USAID | AgroInvest Project

FROM THE AMERICAN PEOPLE

REVIEW OF THE DRAFT LAW ON LAND CIRCULATION

JUNE 2014

This publication was produced for review by the United States Agency for International Development. It was prepared by Chemonics International.

REVIEW OF THE DRAFT LAW ON LAND CIRCULATION

This publication was prepared by Thomas G. Johnson under the USAID AgroInvest Project. The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

CONTENTS

INTRODUCTION

This paper summarized the results of a nearly year-long analysis of the draft land circulation law under consideration by the Ukrainian Parliament. The current review of an April 2013 translation of the draft Law of Ukraine on Agriculture Land Circulation began in September 2013. The author Traveled to Kiev in early November 2013 to gather data, and interview stakeholders, experts and policy makers.

The draft law on agriculture land circulation was under active consideration by the Ukrainian Parliament until the political events of November 2013 and the subsequent change in government led to the suspension of this and many other policy debates. Despite these political events, data collection, literature review and analysis of the experiences of other countries continued through June 2014.

Even though the debate on the agriculture land circulation policy is currently suspended, the assessment of the alternatives facing Ukrainians as Ukraine establishes sales and rental markets for agricultural land will be useful to policy makers. This report describes the basic principles governing efficient land markets, identifies and explains options for satisfying these principles, reviews the experiences (both positive and negative) of other countries with alternative land market policies, and lists the advantages and disadvantages of alternative policies in the Ukrainian context. For these reasons this report is relevant for Parliament as it writes or rewrites a land circulation law.

This report begins with a discussion of the role that an efficient agricultural land market could play in Ukraine's future. When compared to other developed and developing countries, Ukrainian agriculture has an opportunity to contribute much more to the country's economy especially through improvements in productivity. A key step in increasing the productivity of Ukraine's agriculture is to establish an efficient market for agricultural land.

In the following two sections the paper describes the conditions necessary to assure an efficient land market and the potential role of policy in achieving these conditions. The most important conclusion is that policy must assure that there are many buyers and sellers with equal access to information and market institutions.

Finally the paper assesses specific provisions in the draft law on land circulation. Each provision is evaluated with respect to the principles developed earlier and with the experiences of other countries with similar law and regulations. The report identifies potential advantages and disadvantages for each policy alternative. It is hoped that these assessments will be useful to Ukrainian law-makers as the draft a new law on agricultural land circulation.

THE IMPORTANCE OF AGRICULTURAL LAND MARKETS FOR UKRAINE'S ECONOMIC GROWTH AND DEVELOPMENT

Agriculture is a significant component of the Ukraine economy. In 2011, agriculture contributed almost 10% of Ukraine's $175.3 billion GDP. This share of GDP is significantly higher than most EU member states and OECD countries (see Table 1). Agriculture is also a major employer in Ukraine. In 2011, 16.8% of Ukraine's employment was in the agricultural sector. Again this is several times higher than most other EU member states and OECD countries (See Table 2). Because of this heavy dependence on agriculture, changes in agricultural land circulation will have important consequences for the overall economy of Ukraine. Johnston and Mellor (1961, p. 582) conclude that, "Improvements in land tenure are likely to be the most essential requirement in Phase I [development of agricultural preconditions] since an unfavorable tenure situation may stifle the incentive for change even though the potential exists for large increases in output."

Table 1: Agriculture Value added as percent of GDP and Value Added per agricultural worker for selected countries

	Agriculture value added as % of GDP (2010 or 2011)	Value added per Ag worker (2012, $)

Argentina	11.0	..
Australia	2.3	53,777
Austria	1.5	34,018
Belgium	0.7	..
Brazil	5.6	5,019
Bulgaria	5.4	..
Canada	1.9	59,818
Chile	3.1	6,548
China	10.0	749
Czech Republic	2.3	8,697
Denmark	1.2	49,987
Finland	2.9	60,842
France	1.8	76,586
Georgia	8.5	2,531
Germany	0.9	32,087
Greece	13.6	..
Hungary	3.5	9,964
Ireland	1.0	..
Italy	1.9	41,267
Japan	1.2	42,943
Korea, Rep.	2.7	23,882
Luxembourg	0.3	42,199
Mexico	3.6	4,048
Moldova	14.5	1,884
Netherlands	2.0	60,409
Norway	1.6	53,901
Poland	3.5	4,111
Portugal	2.4	8,945
Romania	6.9	6,257
Russian Federation	4.3	5,969
Slovak Republic	3.9	12,735
Slovenia	2.5	..
Spain	2.7	35,252
Sweden	1.8	40,996
Switzerland	1.1	..
Turkey	9.0	6,264
Ukraine	**9.5**	**4,344**
United Kingdom	0.7	..
United States	1.3	49,817

Sources: Quandl.com http://www.quandl.com/economics/agriculture-share-of-gdp-all-countries
World Bank, Agriculture, value added (% of GDP), http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries
World Banks, Agricultural Output and Productivity, http://wdi.worldbank.org/table/3.3

Agricultural land is an important source of productivity and prosperity in most countries. Even in highly industrialized countries, agricultural land is an important reservoir of wealth. For example, in 2011 the aggregate net worth of US residents was roughly $57 Trillion (Board of Governors of the Federal Reserve System, 2013). Of this, farm real estate comprised roughly $2 Trillion (USDA 2013) or 3.5% of wealth. In Canada, farm assets are 4.6% of total net assets of Canadians.

The historical experience of most countries has been broad based economic development as the productivity of agricultural land and labor rises. Rising agricultural labor productivity reduces commodity prices, increases the competitiveness of the agricultural sector, and enhances its ability to

compete with imports and to enter export markets. Rising agricultural labor productivity also releases labor from agriculture that fuels the growth in manufacturing, services and other sectors (Johnston and Mellor 1961). As Table 1 indicates the productivity of agricultural labor in Ukraine equals or exceeds that of several other developing countries but is less than one tenth of the productivity of western European and other OECD countries. This represents a very important opportunity for broad-based economic development in Ukraine.

Agricultural labor productivity is linked to agricultural land markets in numerous ways. First, land productivity and labor productivity rise together as a country's agriculture develops. Rising productivity of agricultural labor releases workers from agricultural production. Coupled with sound rural development and human capital policies this allows rural labor markets to diversify into more non-farm activities creating stronger local markets for agricultural products, including value-added processing (Deninger 2003, p. 84). The more diverse rural economy leads to more diverse agriculture, higher incomes, and better infrastructure. Together these changes lead to higher land values and increasing wealth for rural residents.

Table 2: Comparison of rural population and agricultural employment for selected countries

	Rural population (% of total)		Rural population growth (annual %)	Agricultural employment (% of total employment)	
	2000	**2011**	**2000 to 2011**	**2000-02**	**2009-11**
Austria	34	32	-0.3	5.6	5.3
Belgium	3	3	0.2	1.8	1.3
Brazil	19	15	-0.8	20.6	17.0
Canada	21	19	0.5	2.8	..
Czech Republic	26	27	-0.1	4.8	3.0
Denmark	15	13	-0.6	3	2.4
Finland	18	16	-0.3	5.3	4.2
France	23	14	-3.0	4.1	2.9
Georgia	47	47	0.4	53.8	..
Germany	27	26	-0.5	2.5	1.6
Greece	40	39	-0.7	15.5	12.4
Hungary	35	31	-1.8	6.2	4.8
Iceland	8	6	-1.4	7.2	5.5
Ireland	41	38	1.5	5.9	4.6
Italy	33	32	-0.2	4.9	3.7
Luxembourg	16	15	0.7	2.0	1.2
Mexico	25	22	0.0	17.9	13.1
Netherlands	23	17	-1.8	2.6	2.5
Norway	24	21	0.0	3.9	2.5
Poland	38	39	1.0	19.3	12.8
Portugal	46	39	-2.1	12.5	10.9
Russian Federation	27	26	-0.3	11.3	9.7
Spain	24	23	-0.4	6.0	4.2
Sweden	16	15	-0.3	2.1	2.1
Switzerland	27	26	0.8	4.1	3.4
Turkey	35	29	-1.9	34.9	24.2
Ukraine	33	31	-1.0	20.6	16.8
United Kingdom	21	20	0.1	1.4	1.2
United States	21	18	-0.6	2.5	1.6

World	53	48	0.2	37.9	30.4

Source: World Bank, Agriculture, value added (% of GDP), http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries
World Banks, Agricultural Inputs, http://wdi.worldbank.org/table/3.2

Table 3: Comparison of land area and arable land for selected countries, 2011

	Land area (millions of ha.)	Forest area (% of land area)	Ag Land (% of land area)	Arable land (% of land area)	Arable land per person (ha.)
Austria	8.2	47.2	35	16.5	0.16
Belgium	3.0	22.4	44	27.3	0.07
Brazil	845.9	61.2	33	8.5	0.37
Canada	909.4	34.1	7	4.7	1.25
Czech Republic	7.7	34.4	55	41.0	0.30
Denmark	4.2	12.9	63	58.9	0.45
Finland	30.4	72.9	8	7.4	0.42
France	54.8	29.2	53	33.5	0.28
Georgia	7.0	39.4	36	6.0	0.09
Germany	34.9	31.8	48	34.1	0.15
Greece	12.9	30.5	63	19.4	0.22
Hungary	9.1	22.5	59	48.5	0.44
Iceland	10.0	0.3	16	1.2	0.39
Ireland	6.9	10.9	66	15.4	0.23
Italy	29.4	31.4	47	23.1	0.11
Luxembourg	0.3	33.5	51	23.9	0.12
Mexico	194.4	33.3	53	13.1	0.21
Netherlands	3.4	10.8	56	30.9	0.06
Norway	30.4	33.3	3	2.7	0.16
Poland	30.4	30.8	49	36.5	0.29
Portugal	9.2	37.8	40	12.0	0.10
Russian Federation	1,637.7	49.4	13	7.4	0.85
Spain	49.9	36.8	55	25.1	0.27
Sweden	41.0	68.7	7	6.4	0.28
Switzerland	4.0	31.1	38	10.1	0.05
Turkey	77.0	14.9	50	26.7	0.28
Ukraine	57.9	16.8	71	56.1	0.71
United Kingdom	24.2	11.9	71	25.1	0.10
United States	914.7	33.3	45	17.5	0.51
World	12,971.2	30.9	38	10.8	0.20

EFFICIENT LAND MARKETS

Economic Principles underlying Efficient Land Markets

The modern economic theory of agricultural land use is built upon concepts developed by Johann-Heinrich von Thünen. In von Thünen's theory, land is a fixed and immobile factor of production.[1] Efficiency of land use is achieved as land use rises to its highest and best use in all locations. At any point in time, the most efficient land use is determined by location of the land relative to markets, land productivity, and transportation costs. According to Wolverton (2004) the most important implications of the von Thünen model are:

1. The highest valued use of land will dominate at each location;
2. The highest valued use of land will differ according to the natural characteristics of the land and the distance to markets;
3. Changes in transportation costs, infrastructure, production technology and other external factors will affect the highest use of land; and
4. Prices of agricultural outputs and inputs will affect the highest use of land.

Box 1: The relationship between secure, enforceable property rights and agricultural productivity

Researchers examined the relationship between tenure insecurity in Ethiopia and long-term investments in their land. They found that farmers are reluctant to invest in productivity enhancements such as terracing if they cannot easily transfer their rights or if they worry that their land may be expropriated. The researchers conclude that "a household with fully secure and transferable land is estimated to be 59.8% more likely to invest in terracing than one who expects a redistribution within the village during the next 5 years."

In India, researchers studied the effects of a program to give sharecroppers in West Bengal secure long-term rights to land and a guaranteed share of production. The increased tenure security led to a 28% of growth in agricultural productivity between 1979 and 1993.

Source: Deininger, K., S. Jin, B. Adenew, S. Gebre-Selassie & B. Nega. (2003). Tenure Security and Land-Related Investment: Evidence from Ethiopia, World Bank Development Working Group Policy Research Working Paper No. 2991.

Banerjee, A.V., P.J. Gertler & M. Ghatak. (2002). Empowerment and efficiency: Tenancy Reform in West Bengal Journal of Political Economy 110(2).

Together these observations imply that land values and land uses are dynamic. Optimal use of agricultural land will be achieved only if there is continuous change in land uses, land values, and land ownership in response to changing demand, technology and infrastructure investments. For continuous change in land use to occur there must be efficient sales and rental markets for land.

The Role of Land Prices and Rental Rates

Land prices and rental rates are important indicators of the efficiency of land markets as well as the effectiveness of a variety of economic and social policies. Prices reflect the interaction of land demand and supply. Demand for land is determined by it potential for generating economic surplus. Natural characteristics such as fertility, location, and quality of private and public infrastructure play an important role in setting prices. Prices of inputs and outputs and agriculture policy are economic characteristics that influence price of land. Like any market, land markets are subject of transaction costs. High transactions costs reduce the bid price by buyers and reduce the incentives for individuals to sell their land.

[1] The supply of agricultural land is not entirely fixed. It does respond to changes in net returns to agricultural production, but very little. Ciaian, et al. (2010) report that, "…Salhofer (2001) concludes that a plausible range of land supply elasticity for the EU is between 0.1 and 0.4. Similarly, Abler (2001) finds a plausible range between 0.2 and 0.6 for the US, Canada and Mexico." These are quite low indicating that conversion of land from non-agricultural uses to agricultural uses requires significant economic incentives.

Both land sales prices and rental rates should reflect the expected net earnings from land. For example, in a certain environment an annual real return on investment of 6% would suggest that cash rental rates should be about 6% of land values. In practice land ownership confers benefits and value other than net farm income, including the opportunity to enjoy capital gains. Thus this relationship is frequently lower than the expected rate of return. In the US, this rate has fallen over the last half century from roughly 7% to roughly 3%. This indicates that many people prefer to own land rather than rent it. In terms of possible rental income, investors receive a return on investment of only 3%. An efficient land market generates the highest possible value for all land. The value of land, in this case, is its value to society—both the owner and the public. When this highest value is attained, both the buyer and seller are as well off as possible. When the economic optimum is achieved, the buyer is using the property to its highest and best use, and the seller is being compensated for the opportunity cost of the land.

Conditions necessary to achieve an efficient land market

Ciaian et al. (2012) describe an efficient land market as one that assures efficiency and fairness for all participants. They offer the following principles:

1. Transparency
2. Low transactions costs
3. Minimal uncertainty
4. Liquidity

The World Bank offers four goals for effective agricultural land markets:

1. The desirability of owner-operated family farms on both efficiency and equity grounds;
2. The importance of secure property rights to land in eliciting effort and investment and in providing the basis for land transactions (see Box 1);
3. The need for a policy and regulatory environment that promotes transfers to more efficient land uses; and
4. The positive impact of an egalitarian asset distribution and the scope for redistributive land reform where nonmarket forces have led to a highly dualistic ownership and operational distribution of land, that is, a distribution characterized by very large and very small holdings. (Deininger & Binswanger 1999, p. 248)

Box 2: The Role of EU Accession in Land Policy in Eastern European Member States

The conditions for accession by recent (2004, 2007 and 2013) member states are enshrined in the *Acquis Communautaire* which includes 5 general requirements, each of which affects agricultural land policy.

1. *Protection of human rights* assures EU citizens the rights to own, use, dispose of and bequeath private property including real property.
2. *Adoption of the CAP* requires that a land cadastral system be implemented in all member states.
3. *Institution building* including efficient, professional land administration institutions.
4. *Environmental sustainability* requires careful documentation of all public and private property rights.
5. *Establishment of a free-market economy* including the establishment of a free land market and the determination of private property rights. In addition, member states must allow citizens of other member states to purchase land.

Source: Bogaertsa, Theo, Ian P. Williamson, and Elfriede M. Fendel. (2002). The role of land administration in the accession of Central European countries to the European Union. *Land Use Policy* 19: 29–46.

Swinnen and Vranken (2005) in their study of land markets in Slovakia, Czech Republic, Hungary, Bulgaria, Romania, Albania, Azerbaijan, Moldova, and Kazakhstan found empirical evidence for the following conditions for efficiency:

- "Transaction costs remain important, and land-related institutions that help to increase transparency, clarify and enforce property rights, etc. will all help to enhance efficiency improving land exchanges.
- The relationship between large corporate farms and small owners is a cause of concern. Providing better information, enhancing bargaining power of small owners and farmers, etc. will all contribute to both greater equity and efficiency in the land market.

- Be careful with legal initiatives in the land markets not to introduce undesirable side effects.
- There is a need for country-specific approaches to the rural land market problems, and general recommendations may not be applicable, except for some general principles.
- EU accession has been an engine behind the increase in land exchange and land market activities in the accession countries, even before accession."

Taking these theoretical and empirical observations together, and considering the conditions deemed necessary for any market, efficient land markets require at least the following[2]:

1. Strong enforceable property rights;
2. Access to accurate and inexpensive information;
3. Large numbers of buyers and sellers;
4. Adequate and indiscriminant financing;
5. Minimal costs of owning and transferring property; and
6. Minimal regulations and restrictions on rights of use and disposition.

Box 3: The World Bank's Market Assisted Land Reform Strategy

Land reform should avoid:

1. Excessive subsidies, tax breaks and other privileges;
2. Blanket debt relief;
3. Confiscation or expropriation at below market prices;
4. Land acquisition by governments or state agencies;
5. Excessive limits on renting and selling land;
6. Administrative selection of beneficiaries; and
7. Settling beneficiaries on low quality land.

Land reform should:

1. Assure that amended laws and regulations are consistent with the aims and processes of land reform;
2. Facilitate voluntary deals between willing sellers and buyers;
3. May give partial grants to poor buyers and provide incentives for appropriate self-selection;
4. Take steps to improve the supply of land for sale;
5. Make substantial public investments in infrastructure;
6. Involve local communities in selecting beneficiaries and distributing benefits;
7. Give local communities power to raise taxes, and plan and implement local projects; and
8. Monitor process with penalties for those breaking rules and awards for those who do well.

Source: Aiyar, Swaminathan, Andrew Parker and Johan Zyl. (1995). Market-Assisted Land Reform: A New Solution to Old Problems. Dissemination Note no. 4, Agriculture and Natural Resources Department of the World Bank.

We will henceforth use these six principles to assess the desirability of the various provisions in the draft law on agriculture land circulation.

A note on the role of speculation in efficient markets

Economic theory and most empirical evidence indicate that speculation is a necessary and positive part of efficient but uncertain markets (Malpezzi and Wachter 2005; Irwin et al. 2009; Fattouh 2012). Theoretically, speculators demand, and drive up the price of, goods when they are underpriced. Their goal is to then sell them when their price rises. Excessive profits from speculation are possible when information asymmetries allow some speculators to purchase at excessively low prices and sell at excessively high prices. Speculation generates close to normal profits when information is inexpensive and abundant and when there are many potential buyers. Thus most attempts to limit speculation can actually create a problem by limiting the number of buyers in the market.

[2] Dale and Baldwin (2000) offer a similar list of conditions for an efficient land market.

UKRAINE'S AGRICULTURAL LAND POLICY

The role of land policy

"Few will disagree that inappropriate land policies can constitute a serious constraint on economic and social development: insecure land tenure, outdated regulations, and dysfunctional land institutions constrain private investment and undermine local government's ability to raise taxes in many countries. Highly skewed land ownership distributions and discrimination along lines of gender or ethnicity limit economic opportunities for the disadvantaged groups and, in addition, foment social conflict - which has often erupted in violence. However, the complexity of the subject and the fact that change is often fiercely resisted by vested interests benefiting from the status quo have historically frustrated many efforts to bring about policy change." (World Bank, Agriculture and Rural Development, Land Policy and Administration Website).
Thus sound land policy is essential if development of agriculture and rural regions of Ukraine is to occur.

Box 4: Market-Assisted Land Reform (MALR) in Brazil

MALR was introduced in Brazil in 1998. Under this policy, beneficiaries receive financing to purchase land. Five Brazilian states were chosen for pilot projects based on two main conditions: severity of landlessness (i.e. immediate availability of land) and prospect for successful project implementation (i.e. capacity of state agencies to implement). The policy had 5 features: 1) a land purchase fund, 2) community subprojects (e.g. small matching grants, technical assistance, and support for entrepreneurship), 3) institutional strengthening, 4) project administration, and 5) policy evaluation. Community associations of landless rural workers, the applicants, negotiate a price with willing sellers and confirm the legitimacy of the title and that the purchase price is consistent with market value. Community associations receive credit from the Land Purchase Fund. Associations then allocate land to individual members and negotiate payment obligations borrowers.

Lessons learned from this project are numerous. Community participation in the process of identification, financing, and implementation of subprojects (e.g. infrastructure) is critical to address poverty. Technical assistance, co-financing, and management information systems were helpful for candidates. Long-term viability requires complimentary investment in infrastructure and services to support these new communities.

Source: Pereira, J. M. M. (2007). The World Bank's Market-Assisted Land Reform as a Political Issue: Evidence from Brazil (1997-2006). European Review of Latin American and Caribbean Studies, 82, 21.

Land policy can take numerous forms. One of these is the World Bank's market-assisted land reform or MALR (Aiyar 1995). Market-assisted land reform, was specifically designed for implementation in areas with severe inequalities in rural wealth (Pereira, 2007). The MALR approach involves aggressive policy intervention but stresses the importance of developing and supporting an efficient rental and sales market for land (see Box 3). Key to the MALR approach are measures to increase the volume of transactions by supporting and incentivizing both buyers (and lessees) and sellers (and lessors).

Specific policy elements to increase the supply of land include reducing production subsidies and protection from imports, encouraging the exit of inefficient producers, and sate public lands. Strengthening the demand side can be achieved through policies such as assuring adequate financing options and providing limited subsidies for qualified buyers.
Although MALR has been implemented in many countries, Brazil (implemented 1998-2003) has arguably enjoyed the most success from the project (see Box 4).

Six Principles for assessing land policy

The introduction to the World Bank's Land Policy and Administration website succinctly describes the importance of a sound land policy for the economic and social development of nations. Policy plays a very important role in achieving each of the six principles for efficient land markets (sales and rental) listed above. Here we elaborate on these six principles:

1. Strong enforceable property rights

Strong, enforceable property rights are essential to broad economic growth (Deninger 2003, p. xix). Property rights are defined and allocated within land laws. Property rights are divided among various stakeholder groups: land owners, land renters, neighbors, and the general public (represented by government agencies). Laws must describe the rights and limits to the rights of each type of stakeholder and the process by which the land-related rights are transferred. Policy also determines the degree to which property rights are enforceable and enforced. Laws should describe the process for dealing with violations of property rights, including the judicial process and the nature of punishment and reparations for these violations.

2. Symmetric access to accurate and inexpensive information regarding land markets

Information is largely a public good (one which is, or should be, available to all stakeholders on an equal basis). Policy should provide for the generation and communication of data, and for assuring the veracity of this information. The communication of information should assure that all users of the information have equal (symmetrical) access. Again laws should describe the process for generating, collecting, and disseminating information, and the process for identifying misinformation and the nature of punishment and reparations for intentionally misinforming stakeholders.

3. Large numbers of buyers and sellers

Land policy must assure the greatest possible access to land markets (both purchase and rental markets). Most importantly, land policy must avoid limiting the number of potential buyers and renters of land. While there are other considerations other than the efficiency of land markets when authorizing land buyers and renters, the economic consequences of restrictions should be given a high priority. The access to markets by land sellers and lessors should also be considered. Limiting the ability of land owners to sell or lease their land to others will reduce land values, impede the adjustment of land uses, and dampen economic growth.

4. Adequate and indiscriminant financing

While financing of land sales can be achieved by private sector lenders under ideal conditions, policy must establish and maintain the necessary conditions for an active and efficient financial market. Policy must also assure equal access to financing by all qualified buyers. When the private sector is unable or unwilling to provide adequate and indiscriminant financing, it may be necessary for the public sector to intervene by establishing lending or loan guarantee programs.

5. Minimal costs of owning and transferring property

Policy can have a detrimental effect on land markets by making ownership or leasing of land costly, or by unnecessarily impeding the transfer of property. Policy must not only establish and enforce strong property rights (point 1 above), but it must also assure that the monetary costs associated with the ownership and transfer of land (appraisal fees, legal fees, transfer fees, special taxes, etc.) are not excessive. It is important to distinguish these costs of ownership from reasonable property taxes or rates which are used to provide services to land owners and renters and which ultimately enhance the value of land by increasing its productivity.

6. Minimal regulations and restrictions on rights of use and disposition.

Regulations and restrictions on property rights essentially create costs of ownership and transfer (Deninger 2003, p. xix). Regulations are necessary but they must be as costless as possible. The costs of regulations should always be carefully weighed against their expected benefits.

These six requirements for an efficient land market, and their implications for land circulation policy, will now be used to assess the merits of various provisions in Ukraine's proposed agriculture land circulation law.

ASSESSING PROVISIONS IN UKRAINE'S DRAFT AGRICULTURE LAND CIRCULATION LAW

1. Prohibition of land ownership by foreigners

Many countries including several in the European Union limit ownership of land by non-citizens or non-residents. While this provision of the draft law and land circulation will limit the number of buyers of agricultural land, and depress land prices to some extent, there are a number of defensible reasons why countries limit ownership of agricultural land. Among these are the hope that resident land owners will use the land more responsibly and to increase the opportunity for citizens to share in the natural wealth of the country. On the other hand, prohibition of land by foreigners reduces effective demand for land leading to lower prices. It also reduces foreign direct investments which can retard economic growth and development.

Box 5: Land Ownership Restrictions

Various EU treaty provisions prohibit discrimination on the basis of nationality; guarantee free movement of goods and services, and capital; and ensure freedom of establishment within the EU. Together these treaties restrict the ability of EU Member States to restrict land acquisition by EU citizens.

- Belgium, Germany, France, Luxembourg, the Netherlands, Portugal and the United Kingdom: no restrictions on foreign ownership of land.
- Republic of Ireland: foreigners are required to obtain permission to purchase or lease agricultural land.
- Greece, Italy and Spain: restrict ownership of land by foreigners in border areas.

Source: Hodgson, S., C. Cullinan, and K. Campbell. (1999). Land Ownership and Foreigners: A Comparative Analysis of Regulatory Approaches to the Acquisition of and Use of Land by Foreigners. Food and Agriculture Organization Legal Papers Online #6.

2. Limits on land ownership by financial institutions

In general, financial institutions will have few incentives to own agricultural land for long periods of time. However, placing a limit of two years on land ownership by financial institutions will reduce their incentive to finance agricultural land sales, especially during depressed periods in agriculture when land sales are slow. This restriction would force banks to sale land at lower prices exacerbating the depth of agricultural land slumps. This magnification of the volatility in land values would drive out risk adverse buyers of the market, reducing the efficiency of land markets. Together this provision would violate conditions 3, 4, and 6.

3. Minimum and maximum prices for agricultural land

It is rare for developed countries to impose minimum of maximum prices for the purchase of agricultural land. In a study of eleven western European Union member states, conducted as a part of the *Study on the Functioning of Land Markets in the EU Member States under the Influence of Measures applied under the Common Agricultural Policy*[3], only Germany reported having a maximum sales price for farm land, and this was restricted to long-term farm tenants in the former East Germany when purchasing land they were leasing, and Greece reported having a minimum price for agricultural land (Ciaian 2010). The US, Canada, Australia, Brazil and other major agricultural countries have no restrictions on sales prices for agricultural land.

Restrictions on land prices, both minimums and maximums, distort markets and reduce the level of activity in the market. Price minimums reduce the number of buyers in the market and mean that some willing sellers are unable to sell their land. Price maximums reduce the number of sellers and mean that some buyers are unable to purchase land. In both cases some land will not be used in its highest and best use. Furthermore, these restrictions will not be flexible enough over time and space to reflect local conditions, and the dynamics introduced by commodity markets, macroeconomic conditions, technological change and policy change.

This provision would violate principles 3, 5 and 6 since it would reduce the number of buyers and sellers of agricultural land leading to a less efficient market, and add to the transactions costs of owning and disposing of property due to additional red-tape, and increased risk involved in owning land.

[3] This study includes the following EU member states: Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Spain, Sweden and the United Kingdom.

Table 4: Restrictions on Agricultural Land Sales and Leases in EU Countries

	Minimum or Maximum Sales Price	Minimum or Maximum Rental Price	Minimum or Maximum Lease Duration
Belgium	No	Max. rent	Minimum 9/maximum 27 years
Finland	No	No	Maximum 10
France	No	Min. & max.	Minimum 1/maximum 25 years
Germany	Maximum sales price for long-term tenants in East Germany	No	No
Greece	Minimum sales price	Min.	No
Ireland	No	No	No
Italy	No	No	No
Netherlands	No	Maximum	Minimum 6 years
Spain	No	No	Minimum 5 years
Sweden	No	No	No
UK	No	No	In Scotland, for new tenancies under the 2003 Act, a maximum of 5 and a minimum of 15 years

Source: Ciaian et al. 2010

4. Minimum or maximum lease rates for agricultural land

Compared to restrictions on the price of land sales, lease rates are more likely to be restricted by policy. Ciaian et al. (2010) report that Belgium and the Netherlands have maximum allowable rental rates while Greece has minimum rates. France has both maximum and minimum rates.

Much like restrictions on the sales price of land, restrictions on lease rates distort markets and reduce the number of transactions. Housing rent controls have demonstrated over and over again that maximum rental rates, reduce supply, discourage investment, and encourage graft and corruption. In addition, rental rates influence sales prices. Upper limits on rental rates will increase the willingness of owners to sell their land, thus depressing prices.

Box 6: Land banking

The term 'land banking' can be ambiguous because the term 'banking' may refer either to a financial function, or to the purchase and aggregation of land. Furthermore, land banking may refer to either private land holding, or public programs. Private land banking involves the speculative purchase of land projected to be converted to higher valued use when sufficient scale and contiguity has been achieved and when market conditions are favorable.

A number of countries have established some type of public land banking system. Most public land banks either buy and hold land for future sale, or provide financing for land purchases by individuals and private companies. In the latter case, land banks hold land only as a result of foreclosures and do so only long enough to resell it.

Land banking is common among cities in the United States but all of these land banks speculatively purchase abandoned or unused land in urban areas and hold it until it can be redeveloped.

In Canada and the United States Non-Governmental Organizations called land trusts operate as land banks. These land trusts purchase land or the development rights (conservation easements) of land to ensure that the land is not developed for non-agricultural purposes. Examples include the American Farmland Trusts (http://www.farmland.org/) and the Ontario Farmland Trust (http://www.ontariofarmlandtrust.ca/).

As in the case of sales price restrictions, restriction on lease rates violate principles 3, 5 and 6 by reducing the number of lessees or lessors of agricultural land, and by adding to the transactions costs of owning, renting or selling property due to additional red-tape, and increased risk.

Box 7: The Netherlands Land Banking program

In the Netherlands, three kinds of land banking are employed. 1) Land exchange bank: a revolving fund, in which land owned by the state is exchanged with farmers' land when land is required for public purposes. 2) Land Developer: state-owned land is exchanged, sold or leased in order to develop public functions. 3) Financial institution: Land with vulnerable landscapes can be acquired and leased to farmers in order to protect them.
On a yearly basis, 7.000 to 8.000 hectares are purchased and sold. Land in stock is leased to farmers on a one year basis. Through the re-parcelling process, land can be made available for nature reserves and for other planning priorities.

5. Minimum term of leases

Conservation of land and sustainability of agricultural productivity are important issues. Appropriate crop rotations, and sound soil and water conservation practices, are important parts of maintaining agricultural productivity. The draft law proposes minimum lease lengths as way of ensuring the sustainability of the land resource.

Some European Union member states have mandatory lease terms (Ciaian et al. 2010). Germany, Greece, Ireland, Italy, Sweden and the UK have no limits on the length of agricultural land leases. Spain, the Netherlands and Belgium have minimum lease terms of 5, 6 and 9 years respectively. Belgium, Finland and France have maximum lease terms.

Unfortunately even long leases do not ensure sustainable use of farm land, and short leases do not preclude sustainable used of farm lands. Long minimum lease periods do, however, make leasing less flexible for both lessees and lessors. This in turn reduces the value of land. It also reduces the ability of farm operators to be innovative. Concerns about appropriate agricultural practices, including length of lease, and crop rotations, are best dealt with as a part of lease agreements rather than with blanket regulations. To encourage sound leases, a series of *pro forma* leases could be provided as models.

Box 8: Saskatchewan's Land Bank Program, 1972 – 1982

In 1972 the Government of Saskatchewan, Canada, facing a severe agricultural recession, introduced the Land Bank program that purchased land and leased it back to the original owners if they wished, or to others wishing to expand their program. The program was designed to help starting farmers and those wishing to expand their operations. The program was abolished in 1982. The overall assessment of the program was that it did allow farmers in financial stress to improve their economic situation and it helped thousands of farmers get started or expand. However the program was criticized for:

- Raising farm land values, making it more difficult for farmers to expand by purchasing land;
- Being overly administratively complicated;
- The high cost of the program to the government; and
- Perceived unfairness of purchase prices and allocation of leases.

Source: Diaz et al. 2003

6. Ownership of land by the State Land Bank

The draft law allows for the purchase of land (with pre-emptive rights) but the publicly owned State Land Bank. Many countries, including the United States, have substantial levels of publicly own agricultural land (see Box 6).

The Netherlands has a more comprehensive agricultural land banking program primarily designed to assure the availability of land for public purposes (see Box 7). The bank holds land in order to exchange land with farmers when land is expropriated for public purposes, or to assure that vulnerable lands remain in farming rather than being developed. These lands are leased to farmers at rates which permit them to continue farming the land economically.

The province of Saskatchewan in Canada experimented with a land bank in the 1970's (see Box 8). The goal of the Saskatchewan program was to facilitate the intergenerational transfer of land and to

allow farmers to use the equity in their firms to invest in other farm assets. The program was abandoned after 10 years because of perceived and actual impacts it had on both the sales and rental markets for agricultural land.

Box 9: Public ownership of land in the United States

Roughly 1/3 of the US land area is publicly owned as national parks, national forests, wildlife refuges, national monuments, wilderness areas, lands managed by the US Bureau of Land Management, and state and local governments. Public ownership of land came about because of the acquisition of territory during expansion of the US westward in the Nineteenth Century. Meanwhile, most Federal land (more than 50% of the current land areas) was privatized or granted to state governments. Much of the current public land is in the arid regions of the west and is unsuitable for agriculture. Other public land is leased for extension animal grazing or combined with grazing, forestry and recreation, while still other land is part of the system of national parks, national forests and national conservation areas. It is generally agreed that the policy of leasing public lands for grazing has left much of this land over-used and has required large and growing subsidies (Blumm 1994).

While public ownership of agricultural land may be convenient during the transitional period, permanent ownership of land by the State Land Bank would have negative economic impacts for several reasons. Ownership of land by the State Land Bank would violate principles 3, 4, and 6 above. Most importantly it would render both the sales and rental markets for land imperfect.

A single buyer of land, no matter what its policies and strategies would lead to land values that are too high or too low—both of which would lead to inefficient land uses. Furthermore, it is unlikely that land values would reflect local conditions or changing conditions.
Public ownership would prevent land from serving as a store of wealth and basis for credit. Without land to use for collateral, agricultural financing would be restricted, reducing the rate of productivity growth. Public financing would not be able to compensate because borrowers' exposure to risk would be limited leading to excessive risk taking and loan defaults.

In the absence of competition the State Land Bank would tend to be less innovative, over bureaucratic, and more prone to corruption. This would reduce the development of agriculture and dampen economic growth at the national level.

Box 10: Farm Size and Production Efficiency

There is growing evidence that large scale farms are less efficient that moderately sized farms. In a statistical study of the efficiency of Ukrainian farms from 2002 to 2009, Deininger et al. (2013) conclude that, "The hypothesis of economies of scale in agricultural production is rejected… Instead, large farms' superior performance appears to be due to unobserved rayon- and farm-specific attributes that include access to infrastructure and managerial skills." They go on to argue that, "Beyond Ukraine, the evidence of land concentration causing negative externalities holds lessons for policy makers in many other countries seeking to promote rapid agricultural growth through establishment of large farms rather than models that productively involve local populations." The externalities they refer to include excessive market power, especially in local labor and input markets, lower rates of human capital, social and political development, and slower economic growth. Swinnen and Vranken (2005) came to similar conclusions. They found the large farms used their market power to gain advantage over land owners. At the macroeconomic level, Deininger et al. (2013) point out that concentrated control of agricultural land has frequently led to reduced rates of economic growth.
Source: Berry and Cline, 1979; Cornia, 1985; Aiyar et al. 1995; Deininger and Binswanger 1999; Deininger et al. 2013; Swinnen and Vranken 2005.

7. Limits on amount of land owned by a single entity

The draft law on land circulation would limit the total amount of agricultural land owned by individuals to 100 hectares. The goal of this provision is to discourage speculation in land, and to avoid concentration of economic power in agriculture. At the same time, farms in the Ukraine are among the largest in the world (Deininger et al. 2013), achieved not through purchase of land but through the leasing of tens of thousands of small plots.

Deininger and Feder (2001, p. 29) specifically warn against this strategy pointing out that experience suggests that, "…land ownership ceilings, …appear to have imposed extra cost on landowners who often took measures to avoid them and on the bureaucracy which had to decide on exceptions to allow for the utilization of economies of scale in plantation crops – a process conducive to red tape and corruption."

The effect of limiting ownership of land, especially to an amount as small as 100 hectares is to dramatically reduce the number of buyers, and the effective demand for land. Furthermore, this creates an imbalance in the land rental market where there would be many land owner-lessors and few lease holders. The effect would be to suppress both land sales prices and land lease prices, effectively redistributing wealth from Ukrainian land owners to larger agri-holding companies.

Thus this provision would weaken property rights (a violation of principle 1) by requiring land owners to sell land acquired through inheritance or foreclosure and it would limit the number of land buyers violating principle 3.

While strict maximum limits on farmland ownership is not recommended, preferential treatment of large farms is also not recommended, and efforts to limit market dominance by larger firms should be considered.

8. Pre-emptive rights of land purchase by State Land Bank and by local residents

The draft law on land circulation prescribes a procedure in which the State Land Bank and local residents (within 20 km of agricultural plots) are given the right to pre-emptively purchase agricultural plots offered for sale. Research has demonstrated that rights of first refusal, and pre-emptive rights related to real property are beneficial to the holder of the right, but generally harm other potential buyers and to the seller of the real property (see for example, Bikhchandani et al. 2005). If the 'other potential buyers' are foreign interests, then it may make sense to provide Ukrainian citizens with pre-emptive rights. In the current draft law however, the advantage created by preemption would go to the State Land Bank and the few individuals proximate to the land offered for sale. The losers would be the many current land owners, for which, this proposed law is intended to protect.
This provision would significantly weaken the property rights of land owners by limiting their ability to sell their land (a violation of principal 1), make the market less efficient by reducing the number of potential buyers (a violation of principal 2), and increase the cost of selling land by delaying the process and adding significantly to the red tape.

Table 5: Pre-emptive rights in force in partner countries

	Pre-emptive rights in inheritance processes	Pre-emptive rights at the time of land sale	
		For farm and land consolidation	To the state/municipalities
France	YES to the heir(s) who want(s) to continue farming	YES to the tenant and active role of the SAFERs (see below)	YES
Germany	YES to the heir(s) who want(s) to continue farming	YES to the neighbouring farmer against a non-farmer at the negotiated price	YES
Italy	YES to the heir(s) who want(s) to continue farming	YES to the neighbouring farmer	YES but limited to areas with specific cultural (historical, artistic, etc.) values
Sweden	NO	Possibility of adding a clause in rental contracts providing the tenant with a pre-emptive right	YES
UK	NO	NO	NO
Czech Rep	. n.a.	YES - Sale of state agricultural land: pre-emptive rights to claimants for restitution with the right of substitute parcel; co-owners; individual farmers and members of corporate farms that operate more than 10 ha for at least 3 years in corresponding or neighbouring cadastre; pre-	YES

		emptive rights for tenants (renting that land for at least 3 years; maximum area of 500 ha). - Sale of private agricultural land: pre-emptive rights to co-owners	
Lithuania	YES to the heir who has worked most on the farm and wants to continue farming	YES - Sale of state agricultural land: pre-emptive rights to owners of building and facilities standing on that land; to farmers farming that land; to legal entities earning more than 50% of their income from agriculture which have been farming that land for more than 1 year; to young farmers registered and who have been farming more than 1 ha for more than 1 year; if the state land is sold as part of a land consolidation project, to farmers and legal entities located on the territory covered by the consolidation project. - Sale of private agricultural land: pre-emptive rights to joint-owners of the farm farming that land; to farmers farming that land for more than 1 year.	YES
Slovakia	NO	YES to co-owners	NO

Source: Latruffe, L., & Le Mouël, C. (2006) Table 12.

9. Minimal standards of employment per hectare

Economic development, competitiveness, and rising income, all depend on the continuous increase in productivity of land and labor. Minimal standards of employment directly contradict the goal of rising labor productivity in Ukrainian agriculture. As Table 1 indicates, the labor productivity in Ukrainian agriculture is currently lower than all comparison countries except for the very least developed. This provision would reduce innovation, cause stagnation of wages, discourage investments in human and fixed capital, and retard the development of the entire Ukrainian economy.

The goal of maintaining and strengthening the rural labor market is reasonable, but a better approach to achieving this goal is to encourage value added, and non-farm enterprises in rural areas, when the enterprises are feasible. The proposed approach could actually reduce this type of development by stifling entrepreneurship and locking workers into low productivity jobs. This provision violates principle 6 by imposing non-beneficial regulations and restrictions on the use of agricultural land.

Box 11: Experience with Progressive Land Taxes

Deininger and Feder (2001, p. 30) argue that, “A moderate land tax levied and collected by local Governments can make an important contribution to effective decentralization.” However, they warn against progressive land taxes. “Several countries have attempted to implement progressive land taxes, where the tax rate would increase with land area or value, as a means to make land speculation less attractive and to induce large landowners to use their land more intensively or to break up large estates. Experience with this instrument has not been very positive as implementation and collection of progressive land taxes have been frustrated by political difficulties and resistance in countries as diverse as Argentina, Bangladesh, Brazil, Colombia, and Jamaica (Strasma et al. 1987).

10. Ban on re-selling land for a minimum period and setting differentiated rates of stamp duties on land sales

Several features of the proposed law such as restrictions on reselling land and a graduated tax during the first 10 years of ownership are designed to eliminate or reduce speculation in land values. As indicated above, speculation plays an important role in the functioning of an efficient market. The proposed provisions may discourage speculation, but in the process would reduce the efficiency of the land market, ultimately hurting the current land owners and hampering the development of an efficient and prosperous agricultural sector. The provisions would weaken property rights (principal 1) reduce the number of buyers in the market (principal 3) and increase the cost of land ownership and disposal (principal 5).

SUMMARY AND CONCLUSIONS

Agriculture is a critically important sector in the Ukrainian economy. Rapid, steady and balanced growth in agricultural productivity and competitiveness is essential to the performance of the Ukrainian macro-economy. Development of an efficient and just market for agricultural land is a prerequisite to a prosperous agricultural sector.

This document reviews and critiques the draft law on land circulation currently under consideration by Ukraine's parliament. The draft law contains numerous provisions designed to establish and regulate markets for the sale and lease of agricultural land. Based on six well-established characteristics of an efficient and just land market, twelve of the most critical provisions in the draft law were assessed in this project.

Prohibition of land ownership by foreigners is a common practice around the world that serves to protect land for residents or citizens. While this provision will almost certainly place a limit on the overall price of farm land the consequences are acceptable. However, if Ukraine wishes to accede to the EU it will have to be prepared to relax this provision as it applies to citizens of EU member states. Limits on land ownership by financial institutions would depress the market for farmland mortgages, and ultimately reduce land prices. Financial institutions must be able to take possession of farmland when borrowers default. A preferred strategy would be to judiciously regulate financial institutions to ensure that they administer mortgages and other loans openly and fairly.

Establishing and enforcing minimum and maximum sales and lease prices for agricultural land, at least in the long-run, can only reduce the efficiency with which the land market transfers land to its highest and best use. Setting price floors and ceilings will ultimately become a political process, and will create incentives for buyers and sellers to develop informal arrangements. While certain restrictions may be useful in the short run to avoid violent price swings but a clear timeline for relaxing the restrictions must be in place from the beginning.

Minimum terms on agricultural land leases are rare in other countries. Some countries have traditional rental agreements that may run to 15 years or more, but in most countries terms are agreed to by the landlord and tenant. In a time of rapid transition, this flexibility is particularly important since it facilitates the very changes in land use required to transfer land to its highest and best use. A more effective strategy would be to create regulations that ensured transparency in lease contracts and enforced the terms of contracts.

As the evidence above demonstrates, ownership of land by the State Land Bank would prevent a land market from functioning as necessary. Not only would it prevent the competitive processes from functioning, but it would also lead to politicization of land sales, purchases and leases. Furthermore, it would create new opportunities for corruption and graft.

Limits on amount of land owned by a single entity would weaken the Ukrainian farmland market by reducing the number of buyers and limiting effective demand. The political and economic costs of concentrated land control through long-term leases are just as significant as concentrated land ownership. Limits on land ownership would shift power from land owners to lease holders thus increasing the effective concentration of power. If there must be a limit on the amount of land owned by a single entity it should be much larger than is being proposed in the draft law.

The proposal to give pre-emptive rights of land purchase to the State Land Bank and local residents would have devastating effect to an agricultural land market. The number of potential buyers would be so limited that it would be impossible to establish reliable prices for land. An effective land market must allow as many buyers to be involved as possible. Local land will frequently be more valuable to local residents because of proximity and familiarity and as a result it is not necessary to provide them with pre-emptive rights. The only possible case where pre-emptive rights might be justified would be to give citizens "the right of last refusal" when foreigners offer to purchase Ukrainian farmland.

The proposal to set a minimal standard of employment per hectare is designed to protect employment in the agricultural sector but in effect this would prevent farmers and farm managers from increasing the competitiveness of their farming operations. A much better strategy would be to develop programs

to prepare rural communities and residents for diversification of rural economies. This would involve investing in public infrastructure, training programs, entrepreneurship education, etc.

Placing a ban on re-selling land for a minimum period of time and setting differentiated rates of stamp duties on land sales would seriously damage a land market by discouraging potential buyers. Speculation is a normal part of markets and can improve market performance if it occurs competitively and transparently. A better strategy would be to develop regulations that assure that all buyers and sellers (lessees and lessors) have the same information, and that all transactions are open and transparent.

Finally, the draft law describes a very complicated procedure for qualifying, registering and purchasing land. It is very important that this procedure be as simple as possible. Each additional step or requirement in the process discourages buyers and sellers from entering the market. To be effective and efficient, buyers and sellers must find the transaction costs as low as possible. Each additional step or requirement also creates opportunities for graft and corruption, which must be avoided.

Creating and regulating a market of this magnitude and importance is daunting. The law must not only describe in detail how the market will work and how it will be regulated, but it must also describe a process and timeline for the development of the market. Deininger and Feder (p. 27) suggest that, "In countries making the transition from communal to more individualized forms of land ownership, there is need for a flexible, stepwise, and decentralized approach that acknowledges differences in demand for tenure security based on diversity across regions and agroclimatic conditions."

First the necessary public and private sector institutions must be created to assure adequate real estate brokering, mortgage financing, title transfer, title insurance, enforcement of property rights, foreclosure procedures, and other needed services. Next staff must be hired and trained to perform these services. Appeal procedures, penalties, and rewards must be determined. Communication protocols, databases, and evaluation procedures and infrastructure must be developed. Model sales and lease contracts, model mortgages, mortgage application forms, and accounting and legal software must be developed. Policies and procedures must be established and explained to employees.

Next, buyers and sellers must understand how the market will work and have confidence in its outcomes. They must feel that the market will treat them fairly. An educational program will be an important part of the process especially in the beginning. Buyers and sellers, and lessees and lessors, must become familiar with their rights and responsibilities under the law, and all the steps that they must take to conform to the market's regulations. They must know their full range of options, as well as the incentives and penalties associated with these options.

The opening of the market should be accomplished gradually so that buyers and sellers aren't rushed into transactions. In early months, extra time should be given to participants to execute sales and lease contracts, and extra time to withdraw from agreements without penalty. The market could be opened in selected regions before it is opened country-wide to allow for fine tuning.

In conclusion, development of an efficient agricultural land market, with a focus on private ownership of land and policy designed to balance the power and benefits between land owners and lease-holders, and between small, medium and large farms must be a high priority for the government of Ukraine. This paper describes the theory of efficient land markets, reports empirical evidence where it exists, and then assesses the major features of the draft law on land circulation. The overall conclusion is that several features of the draft law should be reconsidered in light of theoretical arguments and empirical evidence indicating the likely consequences of these features.

REFERENCES

Abler, D. (2001). Elasticities of Substitution and Factor Supply Elasticities in Canadian, Mexican and United States Agriculture: A Review of Past Studies. OECD, Paris, pp. 57-88.

Aiyar, Swaminathan, Andrew Parker and Johan Zyl. (1995). Market-Assisted Land Reform: A New Solution to Old Problems. Dissemination Note no. 4, Agriculture and Natural Resources Department of the World Bank.

Banerjee, A.V., P.J. Gertler & M. Ghatak. (2002). Empowerment and efficiency: Tenancy Reform in West Bengal Journal of Political Economy 110(2).

Berry, R.A. and W.R. Cline (1979). Agrarian Structure and Productivity in Developing Countries, Baltimore and London, The Johns Hopkins University Press.

Bikhchandani, S., Lippman, S. A., & Ryan, R. (2005). On the Right-of-first-refusal. Advances in Theoretical Economics, 5(1).

Bogaertsa, Theo, Ian P. Williamson, and Elfriede M. Fendel. (2002). The role of land administration in the accession of Central European countries to the European Union. *Land Use Policy* 19: 29–46.

Blumm, M. C. (1994). Public Choice Theory and the Public Lands: Why Multiple Use Failed. Harv. Envtl. L. Rev., 18, 405.

Ciaian, P., Kancs, D. A., & Swinnen, J. F. (2010). EU Land Markets and the Common Agricultural Policy. Centre of European Policy Studies, Brussels, Belgium. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1604452

Ciaian, P., Kancs, D. A., Swinnen, J., Van Herck, K., & Vranken, L. (2012). Key Issues and Developments in Farmland Sales Markets in the EU Member States and Candidate Countries (No. 114). Centre for European Policy Studies.

Ciamarra, U. (2003). State-led and market-assisted land reforms: history, theory, and insight from the Philippines. Paper prepared for presentation at the "VIII Spring Meeting of Young Economists", Leuven, Belgium, April 3-5. http://www.econ.kuleuven.ac.be/smye/abstracts/p435.pdf

Cornia, G.A. (1985). Farm Size, Land Yields, and the Agricultural Production Function: An Analysis of Fifteen Developing Countries, World Development, 13:513-534.

Dale, P., & Baldwin, R. (2000). Lessons Learnt from the Emerging Land Markets in Central and Eastern Europe. Proceedings of the International Federation of Surveyors Working Week.

Deininger, K. (2003). Land policies for growth and poverty reduction. World Bank Research Report. Oxford University Press.

Deininger, K., and H. Binswanger. (1999). The evolution of the World Bank's land policy: principles, experience, and future challenges. The World Bank Research Observer, 14(2), 247-276.

Deininger, K., and G. Feder. (2001). Land institutions and land markets. Handbook of agricultural economics, 1, 288-331.

Deininger, K., D. Nizalov, and S. K. Singh. (2013). Are mega-farms the future of global agriculture? Exploring the farm size-productivity relationship for large commercial farms in Ukraine. Policy Research Working Paper 6544. The World Bank Development Research Group, Agriculture and Rural Development Team

Diaz, H. P., Jaffe, J. M., & Stirling, R. M. (Eds.). (2003). Farm communities at the crossroads: challenge and resistance (Vol. 43). University of Regina Press.

Fattouh, B., Kilian, L., & Mahadeva, L. (2012). The role of speculation in oil markets: What have we learned so far?.

Government Service for Land and Water Management. (2011). Guiding the land market by land banking: Sustainable land management. Ministry of Economic Affair, Agriculture and Innovation.

Hodgson, S., C. Cullinan, and K. Campbell. (1999). Land Ownership and Foreigners: A Comparative Analysis of Regulatory Approaches to the Acquistion of and Use of Land by Foreigners. Food and Agriculture Organization Legal Papers Online #6.

Irwin, S. H., Sanders, D. R., & Merrin, R. P. (2009). Devil or angel? The role of speculation in the recent commodity price boom (and bust). Journal of Agricultural and Applied Economics, 41(2), 377-391.

Johnston, B. F., & Mellor, J. W. (1961). The role of agriculture in economic development. The American Economic Review, 51(4), 566-593.

Latruffe, L., and C. Le Mouël. (2006). Description of agricultural land market functioning in partner countries. INRA-ESR, IDEMA Project Deliverable 9 .

Malpezzi, S., & Wachter, S. M. (2005). The role of speculation in real estate cycles. Journal of Real Estate Literature, 13(2), 141-164.

Pereira, J. M. M. (2007). The World Bank's Market-Assisted Land Reform as a Political Issue: Evidence from Brazil (1997-2006). European Review of Latin American and Caribbean Studies, 82, 21.

Quandl.com. Agriculture Share of GDP By Country. http://www.quandl.com/economics/agriculture-share-of-gdp-all-countries

Salhofer, K. (2001), "Elasticities of Substitution and Factor Supply Elasticities in European Agriculture: A Review of Past Studies. OECD, Paris, pp. 89-119.

Strasma, J., Alsm, J., Shearer, E., & Woldstein, A. (1987). *Impact of agricultural land revenue systems on agricultural land usage', Madison WI, Land Tenure Center*. mimeo.

Swinnen, J., & Vranken, L. (2005). The development of rural land markets in transition countries. ECSSD Report, The World Bank, Washington DC. http://eastagri.org/files/CEEandCIS1173087105.pdf

United States Department of Agriculture, Economic Research Service. (2013). U.S. and State-Level Farm Income and Wealth Statistics, U.S. farm sector financial indicators, 2009-2013F. http://www.ers.usda.gov/dataFiles/Farm_Income/US_Farm_Income_and_Wealth_Statistics_includes_the_US_Farm_Income_Forecast_2013/FarmSectorIndicators.xls

Wolverton, M. L. (2004). Highest and Best Use: The von Thünen Connection. Appraisal Journal, 72(4).

World Bank. (2014). Data: Agriculture value added (% of GDP). Website: http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries

World Banks. (2014). World Development Indicators: Agricultural inputs. Website: http://wdi.worldbank.org/table/3.2

World Banks. (2014). World Development Indicators: Agricultural output and productivity. Website: http://wdi.worldbank.org/table/3.3

World Bank. (2014). Agriculture and Rural Development, Land Policy and Administration. Website: http://go.worldbank.org/2S3OYC6NS0