put at risk their collateral. Channelling cheap credit to agricultural producers may lead to the diversion of such funds to other uses not initially intended by the government, and may thus fail to create additionality. Evidence from farm surveys in Kazakhstan also shows that potentially profitable agricultural activities do not benefit from subsidies because farmers fail to satisfy formal eligibility criteria or arbitrary threshold levels. The government should thus scrutinise and potentially revise the administration and implementation of the current subsidy system.

The government can do a lot to improve the competitiveness of the agricultural sector beyond the disbursement of subsidies. Promising policy areas include broader reform of the banking sector, enhanced innovation and knowledge management, capacity building for local policymaking, and reduced policy uncertainty. Improving policy monitoring and evaluation within and beyond the agricultural sector will help to hold government agencies accountable to the ambitious goals of Kazakhstan's long-term development strategy.

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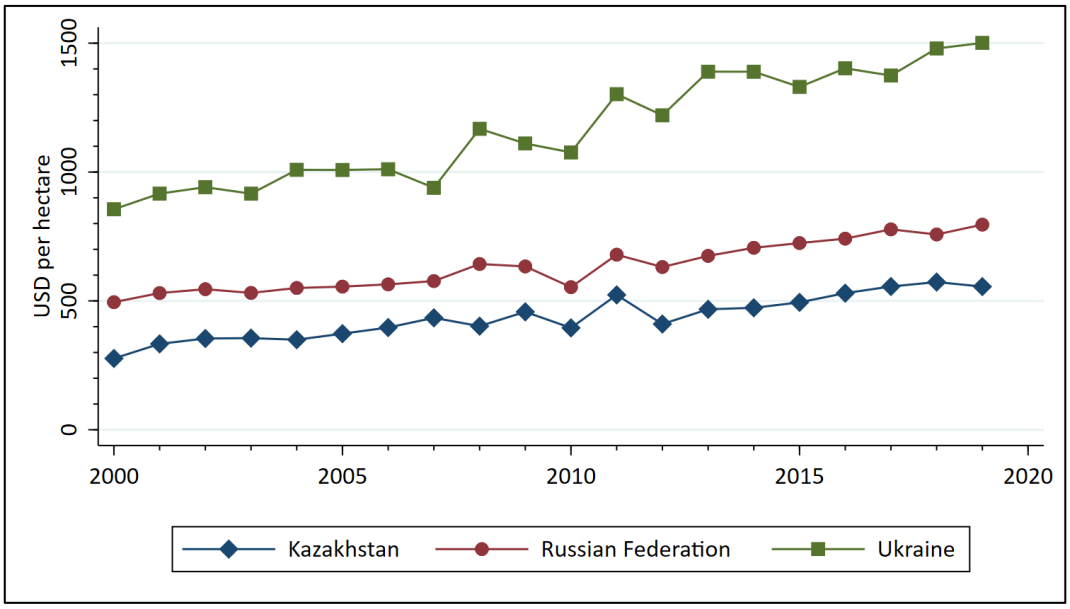
Appendix

Table A 1: Definition of subsidy aggregates

Subsidy aggregate used in this report	OECD equivalent
Producer subsidies	
Per tonne subsidies on output	Payments based on output
Subsidies on variable inputs	Based on variable input use
Capital subsidies	Based on fixed capital formation
On-farm service subsidies	Based on on-farm services
Hectare & animal subsidies	Payments based on current area or animals, production required
Misc prod subsidies	Miscellaneous payments
Support to services	
Knowledge generation	Agricultural knowledge generation
Knowledge transfer	Agricultural knowledge transfer
Inspection & control	Inspection and control
Infrastructure maintenance	Development and maintenance of infrastructure
Marketing	Marketing and promotion
Public stockholding	Cost of public stockholding
Misc services	Miscellaneous

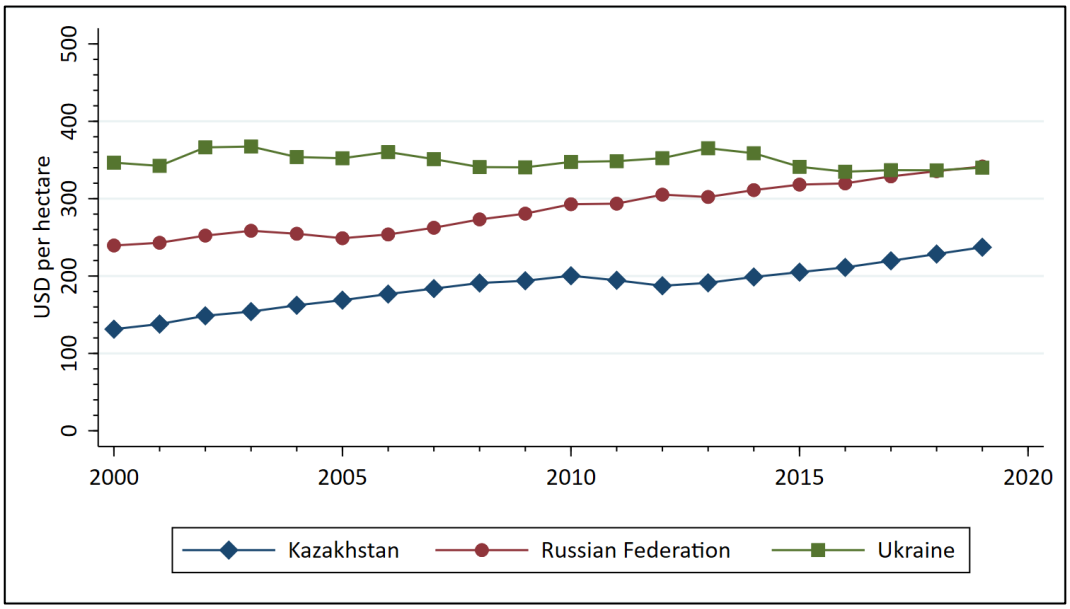
Source: Author based on OECD (2021).

Figure A 1: Agricultural production per ha in KRU, 2000-2019



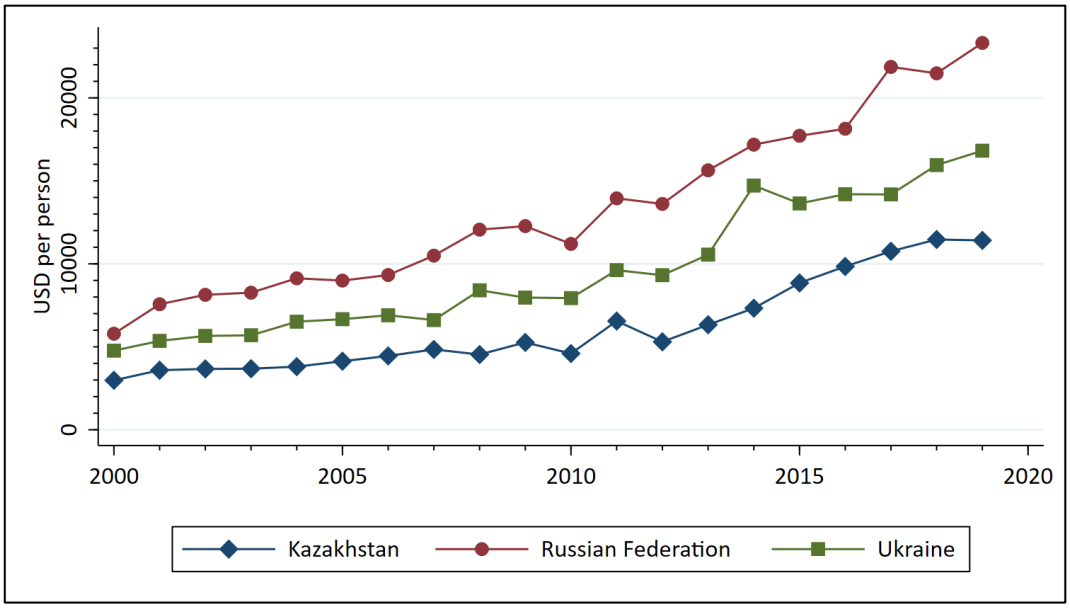
Note: Values in constant 2014-2016 international USD.
Source: Author based on FAO data.

Figure A 2: Livestock production per ha in KRU, 2000-2019



Note: Values in constant 2014-2016 international USD.
Source: Author based on FAO data.

Figure A 3: Agricultural labour productivity in KRU, 2000-2019



Note: Values in constant 2014-2016 international USD per person employed full time in agriculture. Labour input is the modelled estimate of employment in agriculture, hunting, forestry and fishing published by International Labor Organization (ILO).
Source: Author based on FAO and ILO data.