

Chapter 4.

A Framework to Analyse Policies that Affect Asset Capitalisation and Mobility

Asset capitalisation and asset mobility are two dimensions that are important for policy reform. The discussion thus far has concentrated on government policies directly provided as price support or subsidies to agriculture. This chapter broadens the discussion to include other policies and puts them in a general guiding framework. The framework encompasses agricultural policies as well as other policies such as taxation, rules and regulations. This is followed by a qualitative assessment of how other policies might impact asset mobility in agriculture, using information gleaned from various government information sources¹ and five commissioned country case studies for France, Japan, Korea, Mexico and Norway.²

Government support can be provided to agriculture through programs that deliver price support and subsidies through payments based on output or input use. The level of this support can be measured as, for example in the OECD PSE, either budgetary payments or as market price support (MPS). Government support to agriculture may also be provided through means that favour agricultural activities, such as rules and regulations. Farmers and landowners in OECD countries frequently benefit from special tax treatment, principally in the form of concessions. In addition, a myriad set of rules and regulations often applies to the use of agricultural land and other assets or to land price formation. Most of these policies are not measured by standard indicators such as the PSE. Moreover, given the nature of the policies it is generally difficult to construct well-defined measures that reflect the support equivalent or “quantity” of these policies.

Taken together all policies, whether applied directly as support to agricultural production or indirectly through rules and regulations, have potentially important implications for production, asset mobility and asset values. An integrated analysis of all policies is important for assessing the capacity of farmers (and the agricultural sector) to adapt to changes in market conditions and in government policy, particularly policy reform that aims to reduce overall levels of support.

Asset capitalisation and mobility in agriculture: what is the role of policy?

In theory, market forces allocate assets to their most productive use and to the most efficient farmers. Governments intervene in markets to meet policy goals -to provide public goods, to correct externalities, to preserve the environment or rural economies, etc. Some of these policies influence asset allocation in favour of a particular activity, factor of production, or group of individuals. This has implications for the productivity and competitiveness of the farming sector as a whole. Policies affect not only current income,

but through capitalisation they also modify the value of farm assets, and hence have an impact on wealth.

The capitalization of government support into asset values can reduce asset mobility, mainly because entrants into the sector and existing farmers wishing to expand are faced with higher asset prices. In addition a number of other policies, mainly in the form of tax rules and other regulations, can also reduce asset mobility. This can further enhance the capitalization phenomenon because, as seen in the theoretical discussion, the least mobile assets are the ones most likely to be associated with the benefits of government support.

Focusing on land, it was seen in Chapter 2 that the supply of land is a reflection of the number of alternative uses to which land can be put. The supply of land also depends on the application of other policies and regulations such as zoning restrictions that limit land conversion between different uses. Lastly, policies that regulate who can own land and under what conditions land may be purchased, sold or leased also have an impact on land supply. The impact of policies on land use may be grouped into three broad categories.

The first category concerns the allocation of land between different uses in agriculture. This includes mobility between different agricultural activities such as crops, livestock (pasture), fruits and vegetables, etc. Land is allocated according to the relative benefits and costs in alternative activities, as it may be particularly suitable for production of a commodity by virtue of its location, climate, slope, or soil type. Land may also be allocated depending on the government policies that are in place to support agricultural production. For example programs that favour the production of crops have implications for other land uses such as pasture for livestock. In practise, mobility between different uses within agriculture is influenced by a mix of the physical characteristics of the asset itself, farming practices and the existing government policy set.

The second category is asset mobility between different owners. This aspect relates to the entry and exit of farmers, and to the exchange of assets via sales or rentals. Policies that intervene on sales markets (*e.g.* regulations governing purchase and sale), on asset transmission (*e.g.* inheritance rules), and on incentives to enter or leave the agriculture sector (*e.g.* early retirement measures) all play a role in determining the extent to which assets are mobile between different asset owners.

The third category is asset mobility between agriculture and non-agriculture uses. This may include the conversion of farmland to land for residential, industrial, nature, forest or recreational uses. All these activities are in competition for land. In many OECD countries, asset mobility is influenced by legal restrictions on the conversion of assets to non-agriculture uses, usually through zoning regulations.

Demographic pressure, particularly near large urban centres, has considerably increased demand for land in housing and industrial activities with consequences for the price of land. Many studies³ show that under these conditions the influence of non-agricultural demands can be more important than the influence of government policies in support of agriculture. However, the impact on agricultural land values is very site specific. It depends on the country, the location within a country, the pressures on land use, and the existing set of policies. This study acknowledges the potential importance of, but does not analyse the opportunity cost of non-agriculture uses for agricultural land.

Assessing the impact of policies

Clearly, the degree to which policies affect asset values, in particular land is dependent on the complex interplay of national and regional policies and regulations. Annex 1 to this report provides a flavour of the rich menu of interacting policies for a selected number of country cases. The challenge is to move from specific situations to a framework that permits systematic cross-country comparisons and yields general conclusions.

Table 4.1 summarizes a framework to guide the assessment of the different types of agriculture-related policies (*ceteris paribus*). The first column groups policies by categories. The second, third and fourth columns indicates the likely direction of the impact on asset allocation and asset mobility. The fifth column briefly outlines the potential impact of such policies on agricultural land values. Where possible the direction of impact is indicated based on first principles (Chapter 2 and Annex 1).

The first category of policies comprises those that are measured by the PSE. Most of these policies influence asset values, whether directly or indirectly, allocation and asset mobility between different activities within agriculture. These policies can be directly incorporated into standard model analysis. As illustrated in Chapter 2 using the PEM, policy experiments can be made by changing the level of government support and then evaluating the impact on variables such as production, income, land rents, etc. In many cases the policy experiment can be done in a relatively straightforward manner, and the model can be taken “as is”. However, where a policy has an impact on the production technology, the assumptions for parameter values may need to be considered. This is the case for some categories of input payments, and for production quotas⁴.

The second category groups together tax policies. Many of these give special advantages to agriculture, and therefore influence mainly asset mobility between agriculture and non-agriculture uses. Some, such as those concerning inheritance, relate to asset mobility between different owners. To the extent that tax concessions bestow favourable treatment on agricultural incomes or assets compared to incomes or assets in other sectors, they will tend to increase asset (mainly land) values also. Generally the coverage of such policies in the PSE database is very limited. Most, if not all, of these policies are difficult to measure. Tax policies are extremely complex and varied depending on the country, and even between regions within a country. Converting these policies into a monetary equivalent implies very demanding data requirements, and in practice only a small number of OECD countries attempt this on a systematic basis.

The third category consists of regulations on agricultural land use, transfer and sales. Some of these policies (*e.g.* zoning) influence asset mobility between agriculture and non-agriculture uses. Others (*e.g.* purchase and sales) relate to asset mobility between owners. Many of these policies are not directly measurable in monetary terms. Payments conditional on specific production practices, such as environmental cross-compliance, are an exception in that payments can be measured; however the cross-compliance requirements are not easily measurable. Other environmental policies, such as restrictions on input or land use also have an impact on production decisions between different agricultural activities. However, assessing how environmental policies impact on agricultural production is not straightforward –for example environmental conditions are very site specific. Clearly details on the implementation criteria would be crucial⁵.

Table 4.1. Summary of policies and implications for land

Policy	Impact on land		Impact on agricultural land values
	Allocation between agricultural activities	Mobility between asset owners	
1. Agriculture Policies			
Price support and output payments	-		Commodity support increases profitability and therefore increases agricultural land values
Area payments	-		To the extent support is tied to land, will be capitalised into agricultural land values
Production limits (quota)	-		Quota policies (captured in MPS), increases asset values, particularly rights to production
Historical entitlements	+/-		if support policies tied to land, will be capitalised into agricultural land values
Input payments	+/-		Input support increases profitability and therefore increases agricultural land values
Environmental payments			
Setting-up of young farmers		+	
Payments for early retirement		+	May increase agricultural land values if policy increases demand for land Impact on agricultural land values not clear
2. Tax Policies with preferential conditions for agriculture			
Capital gains			
Income		-	Increases profitability of agriculture and therefore increases agricultural land values
Inheritance		-	Increases profitability of agriculture and therefore increases agricultural land values
Property		-	Impact on land value not clear Increases profitability of agriculture and therefore increases agricultural land values
3. Regulatory Measures			
Zoning			
Purchase and sales of agricultural land, inheritance		+/-	Decreases agricultural land values Impact on agricultural land values not clear
Environmental cross-compliance or restrictions	-		Decreases agricultural land values

- Decreases mobility.

+ Increases mobility.

+/- Impact on mobility depends on the details of how the policy is implemented.

The sheer variety and complexity of different types of policies in the third category makes it difficult to evaluate and compare them across countries. In contrast to most types of financial support directly provided to agricultural production, which in general can be converted into expenditure terms as in the PSE, there is usually no common basis that can be used to measure the “quantity” of such policies. Even in instances where an appropriate measure of the policies can be established, there are few empirical studies providing estimates that may be used in analysis using quantitative models;⁶ Moreover, their impact on agriculture usually cannot be directly observed through market prices of outputs or factors of production.

The discussion that follows describes in broad terms the current situation in OECD countries for each of the three policy categories described above.

Agriculture Policies

As outlined in the theoretical framework (Chapter 2), the production and trade impact of policies directly provided to agriculture through commodity specific programs is well understood. Market price support, output support, production limits and payments based on area or animal numbers all have their first incidence on production decisions through their influence on relative profitability for the commodities concerned. These policies distort the allocation of resources within agriculture and they may reduce land mobility between different agriculture activities. Land values are increased to the extent that policies enhance farm profitability or are directly tied to the use of land.

Production limits

Supply control, through quotas or production rights, is an agricultural policy tool used in some OECD countries. The theoretical framework with respect to supply control in dairy products and the long-run effects on farm assets is well known in the agricultural economics literature (see, for example, OECD 2005a).⁷ Supply control is applied to a number of commodities in OECD countries – examples include dairy and sugar in the European Union, dairy and poultry in Canada, and, in the recent past, tobacco in the United States.

By limiting supply and raising domestic prices higher than would otherwise have prevailed in the absence of the policy, producers in the domestic market benefit from higher returns. Simultaneously, border measures such as tariffs on imports are necessary to prevent entry of lower priced product from foreign markets. The difference between the higher domestic price and the equivalent import price is measured by the market price support element of the PSE. The value of the quota, which reflects the difference between the market price of output and the opportunity cost of production, becomes incorporated into the cost of production. As a result a significant share of the benefits of supply control is capitalized into the value of the quota. In the context of the analytical framework presented in Chapter 2, supply control is a special case where a new fixed (perfectly inelastic) production factor (quota) has been created. Land mobility is reduced to the extent that land is tied to production of quota commodities.

When production rights are tradable the market price reflects the capitalization of the future flow of benefits generated by ownership. The degree of capitalization depends on the expectations farmers have concerning the longevity of the policy. When production rights are not tradable support may be embedded in the value of some other asset. If the

right to produce is also tied to land, then its value will be partly reflected in the price of land. Empirical examples of the link between supply control policy and quota and/or land values have been provided in the previous OECD study on farm asset values (OECD, 1998).⁸

The owners of quota are not always the producers of the quota commodity. Even if this asset is owned by the producer, transfers of wealth to individuals outside the farm sector may take place over time through sales by retiring farmers. That is, the principal beneficiaries of quota are the first generation of owners who did not have to pay for this asset. Subsequent generations face a higher cost of entry; this can be a very significant barrier for younger producers who may have less access to credit.

Payments based on Historical Entitlements

When the right to receive payments (*i.e.* the historical entitlement) is not related to land, but only linked to having produced a particular set of outputs or having used a particular set of inputs at a historical point in time, the right is implicitly attached to the farmer. If the payment rights are not exchangeable and the farmer keeps them until retirement, this implies that the support would progressively disappear from the agricultural sector. Alternatively if the payment rights are exchangeable, the support can stay inside the agricultural sector.⁹

However, if there is any link between the historical entitlements and land, then these payments will be capitalized into farm assets and create a barrier to entry. Newcomers will have to pay a higher price to “buy” their way into the sector. On the other hand, farmers contemplating a land sale may consider the opportunity cost of giving up the entitlement to future payments. Both situations imply reduced asset mobility between owners.

The impact of historical payments depends crucially on the way specific programs are implemented. In practice historical entitlement payments often allow farmers not to produce at all, providing the land is kept in agricultural or conservation use, or to produce any of a wide range of different agricultural commodities. Land mobility between different agriculture uses within the set of permitted commodities may be increased relative to price or output based programs. However, if some agricultural activities are excluded, for example a program that covers all crops and livestock but excludes fruit and vegetable production, then land mobility is reduced between program and non-program eligible commodities.

Box 4.1. Historical Entitlements

The key to understanding the potential impact of direct payments is to observe what happens to payments at the time the land is transferred. To illustrate this, two specific examples are examined: Single Payment Scheme in the European Union, and direct payments in the United States.

Single Payment Scheme in the European Union

The 2003 CAP reform introduced a fundamental change in the way the EU supports its farm sector. The main feature of the reform is the new Single Payment Scheme (SPS) which replaces part or all of the existing premia under different Common Market Organizations (CMOs). EU member States have great flexibility in calculating the payment entitlements. They can be calculated individually on a historical basis resulting in entitlement values that differ from farm to farm. Alternatively, they can be calculated on a flat-rate regional basis, leading to uniform entitlement values within regions. Member states may also choose to implement a mix of both methods. Payment entitlements are given to operators, including tenants, but not non-farming landowners. Payments are granted where farmers have eligible hectares at their disposal to activate the appropriate number of entitlements.

Entitlements are based on historical reference amounts. Eligible area includes any type of land. Farmers receiving the single farm payment have the flexibility to produce any commodity on their land. There is no obligation to produce, but the land must be kept in good agricultural and environmental condition. Payment entitlements may be transferred, with or without land, between farmers within the same member state. Where a transfer occurs without land, the buyer has to use other eligible land to match the payment entitlement.

In the historic model, each farmer is granted entitlements corresponding to the payments received during the reference period and the number of hectares farmed which were eligible for direct payments during the reference period. Thus not all eligible land is connected to a payment entitlement.

In the regional model, payment entitlements are calculated on the basis of the sum of the payments received by farmers in the region concerned during the reference period. Regional reference amounts are then divided by the number of eligible hectares in the region to establish the value of a single entitlement. Each farmer receives a number of flat rate entitlements equal to the number of eligible hectares declared in the year of SPS introduction.

Given the potential for flexibility amongst the EU member states, the impact on asset values is likely to be very different depending on the specific implementation of the SPS. Since SPS entitlements can be traded independently of land, and not all eligible land is connected to payment entitlements, only part of the expected future value of entitlements would be expected to be reflected in the price of land.

Direct and Countercyclical payments in the United States

The Farm Security and Rural Investment Act of 2002 provides the basic legislation governing farm policy for the period 2002-07. Two key policy instruments in the crop sector, Direct Payments (DP) and Counter-Cyclical Payments (CCP) are based on past area and yields. To be eligible for these payments, farmers must have produced a program crop or used the base area for agricultural or related activities. In addition all base area must be protected from erosion, including providing sufficient cover and control of weeds.

For direct payments, operators of base acres are given a pre-determined amount of payment. Base acres are fields previously enrolled in supply management programs for main crops (wheat, corn, barley, oats, sorghum and rice in the 1996 FAIR Act, plus oilseeds and peanuts in the 2002 FSRI Act). The amount of payment varies according to field-specific historical crop production and per acre yields. Producers have nearly full planting flexibility. Some restrictions are placed on land use, mainly non-agricultural use and fruits and vegetables. Payments are made directly to operators of program acres, including tenants. Landlords may receive payments if they are leasing under a share or cash-share hybrid agreement. Program eligibility is transferable with the sale or lease of base acres (USDA, 2003).

The implementation of the Direct Payment scheme suggests that the payment rights are embedded in eligible or base acres. To receive the payment a producer must cultivate eligible area, comply with conservation, wetland and planting flexibility provisions, or idle. Therefore there is a clear link between the payments and land. Hence, the US Direct Payment system is likely to operate like a land subsidy in terms of its impact on asset capitalisation.

CCP rates are determined by current prices. The payments are therefore variable, depending on commodity market conditions. However, like direct payments, there is a clear link between the payments and land. Therefore the CCP program is also likely to operate like a land subsidy, but with variable rates. Therefore the impact of the CCP on land rents will depend on, among other things, changes in current commodity market conditions.

Input payments

Payments that restrict or modify input use have an impact on farming practices. Even if the first incidence of the policy is on inputs, the optimal mix of factors of production may be altered. As the demand for land can be affected, land rental rates (and over the long term, prices) may be affected indirectly.

The impact of a specific input policy depends crucially on the type of input, and on the implementation criteria. Land mobility between different agricultural activities may be increased or decreased and it is difficult to say a priori which effects will be the strongest.

Environmental payments

Programs that target environmental objectives can affect asset mobility in several ways. Payments made on the basis of area or historical entitlements, even if the program objectives state that these are for environmental purposes, essentially operate like a land subsidy as long as a clear link can be established between the payments and land. If the payments are made in compensation for extra costs of environmental compliance, the impact on production (and therefore potentially indirectly on land values) depends crucially on whether the payments over or under compensate.

Environmental programs that target specific input(s) or input usage can be considered to be a subset of input subsidies (or taxes). Examples include input constraints and programs to maintain good farming practices. As discussed above, the resulting change in farming practices has implications for the optimal mix of production factors, and therefore can indirectly affect asset values.

Setting-up of young farmers and subsidies for early retirement

Programs for setting-up young farmers and subsidies for early retirement are used in many OECD countries, among them Ireland,¹⁰ France, Korea, Japan and recently, Mexico. Germany has, for some time, used the retirement pension system for farmers in ways designed to improve the structure of the sector. In other countries credit on concessionary terms, capital grants, and various tax concessions relating to capital gains, stamp duties on transfers or sales and inheritance taxes are also used. The general aim is to promote structural adjustment in the sector, and these programs will tend to increase asset mobility between asset owners.

The assumption is that younger farmers will be better trained and adopt more efficient technology. Young farmer programs are usually accompanied by some training or certification. In many cases, capital aids are provided to assist new farmers to adapt to or acquire more efficient production systems, purchase farms, etc. Subsidies for early retirement mirror the program objectives of setting-up young farmers by encouraging the freeing up of land and capital from the older (likely less efficient) generation to the younger generation.

Taken together as a package, these policies may accelerate structural adjustment in the sector towards more efficient farms. Young farmer programs and early retirement programs can thus be complementary programs designed to counteract the built-in tendency of land-based payments to slow down transition towards a more dynamic and large scale agricultural sector. However, there is a possible inconsistency between the objectives of these policies –one designed to attract labour into the sector and the other to

remove labour. They should, therefore, be closely integrated both in terms of their objectives and of scheme terms and conditions.

Box 4.2. Policies that promote setting-up young farmers and early retirement

In France, young farmers have been eligible since 1973 to receive settlement aids, now co-financed by the government and the EU (and therefore available to other member states). The capital subsidy, known as “*Dotation Jeune Agriculteur*”, is given to persons between 18 and 40 who have at least a lower secondary agricultural education under the following conditions: i) to finance training, ii) to settle on a farm which is at least half of the minimum settlement area (“*Surface Minimum d’Installation*”, 25 ha), and iii) to provide work for at least 1 Family Annual Working Unit (2 300 hours per year) (Code Rural, 2000). The capital subsidy to settlement is EUR 17 950 in Less Favoured Areas (LFA) and EUR 8 000 elsewhere (MAF, 2006).

Some governments top up this program on condition that the total aid does not exceed EUR 35 900 in LFA or EUR 25 000 elsewhere. Regions can also help young farmers by covering the cost of surveyor and land purchase fees, and the costs of implementing improved production systems (up to EUR 1 000 per year during three years) (CNASEA, 2006). Young farmers can additionally benefit from subsidized loans to modernize existing assets on farms they have just acquired. The interest rate is 3.5% in LFA and 2% elsewhere, with a maximum investment sum of EUR 110 000 in LFA and EUR 95 000 elsewhere.

In member states of the European Union, the early retirement scheme, launched in 1992 and modified in 1995, is 50% financed by the EU. The scheme enables farmers to retire as early as age 55 while still receiving some income until their normal retirement age. To qualify farmers must have been head of the farm for at least ten years. The other condition is that they must transmit or sell the totality of their farm, with the exception of a 0.5 ha plot for subsistence. Farmers eligible for the scheme can keep a non-agricultural source of income, providing that it does not exceed a specific level (depending on the member state).

Tax Policies with preferential conditions for agriculture

Tax concessions to agriculture affect the levels of post-tax income of farmers and landowners relative to other groups in society. They may attract resources into agriculture or help maintain resources in agriculture that otherwise would have migrated to other activities. Tax concessions to agriculture can be seen as an additional form of subsidy. Instead of a direct budgetary expenditure, government revenue that would otherwise be due is foregone. This foregone tax revenue is commonly referred to as a tax expenditure. Currently, about half of OECD countries report tax expenditures and nine have made it a legal requirement (World Bank, 2004). However, coverage of the forms of taxation is variable and the treatment of agriculture is not always explicit.

A recent study (OECD, 2005) collected information on agriculture in taxation and social security systems. Concessions are varied and may relate to, for example, the taxation of farm incomes, of agricultural property, and inputs.¹¹ The study, based on commissioned reports and information received from national sources for 25 OECD countries, finds that concessions are widespread though not all can be exclusively interpreted as support to farmers and landowners.

Some tax concessions affect the prices of agricultural outputs or inputs. If the associated revenues foregone could be measured, their impacts on land rental values could be analyzed in ways that are analogous to output or input subsidies in the PEM model as explained in Chapter 2. Similarly a concession that exempts agricultural land from annual property taxes (or imposes a lower rate of taxation) could be treated like an area subsidy. The impacts of other types of concession are much more difficult to evaluate.

Virtually all types of tax concessions will affect the structure of the industry in the long run. Resources may be retained in agriculture that, in the absence of the concessions, would have found a more profitable use in another industry. More favourable treatment will bear on farmers' decisions to stay in the industry or act as incentives to new entrants. In particular, more land may be retained in agricultural use. For example, depending on the relative incentives, tax policies may affect the mobility of land between agriculture and forestry.

The following sections highlight the main types of tax concessions that affect agricultural asset values directly. Specific examples are provided for illustrative purposes only but are not intended to comprehensively cover the incidence of these policies in all OECD member countries.

Capital gains and income taxes

A large number of countries apply concessions or exemptions from capital gains tax for agriculture (OECD, 2005). Globally, these exemptions have some or all of the following effects: reduce mobility between agriculture and non-agriculture uses, increase mobility between owners with family ties but at the expense of mobility between owners who are not related, and favour the existing structure of agricultural enterprises. The valuation of property in the calculation for capital gains may be based on reduced rates for land in agricultural use as in Switzerland. Capital gains on the sale or transfer of farmland may be exempted from taxation as in the Netherlands, Ireland, Austria, Norway and France, subject to various conditions that favour members of the same family, or require the land to stay in agricultural use for specified periods. Deferral is permitted in Canada if the transfer involves family members. In Germany capital gains taxes are waived if the revenues from selling agricultural assets are re-invested in agriculture.

Preferential income tax regimes in agriculture increase profitability for those in the sector, and provide additional incentives for new entrants. As a result, the demand for agricultural assets is higher than it otherwise would be, reducing asset mobility between agriculture and non-agriculture. Farmers (and sometimes closely related occupational groups such as fishermen) benefit from a more favourable income tax regime in Austria, Belgium, France, Germany, Italy, Korea, Poland, Spain and the United States. Some countries permit cash basis accounting whereas most other business activities are constrained to accrual accounting. Other special regimes include the possibility to apply income averaging over several years, or special treatment for income in kind that reduces the value imputed to services or food provided by the farm and consumed in the same household. For example, rural production activities (agriculture, forestry and fisheries) in Mexico are exempt from the value added tax.

Inheritance taxes

Preferential treatment is commonly given for taxes on transfers of agricultural assets, especially on intergenerational transfers within the same family. In Japan the appraisal value for inheritance tax on farmland is much lower than for land in other uses. In Norway, the basis for inheritance taxes for land and forest properties is normally 75% of the market value. The stamp duty, which is paid on transfer of land, is reduced for transfers within the family, but this is a general rule that also applies outside agriculture. In France, high taxes on inheritances that exceed EUR 76 000 potentially encourage heirs to sell and therefore increase mobility of land outside the family. However, a partial

inheritance tax exemption is granted if the heirs create an association (*Groupement Foncier Agricole*), whereby the successor who decides to farm on the land rents the co-heirs' share of the farmland. A large number of other countries exempt or reduce inheritance tax on farmland sometimes subject to the condition that succession occurs within the family – among these countries are Australia, Canada, Denmark, Finland, Germany, Ireland, Japan, Korea, Poland, United Kingdom, and the United States.

Preferential taxes for inheritance may be intended to prevent asset fragmentation and farm dismantling. By design they tend to favour the existing structure of farms. These concessions also influence tax planning by both present and future potential farmers intending to benefit from the special treatment. The value of the concessions may be partially capitalized in the value of land, making it perhaps more difficult for potential new entrants or for existing farmers planning to expand their operation. Therefore the overall impact may be to delay exits, raise impediments to new entrant farmers who have no family ties to existing farmers, and generally lead to decreased asset mobility in agriculture.

Annual Property taxes

Land used for agricultural production may be assessed at a lower tax rate. Or taxes may be assessed on the basis of the “value in use”, typically lower than the actual market value. A very large number of OECD countries provide this kind of concession. This is the case in Mexico, where agricultural asset tax is assessed on the basis of cadastral values. Similar concessions exist in Austria, Denmark, Finland, France, Italy, the Netherlands, Norway, Sweden Switzerland and the United Kingdom. In Korea absentee landlords pay a higher rate of property tax. In the Slovak Republic the concession favours new entrants into farming and in Poland an exemption applies to the first 100 hectares. Property taxes, typically the preserve of regional or local governments, vary widely and are therefore difficult to summarize in a national context. For example, in some counties in the United States, land that receives federal agricultural payments is also eligible for significantly lower property tax rates. Many provinces in Canada give preferential treatment to farmland, as do most states in Australia.

The most often cited explanation for concessions on property taxes is the relatively large amounts of equity held by owners of farmland. Other businesses of comparable size in terms of workforce or sales are likely to have lower levels of real estate values. Thus, asset taxes tend to in practice have a disproportionate impact on agricultural households.

Regulatory measures

The regulations governing the ownership and operation of agricultural land also vary significantly between OECD countries. Zoning restrictions and other regulations that restrict agricultural land and other assets from competing uses clearly lower the mobility of farmland. Some policies restrict the size of farmland transfer; others impose legal or institutional limits on who can buy or rent farmland.

Rules that place restrictions on how assets may be transferred, such as those that stipulate equal division of assets amongst heirs, may eventually lead to a reduction in individual farm size below an economically viable threshold. Restrictions on the size of transfer or on who can buy or rent farmland are often based on the desire to favour family farms. However, this may result in “locking-in” a cost structure that in time may be less

and less able to adapt to changing economic circumstances. In the absence of regulations that limit farm structure, smaller farms are likely to, *ceteris paribus*, consolidate into more economically efficient larger farms. This increase in capital intensity follows a trend that is evident in many OECD countries, and indeed is the natural outcome of industrial development. That is to say, a relatively stable demand for food can be supplied by an increasingly more efficient and therefore relatively smaller, albeit more capital intensive primary agricultural sector.

Zoning laws

Virtually all countries use zoning laws to limit the mobility of land between different uses. Generally, the conversion of agricultural land into another use such as housing, industry, recreation, etc., is subject to approval by local or State administration. Distinguishing land into two, or more, use-classes results in an interesting play of markets. Urban (red) use typically yields a higher return to land than agricultural or nature use (green), but society is also keen to preserve some of the “green” landscape. Zoning regulations are arguably the most important instrument to prevent “red” encroachment into the “green” space. If a farm happens to be located in an area that is destined to become ‘red’ in the future, this will increase the value of the farmland today, in anticipation of the higher price that can be fetched by selling the land in the future.

The presence of zoning restrictions, and more specifically the knowledge that the zoning may change in the future, creates an option value, or opportunity cost of selling the land now rather than waiting until the new zoning becomes known. This option value will be reflected in today’s land prices and may be a sizeable component of a farm’s asset base. Zoning into “red” and “green” creates economic winners and losers: if the land of a particular farm is destined to stay (or become) ‘green’ its value is lower than that of its counterpart who draws the “red” ticket. Some examples of zoning in OECD countries are provided below.

In France, prior to 1983, the Ministry of Agriculture was the sole decision-maker for agricultural land zoning. After this date decentralization moved this power to municipalities, each of which established their own *Plans Locaux d’Urbanisme* (PLU). Since 1999 municipal lands may also be protected by special *Zones d’Agriculture Protégée* (ZAP). While these provisions are designed to reduce the mobility of agricultural land to other uses, in practice PLUs are often modified and ZAPs are relatively rare. Municipalities are also interested in housing and industrial development in order to attract financial resources.

In Norway, the main purpose of the Land Act is to permit land resources to “be managed in a way that ensures an appropriate, varied system of use with a view to the development of the local community and with emphasis on settlement, employment and effective solutions” (Andersen, 2006). According to the Act, agriculture and forestry property cannot be divided without the consent of the Ministry of Agriculture and Food.

In Korea, several laws are applied to the use of agricultural land. The Fundamentals of National Land Act (FNLA) develops the comprehensive national plan, while the National Land Use and Plan Law (NLUPL) manages land zoning at the municipal level. Provinces and municipalities designate agricultural land that is part of the Agriculture Development Region (ADR). To convert land from the ADR to other uses, permission must be sought from the Minister of Agriculture and Forestry. This may only be

successful in special cases, for example for farmers to install processing facilities for agricultural products, to develop agricultural villages, or to build their homes.

Purchase and sales of agricultural land, inheritance

Individual property rights are well established in most OECD countries. In some countries, there are few or no restrictions on the purchase and sale of agricultural land. In France¹² and Norway, as in many other countries, the transfer of farmland is heavily regulated (Box 4.3).

Box 4.3. SAFER in France and Family Farms in Norway

In France, the transfer of farmland is regulated by the *Sociétés d'Aménagement Foncier et d'Établissement Rural* (SAFER). SAFERs are non-profit, public organizations controlled by the State. They use three main tools:

- *An obligation for information.* Each sale must be notified to the SAFER of the administrative region. The SAFER must accept or refuse the transaction within two months. The SAFER accepts the transaction if it is not thought to be for speculative purposes. The transaction may be rejected under certain circumstances, including: the agreed price is not considered representative of market prices, a sale would imply the dismantling of a farm, or a sale would allow an established farmer to enlarge his farm to the detriment of younger farmers. In this case, the SAFER exercises its pre-emptive right to acquire the land, at the previously agreed price, on condition that the agreed price was representative of market prices.
- *Negotiation power.* The SAFER undertakes discussions with the seller and buyer to try to reach a price that is judged more in line with market prices.
- *A pre-emptive right.* This allows the SAFER to acquire the land and then find a buyer or renter who better fits the mission of the SAFER. The pre-emptive right is used only if a mutually agreeable sale cannot be reached. The seller receives the same price and conditions as originally foreseen, the only change is the buyer. This instrument is rarely employed, and most agreements are reached amicably.

Despite the effort of SAFERs to regulate the market, about 80% of the value of rural land sales (representing about 25% of the area sold, the total market accounting for about 1.3% of agricultural land) is accounted for by non-farmers. This illustrates that the principal factors that influence rural land prices are not related to agriculture policy.

In Norway the transfer of agricultural land is heavily regulated. As a result of a policy designed to preserve family farms, most transfers of farms occur inside the family. The three main laws constitute the core of this policy:

- The Concession Act regulates the sale of land. The Municipal Council takes into account factors such as price, the qualifications of the acquirer, and the interests of other settlements in the area. The Ministry of Agriculture gives guidelines for the valuation of agricultural and forestry land. Sales within the same family are not subject to this Act.
- The Land Act regulates the permissible uses for agricultural and forestry land, as well as the rules for division of land. Agriculture and forestry land cannot be divided without the consent of the Ministry of Agriculture and Food.
- The Allodial Act is an ancient Norwegian inheritance law whose purpose is to keep agriculture and forestry properties within the same family. Descendants automatically inherit the Allodial right, but an acquirer outside the family can only obtain it after having owned, lived, and operated on a farm for 20 years.

High transactions costs can contribute to low land mobility. These costs may be related to problems with the identification of land, inadequate records, land co-ownership, etc. In some countries, group ownership continues to co-exist with the private market. In Mexico social property (*Ejidots* and *Comunidades Agrarias*) or collective ownership is regulated by a complex legal structure and accounts for more than half of total land area. A complex legal structure for ownership is also found in many new member States of the European Union, although the situation is rapidly evolving. Accession to the European Union introduces an improved legal and institutional framework, and therefore should contribute to increased land mobility between alternative uses.

Complex rules and regulations often govern whether and how assets may be divided between inheritors. In Korea, the Civil Code stipulates that land and other assets must be distributed equally amongst the surviving spouse and children. In Norway, the *Allodian Act* gives the family a special legally protected right to keep agricultural property in the family's possession. In France inheritance laws, based on the Napoleonic Code, require an equal division among all the children of the deceased, but over the years, a series of measures have been developed to mitigate the negative effects that this would otherwise have on the farm structure. In both Germany and France the heir wishing to carry on the farming business may be able to compensate the other co-heirs at preferentially assessed land prices applying to agriculture. This may represent, nevertheless, significant entry costs into the sector. Overall the effects on asset mobility and asset values are extremely difficult to evaluate. In Australia, Ireland, Canada, New Zealand, the United Kingdom and the United States, there would not appear to be any restrictions on the transfer of agricultural assets to heirs.

Korea has in the past imposed restrictions on who can own agricultural land, the conditions governing transfer, sale and rent in the land market, and the maximum size of farms. These restrictions severely curtailed mobility both within the sector and between agriculture and other sectors. In recent years, many of these provisions have been relaxed or removed with a view to allowing greater mobility and improving farm structures. Recent policy reform has focused on improving the financial viability of farms by facilitating land rental markets. The limit on farm size, 10 ha within the Agriculture Development Region and 5 ha outside, was only recently abolished in 2002. Nevertheless, small family farms continue to dominate agriculture in Korea. Japan has also experienced a similar evolution in the reform of its land policy (Box 4.4).

Box 4.4. Agricultural Land Reform in Japan

In Japan, the 1952 Agricultural Land Act (ALA) played a major role in reforming the land tenure system. Land ownership, previously dominated by a small number of landlords, was made accessible to the general population through government purchase and sales. Land rental rates were set at low levels, with strong restrictions on the terms of cancellation and renewal, thus making it more attractive to farm own land. However until 1970, the maximum size farm owned by an individual was restricted to 12 hectares in Hokkaido and to an average of 3 hectares in all other prefectures. As a result, independent farmers working small plots became the norm. The ALA has since undergone several amendments relaxing the restrictions on the ownership and renting of farmland.

With economic growth and consequent urban pressure, farmland prices rose and it became increasingly difficult for farmers to expand through the purchase of land. The Agricultural Land Use Promotion Project (ALUPP) was established in 1975 to facilitate the land rental market. Rental transactions quickly surpassed purchase and sales; nevertheless, by 1995 the area of rented land accounted for only 12% of cultivated land in Japan. In 1993 the Agricultural Management Framework Reinforcement Law was enacted to promote large-scale family farming with a focus on renting farmland. Despite these numerous reforms aimed at improving the cost efficiency of farms by expanding the scale of operations, the average farm size in Japan remains small.

Environmental cross compliance and environmental restrictions

The term “cross compliance” is used to denote conditionality that links a policy measure, aiming to serve a given (primary) objective, to one or more requirements relating to a different (secondary) objective. The definition of environmental cross compliance used in this study is the conditionality that links the receipt of support payments to the fulfilment of specific requirements related to environmental objectives. Eligibility to participate in the program depends on criteria laid down as part of the primary objective, which may for example be income support. To receive payment the eligible farmer must comply with certain clearly specified and enforceable conditions relating to the secondary objective, protection or enhancement of the environment. Failure to comply with these conditions results in partial or complete withdrawal of the support payment.

In contrast, “direct compliance” through agri-environmental restrictions or conservation measures aim to improve the environment through targeted incentive payments. Eligibility for payments depends on whether the farmer satisfies clearly specified criteria that are determined as a function of the environmental objective(s). Receipt of the payment depends on direct compliance with these criteria, and the size of the payment is determined as function of the environmental objective(s). Which type of policy is more effective for achieving environmental objectives is fully discussed in OECD (2007).

Environmental cross-compliance and restrictions probably reduce asset mobility for the production factors concerned. To be binding, these policies will by definition constrain farming practices that were already or would otherwise be adopted. Profitability, and therefore market returns may be affected, with negative consequences for asset values.

Several OECD countries provide income support with environmental cross compliance provisions. In the European Union, the 1992 CAP reform replaced market price support with direct payments. One of the goals was to reduce crop production in the EU and thereby lessen water pollution by fertilizers. Agri-environmental measures permitted farmers to transform arable land into pasture. Such conversion needed to be maintained for at least five years and be followed with implementation of low stocking density on pastures. The 2003 CAP reform further decoupled support from production by removing direct links between payments and current production, subject to the cross compliance condition that land is kept in good agricultural condition. In Switzerland direct income payments subject to environmental cross compliance are available on all agricultural land, regardless of use. In the US the swampbuster and sodbuster programs provide direct payments to farmers not to cultivate land that is marginal for crop production or that is more valuable to society in its current state. Since the land was not being cropped, this specific situation sets limits to the use of vulnerable land by directly altering participants’ property rights. In Japan the Basic Plan on Food, Agriculture and Rural Areas provides support conditional on eco-friendly farming activities.

Examples of environmental restrictions can also be found in several OECD countries. The European network Natura 2000 aims to conserve biodiversity. EU member states are required to introduce measures that allow the preservation of habitats. In France this will most likely involve the creation of nature reserves. In Mexico, a number of restrictions are in place (Box 4.5) including measures related to species biodiversity, soil erosion, water quality, native vegetation and forests/tropical jungles. In Japan a survey will be

conducted in 2007 to collect information that will be used to implement “Direct Payments for the Environment”.

Box 4.5. Environmental restrictions in Mexico

In Mexico activities that might affect the environment or cause a change in the use of land must have authorization from the Secretaria de Medio Ambiente y Recursos Naturales. An impact analysis must detail actions required to minimize potential adverse effects on the environment. Regulations and restrictions related to the protection of the environment include the following:

- Forest lands cannot substitute native vegetation with commercially-exploitable species unless it can be proven that such a change will not have a negative effect on biodiversity, or that the native vegetation is of little commercial or biodiversity-related value.
- Forest land cannot be converted to another use without authorization from the Secretaria de Medio Ambiente y Recursos Naturales. Authorization is granted only if the owner can prove that the change will not endanger biodiversity or cause soil erosion, that the quality and quantity of available water will not be affected, and that the proposed use is more productive in the long term.
- Ejido land that has been declared “protected natural area” cannot be urbanized. Ejido land that contains forests or tropical jungles cannot be converted into private property.
- Authorization can be denied by the Secretaria de Medio Ambiente for activities that may cause a species to become endangered or that may affect an endangered species.

Price regulations

Price formation on land markets is sometimes subject to government regulations, and this has immediate consequences for the level of land prices and for the mobility of land between alternative uses. For example, if transaction prices are capped such they cannot exceed a certain maximum, then the capitalisation of policies into land prices will be limited.

Price regulations will tend to limit the mobility of assets between owners, since the market cannot easily match supply and demand by freely adjusting prices. The potential seller of the asset will have little incentive to sell if land prices cannot adjust in the upward direction to reflect policy capitalisation or other factors.

In addition, price regulations, like virtually all regulatory interventions in markets, will tend to lead to side effects that emerge from behaviour that seeks to circumvent the regulation. If no match between supply and demand can be found at a regulated price below the market clearing level, side payments may have to come into play to clear the market. ‘Key money’ in regulating rental housing markets is a common example of this phenomenon.

Summary

The framework proposed in this chapter categorises all forms of government support to the agriculture sector. This framework encompasses agriculture specific support, tax policies with preferential conditions for agriculture, and regulatory measures. Quantifying how these policies impact agricultural production and asset mobility is difficult and depends on the availability of appropriate data and parameters for use in analytical models.

The impact of agriculture specific support (category 1) can be quantified, as was shown in Chapter 2, using the PSE data as an input into the PEM. The impact on land rents of market price support, output support, production limits, and payments based on area or animal numbers can be analysed along with their incidence on production decisions. On the other hand, support provided on the basis of historical entitlements pose some new analytical challenges because the support is no longer tied to current production decisions. In addition, these new policies tend to be more complex –for example how a policy is applied may differ by region within a country. Therefore the details of implementation criteria are crucial.

Analysing the extent to which tax policies and regulatory measures (categories 2 and 3) have an impact on agricultural production and asset mobility is even more difficult. The measurement of policy “quantity”, in PSE units or some other yardstick is fraught with difficulties, particularly for regulatory measures. Even when data is available, quantitative analysis requires translating this information into suitable analytical frameworks and requires extensive modelling. This paper does not attempt to quantify the impact of tax policies and regulatory measures.

The five case study countries (Japan, Korea, France, Mexico, and Norway) give a flavour of the diversity in national policies that can influence the purchase and use of agricultural assets. Beyond the country case studies, it appears that many other OECD countries apply some form of preferential treatment to agriculture. On the other hand, some countries have few policies that differentiate agriculture from non-agriculture activities. Differences of approach among member countries may be due to a variety of factors, perhaps the most important of which is differences in societal preferences. Therefore countries choose their own balance depending on mix of economic and social factors. Some countries intervene extensively to assure a particular structure such as family farms, others impose few restrictions addressed at agriculture in particular.

Nevertheless, information obtained from government documents and other sources in selected OECD countries suggests that, in many cases, these policies have a significant impact on asset values and mobility. Given the eclectic nature of the information obtained, it is not possible to draw a comprehensive picture of the situation for all OECD countries even if a limited attempt has been made to include information on as many countries as possible. Therefore, the qualitative assessment presented of tax policies and regulatory measures is limited by the nature of the information on hand, and in particular may be “biased” towards the higher degree of detail available for the five case studies. This chapter shows that:

- Agriculture specific policies tend to get capitalized in farm assets, in particular land. With support increasingly being tied to land this tendency is reinforced.
- Many tax exemptions and specific provisions are tied to agriculture. These provisions tend to tilt incentives towards agriculture relative to other activities and tend to increase the value of agricultural assets. However, the impact of these policies is difficult to measure.
- On the other hand regulatory measures, in particular zoning, restrict asset mobility and may have a depressing effect on agricultural asset values.
- Inflated asset values form a barrier to entry. They may also reduce the need for less efficient producers to restructure or leave the sector.

Notes

1. Various documents and internet sites providing information on, for example, income tax rules, inheritance laws, and zoning regulations.
2. A summary of these case studies is presented in Annex 2. The choice of case study countries aims to demonstrate the diversity of policies that exist in OECD countries. The choice of countries is not intended to reflect the average or typical OECD country.
3. Non-agriculture demand for land is a vast topic in itself, and beyond the scope of this study.
4. PEM includes a sub-module to specifically deal with the problem of identifying the “underlying” supply curve for commodities subject to a production quota regime.
5. Conceptually, some environmental policies may be seen as special type of area or input subsidy (or tax), depending on the implementation criteria. Some of these may already be measured by the PSE (OECD, 2005b).
6. Sensitivity analysis could be employed to give a general assessment of how each of the elasticities affect model outcomes –however the missing link is the impact of specific policies, such as zoning requirements, on the size of the elasticities.
7. The general theory is applicable to other commodities.
8. The literature related to supply control is vast and a full discussion is beyond the scope of the present study.
9. This second case corresponds to the bond scheme system as proposed by Tangermann (1991), see also Swinbank and Tangermann (2001).
10. The policies that operate in Ireland are described in detail in OECD (2005c).
11. Tax concessions to inputs, for example fuel and fertilizer, should in principle be captured by the PSE under input subsidies respectively.
12. The farmland market in France is not representative of the European situation. The French market is heavily regulated, which plays a role in price formation –farmland prices in France are amongst the lowest in the European Union (Terres d’Europe : Le Marché Immobilier Rural 2005.
http://www.safer.fr/6-actualite/resume_MIR2005.pdf).

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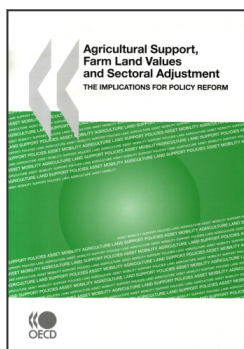
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