RUSSIAN AGROHOLDINGS + FINANCIAL CAPITAL + LAND GRABBING ≡ GLOBAL "BREAD BASKET"?



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KEYNOTE

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1. Introduction

Russia has seen a recovery in its agricultural sector since the early 2000s, which can particularly be noticed in the production and exports of wheat, which was at record height in the years 2008-2009. Production of wheat and coarse grains in Russia is dominated by large farm enterprises (LFE), which are the successors of the previous kolkhozy and sovkhozy, and currently merging into huge "megafarms" and enterprise conglomerates or "agroholdings". The latter themselves incorporate a great number of LFEs (Visser, Mamonova and Spoor, 2012). The re-emergence of Russia as a global grain producer is being observed in an increasingly tense global food market, in which food price hikes occurred in 2007-2008 and more recently in 2010-2011, and is seen as potentially crucial. It is suggested that this region will become the new global "bread basket", in particular because large tracks of land, possibly 40-50 million hectares have been taken out of production since the early 1990s. Re-cultivation of these land reserves could positively contribute to resolving the "food crisis". It is in this context that these large farm enterprises are increasingly seen in a positive light, suggesting that they are the ones responsible for this grain recovery, and the only way forward to solve the food crisis. In this paper we investigate critically this proposition, asking the question whether it the following "equation" is true:

Russian agroholdings + Financial Capital + Land Grabbing \equiv global "bread basket"?

In order to investigate the above, we will take into account various factors, such as efficiency, productivity, social and environmental costs of large-scale mode of production in the Russian context (e.g. de Schutter 2012; Deininger and Byerlee 2011, for conflicting views). Although not all the necessary data is available, we will conclude that this equation is a misrepresentation of reality, and that the current return to Soviet *megalomania* under capitalist conditions will not be sustainable in the future. This conclusion is completely different from the opinion that was expressed by Dr. Alex Lissitsa, President of the Ukrainian Agribusiness Club, in the June 2012 IAMO Forum on "Land Use in Transition" (where this paper was presented as keynote contribution), who argued that agroholdings were not only efficient, but needed to become even bigger because of having to compete with Latin American *latifundia*. In order to test the validity of our "equation", we will analyse the emergence of the agroholdings, the influence of financial capital (in particular from outside the agricultural sector), and the process of land concentration, which is often done in the form of land grabbing. Combining these elements will provide inputs to answer the question whether the sum will lead to Russia becoming a global bread basket.

We will argue in this paper that after having passed through a period of land reform, two decades after the end of the socialist era, Russia shows a remarkable degree of concentration in the agricultural sector of land and other assets, with possibly the fastest and most far-reaching corporatisation and financialisation of this sector in the world. In such a short period of time, Russia moved from a situation in which the sector was characterised by thousands of large-scale ailing and sometimes collapsing collective (*kolkhozy*) and state farms

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¹ It is not suggested here that the "food crisis" is only caused by supply constraints, which is often argued. The effects if increased financialization and speculation in food and agricultural markets, and unequal access food are even more important (Spoor and Robbins 2012).

(*sovkhozy*), towards the dominance of a new (but in a sense continuous) form of dominant large agricultural enterprise, which more recently were integrated into agroholdings. The latter do not only include many large farms enterprises, but also input and output marketing companies, while finance capital external to the sector plays an increasing role.

There is a continuity to be observed from Soviet farm enterprises (which were part of the $A\Pi K$, or Agro-Industrial Complex) towards these new corporate enterprises and agroholdings. These agroholdings expand rapidly in terms of land, and as this is done often in shady deals (Visser, Mamonova and Spoor 2012) the term "land grabbing", rather than "large-scale land investments" (World Bank 2011) is seen here as more appropriate. The drive to diversify financial assets during and after the global crisis of 2008-2009, the predominance of Russian capital emerging from the energy sector, and the continued Soviet-style megalomania have all influenced this development (Visser and Kalb 2010; Kalb and Visser 2012; Visser, Mamonova and Spoor 2012).

The paper will analyse the development of this large-scale type of agriculture in Russia particularly focused on grain production. After this introduction, in the second part we will briefly summarize the development of land reform and farm restructuring over the past two decades in the suddenly emerged post-Soviet transition. We will argue that there was a failure of land reform if one accepts that land reform should lead to asset and wealth distribution (Borras 2007; Lipton 2009). This means that we will look beyond the focus on the degree of individualisation of land use and production, that is often seen as the main criterion for success (Lerman, Czaki and Feder 2004; see also: Spoor and Visser 2001; Spoor 2012). We will show that there has been a transition from a bi-modal Soviet agrarian structure (kolkozy/sovkhozy versus subsidiary household plots) towards a renewed (and in that sense continued) one, namely with corporate mega-farms and agroholdings versus household plots, with a (still) relatively small individual farm sector as a third player. We will address the questions: how did land ownership change and land concentration occur over the past two decades? How was this process enabled through policy, but also through the emergence institutional framework? The main reason to undertake this historical analysis is not only because it had been a very interesting transition experience, which has drawn the attention of many scholars (Lerman et al. 2004; Wegren 2008, 2009; Spoor 2012; Wandel et al. 2011), but because Russia (together with Kazakhstan and Ukraine) forms a region that is currently seen as a possible global "bread basket" in terms of current and future grain (and bio-fuels) production. In the third part of this paper we will show that not only there has been a reconcentration of land and productive resources, and a "consolidation" of the previous kolkhozy and sovkhozy into large commercial mega-farms and agroholdings, but there is also an increased financialization and corporatization of these (often integrated chain) farm enterprises. Hockmann et al. (2005) focus on their positive contribution to agricultural development ("breaking the vicious circle?"), but we will analyse this development more critically. In a recent study we undertook on oligarchs and mega-farms (Visser, Mamonova and Spoor 2012) we saw that there were often shady deals and non-transparent processes under which land shares were accumulated and land grabbing has taken place. Most of the land concentration and the corporatization of farm enterprises are undertaken by domestic capital, although there is also some foreign investment involved in these land grabs. In this paper we will pursue that investigation further, by looking at agroholdings (and their land deals) more in detail, analysing the various drivers behind this process of land, asset and capital concentration. We will add to this a crucial piece of analysis, namely that in spite of their generally "good press", in fact there is a substantial part of the agroholdings is in financial difficulties, or are in a procedure of bankruptcy.

In the fourth part an analysis is presented about the "recovery" of the grain sector in Russia. Russia's grain production was 61.7 million tons in 2009 (while it dropped in 2010 after prolonged drought to 41.5 million tons, and recovered again to 56.2 million tons²), which was 9.0 percent of the world's wheat production. However, Russia is the third wheat exporter in the world; in 2009 it exported 17.4 million tons of wheat, while this was only slightly less than the world leaders in this market, namely Canada (with 19.3 million tons) and the US (with 21.9 million tons), the three countries together representing nearly 40 percent of the world wheat market.³ This indicates the growing importance of Russia in wheat production and exports. Recent studies (EDB 2010) even expect within a time span of a few years a doubling of those production levels, although other sources are more sceptical, and suggest a consolidation of Russia's production at 60 million tons of wheat and exports of around 20.0 million tons in the next decade (FAPRI-ISU 2011). The most recent expectation of the 2012 wheat harvest, again because of non-favourable climate conditions (and recent severe floodings in the South) was even below that of the level of 2011, possibly falling back to the 2008 level.⁴ The future role of Russia grain sector, apart from these regularly occurring misharvests because of droughts, will also depend on whether the large potential that can be re-cultivated in Russia (possibly more than 40 million hectares) will actually be dedicated to wheat, as originally these were areas where rye, barley and oat was produced (see part 3).

There are tendencies for further value chain integration in the grain markets of Russia (as well as in Kazakhstan and Ukraine) and important investments are currently undertaken in grain elevators and port facilities. In combination with the already mentioned tendency of land concentration, we will therefore ask ourselves the question: is large/scale production, undertaken by corporate companies more efficient than small- and medium sized farms to "feed the world"? This is a widespread idea among policy makers and businessmen, but which is also challenged by several studies (De Schutter, 2012; HLPE, 2011). Are these agroholdings indeed so profitable/efficient/successful as their rapid emergence suggests at first sight? What are the downsides of having agriculture and particularly the wheat sector of Russia dominated by these huge corporate companies? In this part of the analysis we will look at various issues, such as efficiency and land productivity, but also to transaction costs, as very often horizontal and vertical integration is pursued by companies because of existing market deficiencies. Oligopolistic market behaviour seems to be the outcome of this process. We will also briefly look at issues such as growing bureaucracies in these corporate structures, the social conditions, the impact of de-peasantisation for the countryside, and the possible environmental impact of large-scale farming.

In the concluding section we will argue that the process of land, asset and financial capital concentration in the agricultural, and in particular in the grain sector in Russia is taking place at very high speed. Russia does not seem to simply catch up with practice and structures of the global food regimes (McMichael 2009), but even takes the lead in some ways. As the managing director of the Agroholding NCH Capital said: "To some extent, Russia is at the forefront of this development" (McChestney 2011). Huge Russian agroholdings have their shares now quoted on Western stock markets, they attract investors from abroad, and become bigger and bigger. This author sees in these new corporate giants

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² We use here RosStat (2012), but the 2010 figure is equal to FAOSTAT (2012); see note 3.

³ FAOSTAT (2012), available at: www.faostat.fao.org, accessed 5 June 2012.

See: http://www.world-grain.com/news/news%20home/LexisNexisArticle.aspx?articleid = 1682457398&cck=1, accessed 17 June 2012. This source estimated the wheat output for 2012 at 54 million tons. However, www.bloomberg.com, of 9 August 2012, using the most recent data on water shortages, expected an even lower outcome, namely maximally 45-46 million tons of wheat.

something of a re-incarnation of former Soviet companies within the then $A\Pi K$, calling them polemically "Collective Farm 2.0".

The region has substantial fertile land reserves and there is also a yield gap that can be reduced (World Bank 2011), which could lead to a strong expansion of particular wheat and coarse grains. The question is however if this will really happen, and if so at what costs and with which benefits this newly emerging "food regime" (McMichael 2009) is emerging in Russia. For instance, will it increase or decrease the effects of financial speculation in food markets, as we have seen in the periods 2007-08 and 2010-11, and lead to a more volatile prices and increased insecurity? Also the social costs of the de-peasantisation of the countryside should be critically looked at. The benefits might include a substantial increase in grain production, in particular because of the re-cultivation of large amounts of abandoned land. For European Russia alone these were estimated by Schierhorn et al. (2012) at 26 million hectares between 1991 and 2009, but the economic, social and environmental costs might be high, and an un-sustainable mode of production is in the making.

2. Was Land Reform a Failure?

At the outset of the transition period in Russia the process of land reform and farm restructuring was supposed to lead, at least if we look at the advice which was given by the IFIs (World Bank, 1992), to a complete overhaul of the agrarian structure. As Spoor and Visser (2001, p. 886) stated:

The report argued that privately-run (family) farms by definition would be more efficient and productive than the existing large-scale state and collective enterprises (*sovkhozy* and *kolkhozy*).

In undertaking land reform and farm restructuring the Yeltsin government chose for a "share-based" land distribution, which was also followed in countries such as Kazakhstan and Ukraine (as opposed to a "plot-based" land distribution, used elsewhere in Central and Eastern Europe). Individual farms that were formed in the early 1990s had some policy support, but the deficient and sometimes non-existing factor markets made it very hard to subsist or accumulate (Spoor and Visser 2001; 2004; and Visser, Mamonova and Spoor 2012).

[Table 1]

Weakly defined user-rights (of the shares) and the overall crisis of the post-Soviet Russian economy made it possible for inventive entrepreneurs, former *Sovkhoz* or *Kolkhoz* chairmen, other members of the rural *nomenklatura*, but also criminal elements to gather large numbers of shares. In the early stages several forms of new enterprises were formed in that way (Wegren 2009), such as joint-stock companies, cooperatives and "peasant associations", although sometimes only changing the name plate. In Table 1 it is shown that since the early 1990s until 2010 there has been hardly any increase in the total number of household plots, but their average acreage has more than doubled, with the total land area growing from 3.2 million hectare in 1992 to 7.5 million hectare in 2010.

The number of peasant (or individual) farms grew rapidly in the 1990s to (at least according to the official data, as the real number might well be 25 percent less) a maximum of 278,600 in the year 1996 (occupying 12.4 million hectare), gradually decreasing in numbers to 261,700 in 2010 (with a slight increase total land acreage of 16.3 million hectares). Finally,

the number of large farm enterprises ("agricultural companies") has remained remarkably stable in the transition. While there were an estimated 25,800 sovkhozy and kolkhozy in 1991, by the year 2000 these had been transformed in commercial or corporate large farm enterprises (LFEs), of which there were around 27,600. With the bankruptcy law (1998) in force, an increased process of concentration followed, and in 2006 this number had already reduced to 22,300. Since 2003, with the new Land Code in Russia was introduced, the process of land concentration started to speed up. The bankruptcy law stimulated the elimination of those enterprises which had been non-solvent for a long time (Spoor and Visser 2004), but also the easy acquisition (sometimes at symbolic prices) of enterprises by capital groups or investors, partly to strip their assets, and partly to build up conglomerates of enterprises or agroholdings (see section three).

The data in Table 1 show that land reform in Russia has not been a re-distributive one, as was possibly intended in the early stages of transition, or it could also confirm that this was not the intention at all. Indeed, a peasant (or individual) farm sector has emerged, but it has remained relatively small. The sector occupied 11.2 percent of agricultural land in 2010, if compared with the first transition year 1992 in which the peasant farm sector was practically still non-existent. The household sector (subsidiary plots and dacha gardens) increased its share from 1.6 to 5.2 percent of total agricultural land. Finally, while in 1992 the *sovkhoz* and *kolkhoz* farms had occupied 98.4 percent of agricultural land, their corporate heirs in 2010 still held an estimated respectable 83.6 percent. This seems more than has been reported in other sources, but it could be that the 13.9 million hectare reported by Serova (2010) as the category "other" should be added, lowering the share in agricultural land of agricultural companies to 76.3 percent.

Was land reform a failure? This is a question which has been addressed by various authors in different ways (Lerman et al. 2004; Wandel et al. 2011; and Wegren 2008). As the latter author stated some time ago:

Russia's contemporary land reform did not deliver on early intentions in that large farms continue to use most of Russia's agricultural land. Individuals have not become 'masters of the land', most rural households continue to have small land holdings (Wegren 2008, p. 143).

Indeed it was a failure, because in the end it did not lead to a wealth distribution (land and assets) and if it did initially in the 1990s, it was reverted later-on. We will come back to this in the section where the continuity in terms of large farm enterprises is emphasized, and where also the role of the state is indicated in this process (through policies and institutional framework). However, it is summarized quite well in a recent statement by Ivan Bagach, head of the regional Duma of the Stavropol Territory⁵:

The task of the state these days is to take all land and give it to the big business, thus leaving no means of subsistence to small farmers. When the land plots were distributed, we were told that the state gave land to the peasants, but in fact it took the land from the peasants.

3. Land Grabbing and Financial Capital: "Collective 2.0" Agroholdings

Agroholdings: concentration of land and capital

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⁵ http://mnenia.ru/rubric/finance/na-rossiyu-nastupayut-latifundii/#opinion21142; accessed 5 June 2012.

It was recently estimated by Institute for Agricultural Market Studies (IKAR) in Moscow that agroholdings account for 25 percent of grain output in Russia (Rylko 2011) and will do so for 40-50 percent by 2016 (EBRD 2008, p. 7), with a possible even larger role in exports. In comparison, in Kazakhstan, agroholdings are estimated to control even 80 percent of total grain output (Rylko 2011). The number of agroholdings (as well as the size of their land holdings) has rapidly increased since the early 2000s. According to the Russian Ministry of Agriculture in 2003, more than 90 agroholdings were active in 25 regions. By 2006, 319 corporate agroholdings were already registered (Uzun et al. 2009, p. 159). There are no official statistics of the land areas farmed by agroholdings (as they are reported for the individual farm enterprises), but by mid-2008, according to an estimate of IKAR, 196 large agroholdings controlled 11.5 million hectares (BEFL 2010, p. 9).6 By the mid-2000s in various fertile Black Earth regions, such as Belgorod, Lipetsk, Voronezh and Tambov there was practically no 'free' land available that was not yet controlled by an agroholding (Didenko 2009). Of the over 300 agroholdings in Russia, by 2007 there were 32 with land holdings of over 100,000 hectares (EBRD 2008, p. 7), while according to Rylko (2011) this was even more than 35. At least 12 major holdings controlled each 150,000 hectares or more, such as Cherkizovo, Nastyusa, Prodimex, Razgulay, SAHO, Yug Rusi and others (EBRD 2008, p. 7).

Control over the main bottlenecks

The market power of the agroholdings even more than their land size depends particularly on ownership or control over strategic bottlenecks in the food and agricultural value chains. We can observe that the largest agroholdings assert market power through concentrated storage, handling and/or processing and port facilities. The precise assets they control depend on the specialisation. Here we will take a closer look at storage capacity, as an understudied, but essential factor in the build-up of market power in the agri-business sector. Although LFEs generally have simple storage facilities to keep their products for a short period, some now have cold storage, enabling longer storage of perishables. As such, they can store their harvest and then sell it at the end of winter or in the spring when prices are higher.

In fact storage facilities have become even more important. For grain, now (one of the major) crops of the agroholdings, we have shown earlier that the sustained increase of grain production was much more limited than the impressive export figures during the years 2008 and 2009 actually suggest. As we argued earlier, until the early 1990s a larger share of the grain production (including coarse grains; see also section four of this paper) was used as animal feed. With the downfall of the animal husbandry sector (which has been slowly recovering during the 2000s, but still at much lower levels than during the Soviet era), more of domestic grain is used for human consumption (whether domestically or for export), and there is a growing need for more high quality storage capacity. The number of grain elevators, however, did not increase. According to some sources the number of elevators remained unchanged throughout the first decade of the 2000s, at 1147 elevators. According other sources grain storage capacity even declined somewhat. Storage capacity decreased in one year with over 10 percent from 108.2 million tons (2008) to 97 million tons (in 2009).

Moreover, aside from (normal) price differences between the autumn harvest time and the winter/spring period, in Russia price volatility is further increased due to the earlier

⁶ According to an earlier estimate by IKAR in Russia 350 agroholdings (including energy companies like Gazprom) farmed approximately 8 million hectares (EBRD 2008, p. 7).

⁷http://hipzmag.com/index.php?option=com_k2&view=item&id=187:187&Itemid=15, accessed 13 August 2012.

mentioned strong annual volatility in harvested amounts and due to varying changing policies (e.g. bans on food export, such as were introduced in 2010-2011. These policies further increase market power to those companies with control over storage capacity. Agricultural enterprises and agroholdings which do have such storage facilities have a huge advantage over others. Even within the group of largest agroholdings with over 100,000 hectares of land, substantial differences exist within the storage capacity (GAIA 2008, p. 16). The agroholding Black Earth Farming (BEF), with landholdings of 330,000 hectare has a storage capacity of 60,000 tons (around 1/10th of the maximum harvest output). Trigon agro, of Swedish origin like BEF, has significant lower landholdings, but much more storage capacity (over 322,000 tons), and works profitably, whereas BEF is loss making. The storage capacity of Trigon Agri however pales, compared with Razgulay (controlling 560,000 ha of land), which has a 1.9 million tons grain storage capacity.

Drivers of land concentration

The recent "land rush" in Russia has clear characteristics of a new frontier for investors. In the creation of this new frontier, global factors play a role (such as the financial crisis and the search for an inflation hedge), but domestic factors seem to be more decisive. Also domestic land acquisitions predominate over those by foreign investors. After the large financial crisis of the late 1990s, the Russian economy has shown impressive growth rates throughout most of the 2000s. Demand for high quality food products, such as livestock products, has been continuously rising as a consequence (in contrast to the enormous crisis in this sector during the decade of the 1990s). An important factor on the supply side is the large amount of capital which the Russian oligarchs have accumulated during the earlu "piratization of Russia" (Goldman 2003). After having established their domination in the energy and industry sectors these were looking for new frontiers of investment (Visser, Mamonova and Spoor 2012). Whereas in the 1990s they transferred their capital to tax havens in the West, with the economic recovery of the 2000s this offshore capital was increasingly invested in the domestic economy. In the early 2000s a senior economist of the Moscow Brokerage firm Aton Capital Group concluded, "Russians are starting to trust Russia" and therefore "money is coming back" (Starobin and Belton 2002). The land rush can therefore be seen as part of the larger "hunt for the Next Big Thing", a new accumulation drive that started in the 2000s with the privatisation of assets which were left in state-ownership in the 1990s, such as railways, electricity and financial services (Starobin and Belton, 2002). The Russian state plays an important role in enabling the boom in large-scale land acquisitions, in legal terms by adopting the 2002 land law allowing free sale of land and, even more importantly, by fiscal policies that lowered taxes and increased subsidised loans for agricultural companies.

The fact that the current recovery of the agricultural sector runs parallel with increased large-scale land acquisitions and the predominance of huge agroholdings is sometimes portrayed as an inevitable process and/or representing the most efficient mode of farming for Russia, by investors and authorities alike. While it is true that in the Russian landscape some crops allow for a high degree of mechanisation and economies of scale, there are also various diseconomies of scale associated with these large farm enterprises (Nikulin 2005; Visser 2006; 2008), such as those related to monitoring and management costs. Another justification for large-scale land acquisitions and mega-farming given by the major actors in Russia is that the rural population is not willing to take up independent farming, that small or medium private family farms are not a feasible form of production, or do not have the finance to expand and modernise production. "Today only agro-industrial holdings can be profitable in farming, because it requires huge financial resources", stated Zorigto Sakhanov, chairman of Agro-Invest Group, the subsidiary of Swedish Black Earth Farming (Bush 2008). Indeed, the growth of private farms has been below expectations. However, it is important to stress that

many of the farmers face obstacles which are not simple natural problems related to their size, but a direct problem of a political economy (and government policy) targeted solely at large-scale farming (Visser 2008). In that sense their contribution is even substantial, against all odds (see section four). The lack of investment in extension services, as well as the large-scale nature of input and output channels, form obstacles for private peasant farms. Furthermore, some regional authorities have even set limitations on the minimum size of land deals, such as in Krasnodar Krai where there is a threshold of 300 hectares for land deals, hindering the emergence and expansion of small and medium sized farms (Visser and Spoor 2011).

A very important factor that favours large-scale farming and further vertical and horizontal integration is the Russian financial system. There is an urgent lack of accessible finance or credit, from within the sector, for agricultural companies and even more for peasant farms. Obtaining loans is virtually only possible through take-over and capitalisation by rich investors who have built up their capital in another sector, or via state subsidised credit. Most commercial banks are more vehicles for the investment projects of oligarchs than accessible sources of credit. Interest rates are very high and agricultural land is mostly not accepted as collateral. Furthermore, banks are generally not much oriented toward agriculture.

However, from the early 2000s, the state has increased finance for the agricultural sector. A network of state-owned and operated banks for agribusiness was set up, but in some regions these bank branches were only established when agriculture had already virtually disappeared. State subsidised loans have been targeted predominantly towards large farm enterprises (LFEs), and within this group, towards the largest and most successful ones. For instance, Uzun (2005) states that "1.4 percent of the largest corporate farms received 22.5 percent of all subsidies". Also, the more indirect forms of subsidisation seem to stimulate mostly the largest LFEs.⁸ Various requirements of the loans, such as the need for matching of resources and often brief repayment terms, tend to produce a bias in the loan portfolio in favour of LFEs and agroholdings. Moreover, there are calls for even more privileges for LFEs and agroholdings, such as to offer favourable conditions for acquiring land and other resources from inefficient agricultural enterprises, support for exports, and favourable conditions for importing inputs needed for agricultural production (Berezhnoi 2002). Some of such privileges already exist in a more informal form at regional level. A policy favouring large scale investments in Russia is of course not unique. As for instance Daniel (2012, p. 706) states, many countries have offered such incentives to attract investment in farmland, including duty exemptions, full or partial tax holidays, or tax rate reductions. In the specific Russian context, it is difficult to develop agriculture without investors from outside the sector, in the absence of a financial system and institutions that support the various actors in agricultural production. Whereas in the 1990s, the few investors in agriculture and land were mostly coming from agribusiness (food processors, food wholesalers, or providers of inputs for farming), now investors often do not have any existing link to the sector, and finance becomes detached from agricultural production.

Motivations by actors

The precise motivations of outside investors or oligarchs to acquire land are not easy to discover since the whole process is highly non-transparent, not least for the villagers, who often know little more than that "a rich investor from Moscow" obtained their land (D'Hamecourt 2010, p. 13). However, it is clear, as we will elaborate below, that the current land rush cannot be explained by economic incentives or rising food demand only, and needs

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⁸ However, it should be noted that by the mid 2000s the national budget for the first time since the mid-1990s set aside a substantial amount of subsidies for household plots and private farms (Wegren 2007).

further analysis and disentanglement. Several authors have argued that the idea of a rapidly growing global population and rising food demand as an explanation for rising food prices and subsequently the drive for land acquisitions is a mystification of reality (Jouko and Granberg 2011; De Schutter 2012). This is clearly also the case for Russia. Except from the more obvious economic reasons for investment, such as increased demand for livestock products, and aspects of investment portfolio management (integration, differentiation and risk-spreading), there are several other motivations for actors to undertake investments. The following will be discussed: high subsidies, speculation, state pressure and state-business agreements, tax evasion and money laundering.

Subsidies and privileges: Acquiring land and investing in agriculture has been made attractive by the policy of the Russian government. Since the early 2000s the state has stimulated agriculture through a range of instruments such as a debt restructuring programme, the establishment of a state-financed agricultural bank, subsidised crop insurance programmes, simplified and lowered taxes on agriculture, and subsidised loans for capital investment (Wegren 2007, p. 517). Whereas in the 1990s subsidies for the agricultural sector were sharply curtailed, under Putin, from 2006 onwards, agriculture became one of the four priorities of the "national project". The government set ambitious goals for domestic food security, targeting first of all the livestock sector, which had experienced a most dramatic decline during the 1990s. As a result, cheap, state-subsidized credit became available for investments in livestock and especially dairy production.

Western observers often hasten to characterise state intervention in Russia as a legacy of, or return to, the Soviet past, but it is more productive to see it as an example of the wider global tendency of various states to stimulate their agricultural sectors (Daniel 2011). Whereas in some countries subsidies focus on biofuel production (such as in the US and in Germany), in Russia, as a major fossil fuel exporter and a weakened livestock producer, the subsidies focus on the latter sector. Much of the privileges to the (mostly large) agroholdings are of an informal, and therefore non-transparent nature, and consequently difficult to pinpoint. However, there is substantial anecdotal evidence. To give one example of a large agroholding Yug Rossi: one of the reasons that it invests in agriculture seems to be a tacit agreement with the regional authorities, similar to the deal President Putin made with the oligarchs. The Yug Rossii investors made huge profits in the 1990s, partly due to privileged tax position granted by the authorities. In return, the authorities now want the company leaders to invest in the countryside. 10 New subsidized investment credits for domestic and export elevators seem to benefit especially the largest agroholdings, as indicated for instance by the rapid investment growth in construction of elevators by Cherkizovo, one of the largest agroholdings in Russia (Rylko 2011).

Import restrictions: The 1990s were characterised by relatively free imports, targeted at guaranteeing cheap food for the urban population. However, by the mid-2000s when the oligarchs started to enter the agricultural sector, numerous changes in the import regulations took place which favour domestic agriculture, and in particular the position of the agroholdings. For sugar, a flexible rate import tariff up to 270 USD per ton was announced. The import duty on rice increased from a 10 percent import duty to 120 USD per ton. Also, import tariffs on various dairy and meat products were markedly increased (Rylko 2011). It has been suggested that these import restrictions were influenced by the agroholdings, through

⁹ It is still to be seen how the subsidies will change in view of the recent WTO-membership of Russia (July 2012).

¹⁰ This analysis is based on informal conversations by O. Visser with a Russian consultant at the consultancy firm *Yugagrofond* in Rostov, autumn 2002.

aggressive lobbying (Hervé 2007). It is relevant to note that the first branch of livestock production which the large private agroholdings entered was the poultry sector. It seems to be no coincidence that the poultry market was also the first to benefit from import quota. When agroholdings started to enter other branches of the livestock sector, other import quota on livestock products (most notably pig farming) followed subsequently.

Speculation and land conversion: Land brokers and representatives of agroholdings searching for investment widely mention the expected value appreciation of agricultural land in Russia. Also, part of the land is obtained in order to sell it off later with a large premium as land for construction sites:

I have, (...), tried to cultivate cabbage, on 20.000 hectares, for a real estate agent. He wanted it in ownership, at least, the right of usage. But he had to cultivate it, otherwise he would not get it (...). Just what I thought: at least 50 to 80 percent of his territory is now expansion area for construction for Moscow for the next 25 years. He knew that already by then. Thus, yes, for him it was just to have it, due to its location in Moscow [region]... (Interview with Han van Riel, 16 November 2011, The Netherlands). 11

Pressure by the government: Furthermore, many political and other, often hidden, motives seem to play a role, such as creating loyalty and political support among regional governors and a tacit agreement with the Kremlin, which seems to have promised not to investigate the dubious practices of the oligarchs in return for their investment in the countryside (Boldyrev, 2001, p. 21). Interviews with consultants in the sector suggest that regional authorities made agreements with the largest oligarchs that the latter should invest in the cumbersome agricultural sector in return for earlier or forthcoming privileges such as tax breaks, cheap credit or other forms of state support (Visser 2008). For instance, one investor, the director of a fur factory described by Kalugina and Fadeeva (2009, p. 165), invested in a near bankrupt farm enterprise only after multiple requests by the district authorities, with promises of state support and privileges for its development. The investor described the interaction: "The district head insisted that I who come there [to invest]. He said 'nobody except you can revive this enterprise'. I tried several times to run away from it". A German investor even stated that "the land was almost forced on us" (Winter 2012).

Tax evasion and money laundering: Furthermore, tax evasion, and probably money laundering, seems to play a role (Boldyrev 2001). Agriculture is a complex sector, with large fluctuations in production and profitability year to year, which allowed for extensive creative accounting already in the Soviet period (Visser and Kalb 2010). Furthermore, the tax on agricultural production is low to virtually zero.

Tensions and bankruptcies within the agroholding sector

Within the literature on agroholdings there is a strong focus on their emergence and expansion, or even a one-sided focus on the most successful ones and on aspects of agricultural modernization. However, there is hardly any attention for the many agroholdings which face financial difficulties, let alone on the ones which have failed, gone through a bankruptcy procedure and even disappeared from the sector. In-depth critical research on agroholdings is still rare but those studies available in Russia give a rather mixed picture, and certainly do not reflect overall success. Guriev and Rachinsky (2004) argue that the holdings of Russian oligarchs do not show a higher productivity than other enterprises, while their

¹¹ The authors want to acknowledge here support from Michelle Steggerda, honours student at the Department of Anthropology and Development Studies, Radboud University Nijmegen, who conducted this interview.

growth in productivity is higher. Clarke (2004), who based himself on extensive case studies in various enterprises, states that innovation in these holdings is very limited. He speaks about holdings as largely a continuation of the Soviet firm. The few studies on the efficiency of agroholdings also do not support a merely positive evaluation. Hockmann, Bokusheva and Bezlepkina (2007) reporting on a study in Orel, showed that agroholdings are doing worse than independent farm enterprises. A later study in Belgorod, Hahlbrock and Hockmann (2011) suggests that agroholdings do better on some accounts. 12 Our first explorative websearch (see table below) on the financial state of agroholdings, gives quite a different picture than the one suggested for instance by the success stories on which the media focus, with titles such as "Russian agriculture soon to kill of US agriculture", "Companies turn Collectives into profitable businesses" (Chazan 2001), and the possible role of foreign investment in such development (Kandell 2009). Among the group of 25 of the largest agroholdings in Russia (with each controlling at least 100,000 hectares of land) at least 8 have experienced severe financial problems, with some of them being forced to sell their assets and/or go through bankruptcy procedures. However, for some of the other agroholdings in this group no data about their financial situation was available (Table 2).

[Table 2]

The case of Ivolga, the largest agroholding in Russia, is illustrative. This agroholding controls 700,000 hectares of land in Russia and 800,000 hectares in Kazakhstan. With its immense landholdings of in total 1.5 million hectares it is the largest agroholding in the world. Like many of the largest Russian agroholdings it focuses predominantly at grain production. However, in the words of Angus Selby, an agricultural market analyst at a London Hedge Fund; "They are the largest single entity in the world, but they have very low productivity" (Orange 2011). Ivolga currently experiences severe financial problems and is negotiating with Royal Bank of Scotland, which leads its creditors, to restructure a US\$ 300 million loan it had received in 2007. Furthermore, it has offered its equity for sale as even the debt restructuring will be insufficient to keep this giant company afloat.

Among the 'smaller' agroholdings (which are not in the top 25) our research (focused on the brief period from 2009- mid 2012) also showed numerous cases of agroholdings that are highly indebted or are involved are in the process of a bankruptcy. Thus while there is a forefront of (apparently) successful and expanding agroholdings, there is also (a grossly overlooked) 'cemetery' of ailing and bankrupt ones, which needs to be taken into account to make a balanced assessment of the emergence of sometimes huge agroholdings, to which McChesney (2011) already referred to a "Collective 2.0", suggesting that they were largely upgraded (2.0) Soviet farm enterprises.

Agricultural companies, the larger they become, also become bureaucratic and are likely to incur large information, monitoring and governance costs. Hence, this should be taken into account in the studies on allocative and technical efficiency, and land productivity

¹² They conclude: "The result is twofold: on the one hand the conclusion can be verified that the technological and managerial innovations introduced by agroholdings do not necessarily increase the efficiency of agroholdings. On the other hand we could show that agroholdings are due to technical change the driving force of the shift of the production frontier."

¹³ It leaves the Argentinia agroholding *El Tejar*, with its 1.2 million hectares at a considerable distance.

in the different farm enterprise types. Rylko (2011) of IKAR in Moscow, in a presentation about the importance of agroholdings in the grain market even jokingly suggested that they might have installed many post-Soviet departments, such as that of "hoof-running monitoring", "field-theft accounting" and "strategic weather planning division", increasing monitoring and management costs. Clarke (2004) showed that post-Soviet management methods are prominent in the supposedly corporate capitalist enterprises. It is therefore questionable whether the large-scale companies, which have accumulated much land, will become the drivers of a new global "bread basket" which is sometimes suggested. Indeed there is much land "available" to be re-cultivated in Russia (which does not mean inhabited, or without "owner"), because it was taken out of production mainly during the 1990s, but this does not simply mean that Russia can easily increase its wheat production, and certainly not if this has to be done largely by the agroholdings. Grazhdaninova and Lerman (2004), in their study on allocative and technical efficiency of large corporate farms concluded that "The low productivity of Russian agriculture is mainly attributable to management factors, and not to technological or allocative factors", while Rylko (2011) remarked: "longterm technical and managerial efficiency of agroholdings is highly questionable". If we would include social variables (such as employment and viability of rural communities) and sustainability into account, Alexander Nikulin recently remarked ¹⁴:

Russia is on the way to the haciendas and the latifundias ...while post-kolkhozes were aimed to preserve the rural community, the modern raiders have been acquiring the most delicious pieces that could bring high returns on investments. The social sphere, the diversity of agro-production – are not the point of raiders' interest. For example, in the Kuban region, everything is oriented on market conjuncture there. What is profitable on the market now? Making oil from maize and sunflower! And, currently, the whole region is reoriented on plantation of maize and sunflowers. The milk production is not highly profitable these days, consequently, all cows of the region have been going under the knife. As a result, the Kuban region, where you can grow almost everything, has been turning rapidly to an agrarian mono-territory during the last five - seven years. This is harmful for soil. It is necessary to maintain agricultural diversity, alternate crop rotation. Nevertheless, companies, that came to the territory, do not respect the land and local communities. They aim to ensure their high and quick profits and nothing else.

4. Russia, Agroholdings and Grain: Re-emerging 'Bread Basket'?

Russia has recently become one of the main wheat exporters of the world, next to Canada and the US. In 2009 it exported 16.8 million tons of wheat, although it nearly did not export wheat in 2010 after drought and misharvests, with the government installing an export ban (2010-11). Has Russian wheat production really recovered, or even stronger, is growing fast? Let us look more in detail to the available (and unfortunately not always consistent) data. In this case we used FAOSTAT data as our prime source, but realize that other sources such as RosStat provide similar but not always the same data. Three observations can be made while looking at the data presented in Table 3. First, there was a clear downward trend during the years 1992-1999, namely from 46.2 million tons to 31.0 million tons, although with fluctuations, troughs and peaks. The lowest production was in 1998, namely 27.0 million tons, while the year before there was a peak harvest, with 44.3 million tons.

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¹⁴ Interview with A. Nikulin, *Russkiy Reporter* (Russian Reporter), No. 14 (243), 11/04/2012; Available at http://rusrep.ru/article/2012/04/11/nikulin, accessed 20 April 2012.

These fluctuations are largely to be explained by the influence of recurrent droughts, which are estimated to occur once in four years, while also the disruption of the economy in the 1990s negatively influenced output, in particular through lower yields per hectare. Second, in the following decade, from 2001-2010 a clear upward trend is noticeable, with output increasing to even more than 60 million tons in 2008 and 2009, although again with severe fluctuations and low output years because of droughts, such as in 2003, 2006 and 2010. However, the output level of the trough years of the 2000s is close to that of the peak years of the 1990s. The 2011 and 2012 wheat harvests are estimated at 56.2 and 54.0 million tons respectively. Third, this upwards trend is coherent with the decrease in imports and increase in exports. Since 2002 Russia became an important exporter of wheat, with a total of 10.3 million tons (see Figure 1).

[Figure 1]

With various fluctuations, following weak or strong output years, imports reduced to near zero levels, while exports were reported at nearly 17 million tons. 15 The very bad harvest of that year, and the rapidly increasing world market prices gave rise to an export ban of the Russian government, which led to nearly no exports for the 2010-11 post-harvest year. This ban was renewed in September 2010, and only after in 2011 Russia retook wheat exports, which are estimated at more than 20 million tons, making Russia the second wheat exporter in the world after the US. Fourth, the increase in production is a combination with an increase in harvested acreage and slightly improved yields. The harvested areas was in 2008 and 2009 was even more than 26 million hectares, an estimated 2 million hectares more than the top years 1992, 1993 and 1997 in the previous decade. The yields improved from 1.6 tons/ha to 2.0 tons/ha, which is substantial but still much lower than Russia's competitors, such as Canada and the US. Fifth, domestic use or demand for wheat, calculated by taking yearly output (Y) – (Export-Import) shows violent fluctuations, but on average remains the same for the first and the second decade. In conclusion, there is a gradual improvement in grain output, which is translated, in spite of violent fluctuations (caused by recurrent droughts) in increased exports of wheat to world markets (Figure 1).

In order to understand this development more in detail, we asked ourselves who actually produced wheat in Russia over the past two decades? In Table 3 we can see its development. Household plots are (not surprisingly) hardly used for wheat production, and therefore the contribution of this sector is practically negligible. However the contribution of peasant farms (and individual entrepreneurs) has rapidly grown and was nearly constant at a level between 22-23 percent in the years 2009-2011.

[Table 3]

Yield differences between peasant farms and agricultural companies are relatively small, as can be shown in Figure 2, which depicts the annual development of wheat yields during the period 1990-2011. While most of the fluctuations in average wheat yields can be explained by

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¹⁵ Various reports speak about 21.3 million tons for 2009, although sometimes it is unclear is fiscal years are used (from July-June) or calendar years.

weather conditions, it can also be seen that peasant farms have slightly closed the yield gap between their category of farms and agricultural companies (Figure 2).

[Figure 2]

Coarse Grain Production Decreased Dramatically

What can be observed clearly is that the reported dramatic downfall in cultivated areas in Russia was not in the production of wheat, but actually has taken place in coarse grain, in part because these are more closely related with the animal husbandry sector, which collapsed in the early 1990s (see Table 4).

[Table 4]

Actually, a large share of the cultivated land, namely around 25.0 million hectares which was taken out of production, was previously dedicated to the production of coarse grains, such as rye, barley, oat (which all three dropped dramatically) and corn (that increased somewhat). This is not land that used to be planted with wheat, and it is questionable whether this large "available" acreage will be possible to be converted into wheat lands, such as is suggested by Schierhorn et al. (2012), who note that in the European part of Russia there is 26 million hectares of land that can be re-cultivated). It is also questionable whether the abandoned land can be converted into cultivated land without a large GHG emission, as they have become large carbon sinks after more than 10-15 years of having left fallow (Kurganova et al. 2007). A detailed study by Meyfroidt et al. (2012) confirms these risks, and concludes that only 8.7-8.9 million hectare can be re-cultivated "with relatively lower environmental costs", which strengthens our argument that much of the "available" land in Russia will not be re-cultivated in the near future if not with substantial environmental costs, and even then not likely to produce with high yields.

5. Conclusion

In this paper we have confirmed, but also qualified the observation that Russia has "recovered" as a global grain producer and exporter. Indeed, wheat production has grown to higher levels, and although there are still substantial fluctuations in total output, primarily caused by differing weather conditions, the trough years in the second decade of transition are actually close to the peak years in the first decade. Imports have dropped to negligible levels, and in the top years 2008 and 2009 exports went up to nearly 17 million tons of wheat, transforming Russia into the 3rd global exporter of wheat. The wheat acreage remained rather constant (22-24 million hectares) although in 2008-2009 there was an additional 2 million hectares harvested, compared with previous years.

Around 40 million hectares of arable land, mostly planted with cereals and leguminous crops were taken out of production in the 1990s, particularly affecting the production of coarse grains. There is no "recovery" in that part of Russian grain production as yet, as the production acreage dropped from 35 million in 1992 to around 10 million hectares in 2010, and production of mainly rye, barley and oat fell from 57 million tons to 17 million tons during the same period. This is partly due to the enormous crisis that occurred in the livestock sector during the 1990s with consequently lower demand, which -with economic growth, and

increased incomes- slightly recovered during the second half of the 2000s. In conclusion, the press reports (sometimes supported by academic studies) that Russia will soon be the global "bread basket" are exaggerated.

Secondly, land reform has failed to produce a diversified farm structure in Russia, and to promote a real wealth transfer to (and creation of) peasant farms. In that sense it failed or at least was more recently, with land grabbing practices by large farm enterprises and domestic (or foreign) investors and capital groups, it was largely reverted. In fact, there is a high degree of continuity in the Russian farm or agrarian structure, in which large farm enterprises became the heirs of the Soviet kolkhozy and sovkhozy, and a relatively small peasant farm sector, that co-exist with millions of household plots. Further concentration of land and other assets emerged since the early part of the 2000s, in particular after the implementation of the bankruptcy law of the late 1990s, and the land law of the early 2000s. Insolvent agricultural enterprises were declared bankrupt, but also many were absorbed by emerging agroholdings that were integrating vertically and horizontally, often with "outside" capital from powerful capital groups and oligarchs. We have analyzed the drivers of and motivations behind this concentration of assets, in particular land, but also of other important parts of the food and agricultural value chains, which include attractive government policies for companies, investment diversification and the absence for agricultural enterprises (and even more the peasant farms) to access finance within the sector. Furthermore, this paper focused on the largest agroholdings, showing that at least one third of them were in financial difficulties, or in procedure for bankruptcy. This is important, as it is incorrectly suggested that these megaholdings are the success formula for Russian agriculture. Financialization, often with capital outside the agricultural and agro-processing sectors, is a key factor in the process of the merging of agricultural and other companies into holdings, and Russia seems to be at the forefront in this process, with some of its major agroholdings being quoted at the London stock exchange, making the distance between investment funds and producer ever larger.

Thirdly, and finally, the agroholdings and large farm enterprises are largely dominating the grain sector in Russia, and with their increased investment in storage, elevator and port facilities their market power is increasing fast. The failed land reform actually contributed to land and asset concentration, by creating land shares with weak property rights in the early 1990s. This became clear in the early 2000s when millions of shares were quite quickly concentrated in the hands of few, with little compensation to the owners, and very often in shady deals in collusion with local authorities (Visser, Mamonova, and Spoor 2012). If we look at the development of land productivity for wheat, and compare the peasant farm sector and the sector of agricultural companies (not differentiated between LFEs and Agroholdings), we see that the "yield gap" between the two is relatively small. The peasant farms have even able to catch up somewhat, in spite of all the obstacles they face, and the absence of supportive policies towards them. We also indicated that with the higher yields of agricultural companies, one should take into account the high monitoring costs, while also the environmental costs are likely to be higher than with peasant farms (see HLPE 2011, Spoor and Robbins 2012). Finally, although these last aspects need much more study, the reemerging megalomania in the agricultural sector in Russia is also seen as detrimental for a viable development of its country-side, in particular regarding the social conditions.

The Hague/Nijmegen, 16 August 2012

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TABLE 1

Coarse Grain Acreage and Production (1992-2010)

		1992	1996	2000	2005	2010
Harvested Area	Million Hectares	35.0	25.9	19.6	17.3	10.5
Production	Million Tons	56.9	32.3	29.3	28.3	17.1
Yield	Ton/Ha	1.6	1.2	1.5	1.7	1.6

Source: FAOSTAT (2013b) The Agricultural Production domain; RosStat (2013a) Gross Harvest of Crops by Different Types of Agricultural Producers provides similar, but not always the same data.

TABLE 2

Russian Land Reform and Farm Restructuring 1992-2011

Agricultural Land	1992	1996	2000	2005	2010	2011			
Peasant farms									
Amount	50	278,600	263,700	267,500	261,700	260,5			
Land (x million ha)	0.002	12.4	15.4	14.9	16.3	16.6			
Average size of 1 unit	40	40	60	60	60	60			
(ha)		TTTT 1 .							
		HH plots							
Amount (x million)	16.4	16.0	15.9	15.9	16.2	16.2			
Land (x million ha)	3.2	5.7	6.2	7	7.5	7.6			
Average size of 1 unit	0.20	0.36	0.39	0.44	0.46	0.47			
(ha)									
Agricultural companies									
Amount	25,800	n/a	27,600	25,300	22,500	n/a			
Land (x million ha)	193.2	174.8	149.7	130.8	121.3	120.1			
Average size of 1 unit (ha)	7490	n/a	5420	5170	5390	n/a			

Sources: For agricultural companies in 2005 the available data of 2006 are used, for 1996 those available for 1997 (SNG STAT, 1994; 1999). Most sources such as SNG STAT and RosStat, contradict each other on various accounts. For the second decade we used State (National) Report on the State and Land Use in the Russian Federation in 2011.

 ${\it TABLE~3}$ Wheat Production by Companies, Households and Peasant Farms (1990-2012) ${\it (in~million~tons)}$

	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2011	2012
Agricultural companies	49,6	45,2	30,0	32,7	24,7	31,1	43,5	36,9	35,4	49,7	31,8	42,9	28,9
Peasant													
Farms	0,00	0,9	2,1	2,1	2,2	3,3	6,9	8,3	9,2	13,8	9,5	12,9	8,6
HHs	0,01	0,1	0,1	0,1	0,1	0,1	0,2	0,2	0,3	0,3	0,2	0,4	0,2
All													
Categories	49,6	46,2	32,1	34,8	27,0	34,5	50,6	45,4	44,9	63,8	41,5	56,2	37,7

Source: RosStat (2013a). Agriculture, hunting and forestry/Gross harvest of crops by different types of agricultural producers.

TABLE 4 Financial difficulties amongst the largest agroholdings in Russia (2009-2011)

Origin	Landholdings (ha in Russia)	Financial state	Agroholding	Outcome
Kaz/Ru	700,000 (+ 800,000 in Kaz)	Financial difficulties; Defaulted on a 300 million US\$ loan	Ivolga Holding	Shares for sale
Ru	570,000		GK Prodimex	
Ru	463,000	Huge debts (2009)	Razgulai	
Ru	460,000		Napko	
Ru	450,000	Huge debts (2011)	Zolotoi Kolos	Bankruptcy procedure of several enterprises of the holding
Ru	420,000		Yug Rusi	
Ru	400,000	Huge debts (2009)	VAMIN Tatarstan	Take over (?)
Ru	394,800	Huge losses and decrease in production (2010)	Krasny Vostok Agro	Recovered
Ru	376,700	Huge Debts (2010)	Sibirski Agrarnyi Holding	Has been paying its debt by taking a credit of Rosselkhozbank
Ru/Ukr	360,400		Valars Group	
Kaz/Ru	350,000	Huge debts	Nastyusha	Bankruptcy procedures
Swedish	330,000	Unprofitable	Black Earth Farming	Major restructuring, small profit in 2012
Ru	260,000		Rusagro	
Ru	221,200		Agrosila Group	
Ru	200,000	Huge debts	Mayak	Bankruptcy procedure, criminal case
Ru	200,000		Inteko-Agro	
Lit	198,000		Lupus Holdings (Volga farming/Redland)	
Swedish	161,000	Unprofitable. Alpcot Agro acquired the bankrupt Landkom.	Alpcot Agro	Major change of management
Ru	160,000		Pava	
Ru	155,000		Avangard-Agro	
Ru	164,500		RAV Agro-Pro	Acquired by Czech PPF Company (2011)
Swedish	130,100		Trigon Agri	
Ru	120,000	Huge debts	APK-OGO	Bankruptcy procedure
Ru	109,500	A number of the holding's enterprises are unprofitable	Stoilenskaya Niva	Sale of unprofitable enterprises
Ru	100,000		IPF-AGRO	

Source: Own web research. The size of the landholdings are based on the top 25 of agroholdings by RBK (2009), with some updates based on own web search. Estimates on the landholdings of agroholdings differ (one source (RT 2013) for instance does not mention Ivolga and ranks Prodimex (here number 2) as the largest landholder), and landholdings changes rapidly, therefore this top-25 is indicative. The agroholdings in this table all have landholdings of over 100,000 ha, but according to some of the estimations recently 32 agroholdings have holdings over 100,000 ha.

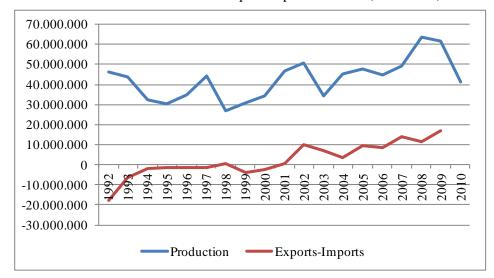


FIGURE 1: Production and Export/Import of Wheat (1992-2010)

Source: FAOSTAT (2013a,b), Composed based on the data from the FAOSTAT Agricultural Trade domain and Agricultural Production domain

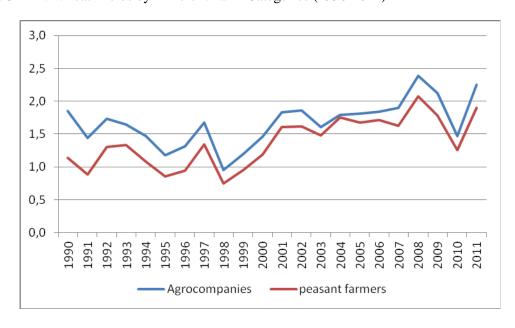


FIGURE 2: Wheat Yields by Different Farm Categories (1990-2011)

Source: RosStat (2013b) Agriculture, Hunting and Forestry / Crop Yelds. *Note*: It should be mentioned that the figures for peasant farmers for 1990 and 1991 are rather unreliable as their number was still extremely small.

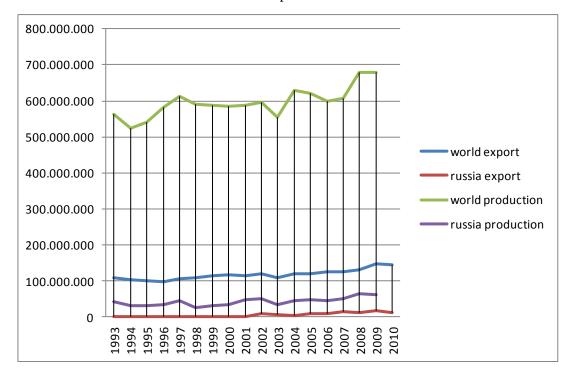


FIGURE 3: Production and Export of Wheat: Russia and the World

Source: FAOSTAT (2013a,b). Composed based on the data from the FAOSTAT Agricultural Trade domain and Agricultural Production domain.