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Smallholder Adjustment in Middle-Income Countries

ISSUES AND POLICY RESPONSES

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Jonathan Brooks

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SMALLHOLDER ADJUSTMENT IN MIDDLE-INCOME COUNTRIES: ISSUES AND POLICY RESPONSES¹

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Introduction

The agricultural sectors of middle income countries are transforming rapidly, as part of the broader process of economic development. Much of the resulting adjustment pressure falls on less competitive smallholders, who either need to participate in productivity gains and become more competitive, diversify their income sources (within or outside the sector), or find alternative employment.

This paper discusses the adjustment pressures that smallholders face, considers the types of policy responses that are warranted, and proposes an integrated framework for more inclusive agricultural development.² That framework builds on a matrix that was developed for the recently published *Review of Agricultural Policies: Chile* (OECD, 2007). The focus of the paper is primarily on the challenges facing middle income countries, which are now going through a phase of adjustment that the majority of OECD countries have already experienced³. The problems addressed are thus of a different nature to the broader questions of how to promote development in low-income countries, that are still heavily dependent on agriculture.

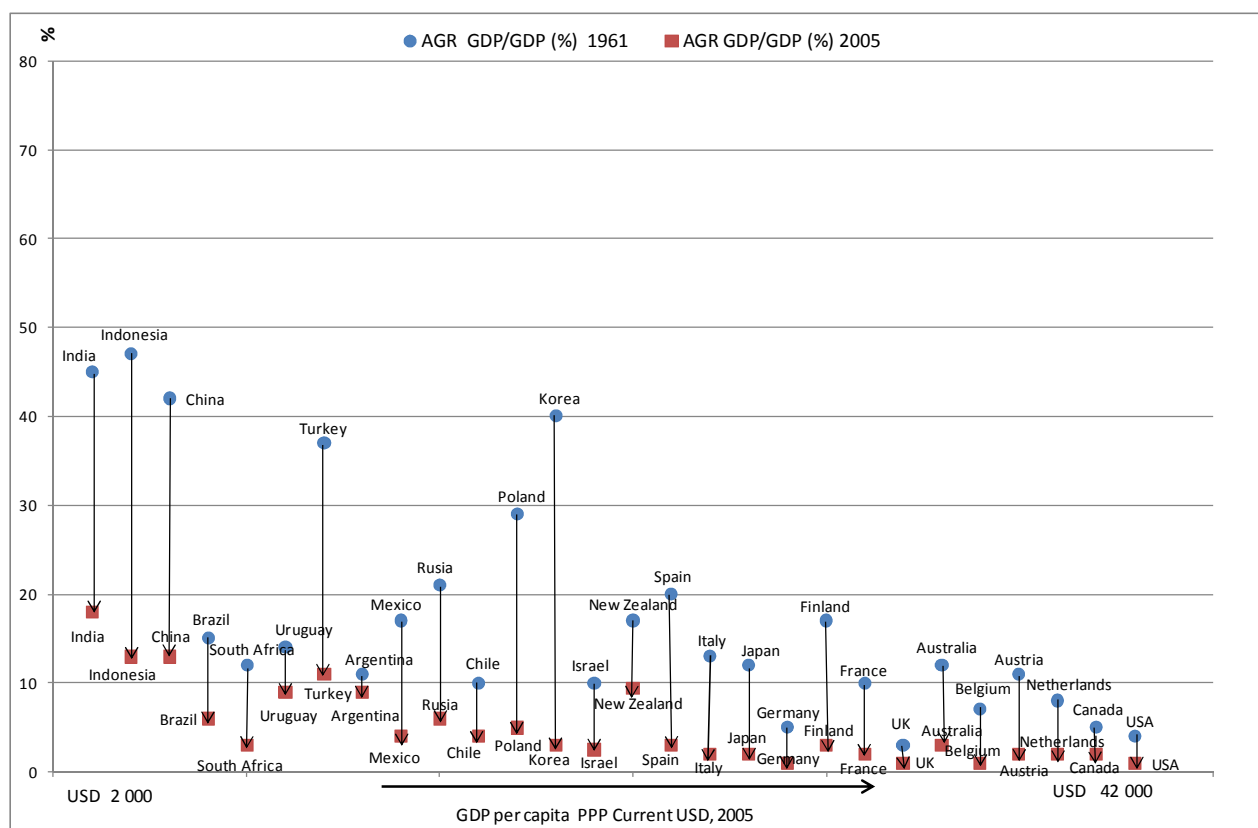
Adjustment pressures in agriculture

Agricultural adjustment is an endless process, and has many facets, some of which are country-specific, but many of which are universal. Across countries, agriculture's importance to the overall economy tends to diminish over time. Figure 1 shows how agriculture's share of GDP changed between 1961 and 2005, with countries ordered according to their GDP per capita. The first point to note is that there is a strong inverse correlation between agriculture's share of GDP and GDP per capita. High income OECD countries typically have no more than 2%-3% of GDP generated by their farm sectors. A second, and consistent, observation is that agriculture's share of GDP has declined in *all* countries, including those with a strong comparative advantage in agricultural activities. A third point is that the decline of the share

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1. This paper was originally prepared for the 2008 OECD Global Forum on Agriculture, held on 20-21 November 2008 in Paris. The authors are grateful for comments received at that meeting and for earlier comments from OECD colleagues.
 2. Here the term smallholders is taken as shorthand for producers who struggle to remain competitive because their endowments of assets compare unfavourably with those of more efficient producers in the economy. A common limiting factor is insufficient farm size, although other assets, such as farm management skills, may also be lacking. It is important to note that what constitutes a small farm may differ markedly from one country to the next. For example, the average farm size in many Asian countries is less than a hectare, while much larger operations in Latin America may be considered as small.
 3. According to the World Bank's classification, there are 95 middle income countries. Those for which OECD currently provides policy coverage are: Brazil, Bulgaria, Chile, China, India, Latvia, Mexico, Poland, Russian Federation, South Africa, and Turkey.

of resources in agriculture has been larger for countries with lower incomes, which have more scope for agricultural productivity improvements and for shifting resources into new non-farm activities (in developed countries, that shift has already occurred). There are some exceptions, such as Brazil and Chile, where the changes have been large in absolute terms, but low relative to other countries at similar income levels. In these particular countries, import substitution industrialisation policies led to a rapid growth in manufacturing prior to the base year, bringing down agriculture's share of GDP; while more recently the liberalisation of policies has mitigated the tendency of resources to shift out of agriculture, as these countries have exploited their natural comparative advantage in agricultural activities.

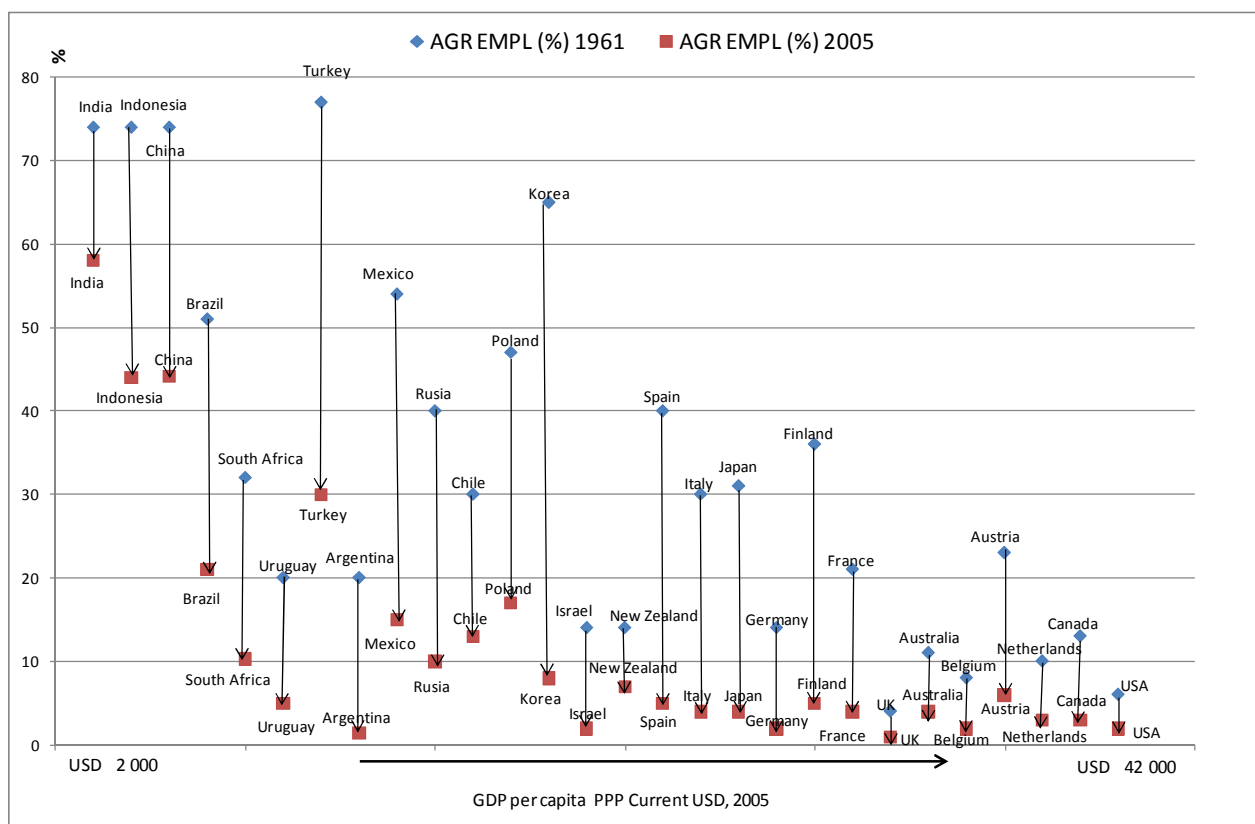
Figure 1. Evolution of agriculture's share of GDP in various countries (1961 and 2005)



Source: FAO (1999); WDI (2008); IMF (2008).

Similar patterns are observed when one looks at the evolution of agriculture's share of employment over the same period (Figure 2). A key feature here is that, for most middle income countries, the decline in agriculture's share of employment has been more rapid than the fall in the sector's share of GDP. Also, whereas agriculture's share of GDP has fallen substantially for nearly all developing countries, the labour adjustment has been larger for middle income countries than for lower income countries. The reason here would appear to be that while non-agriculture's share of GDP is rising across countries, it is in the middle income countries that alternative employment possibilities have become more widely available and the transition of labour out of semi-subsistence farming has really got underway.

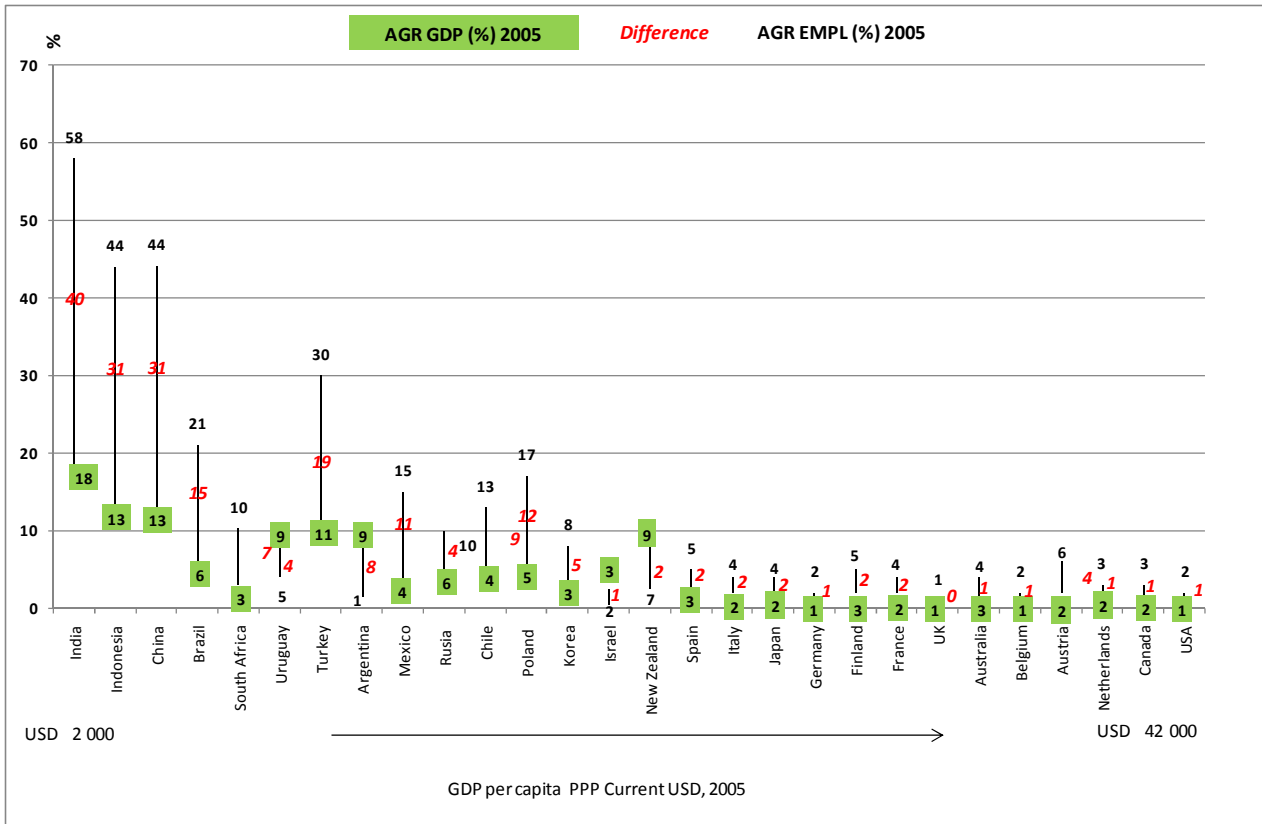
Figure 2. Evolution of agriculture's share of employment in various countries (1961 and 2005)



Source: FAO (1999); WDI (2008); IMF (2008).

The difference between agriculture's share of GDP and its share of employment reflects differences in labour productivity between the agricultural and non-agricultural sectors. As countries develop, this difference tends to narrow (Figure 3). In some countries (Argentina, Israel, New Zealand, and Uruguay) labour productivity is actually higher in agriculture than in other sectors, reflecting (a) the fact that the transition of semi-subsistence farmers out of agriculture has already taken place, and (b) that relatively more land and/or capital are applied. One needs, however, to be careful in interpreting these data since the definition of agriculture used to measure GDP may not be the same as the definition of agriculture according to which employment is recorded.

Figure 3. Difference between agriculture's share of GDP and employment in various countries (2005)



Source: FAO (1999); WDI (2008); IMF (2008).

What is clear is that the pace of adjustment is speeding up (Table 1). Whereas it took a century or more for agriculture's share of GDP to fall from 40% to 7% in OECD countries that went through the industrial revolution early, middle income countries are effecting these changes in three decades or less. This accelerating change is matched by a rapid release of labour out of the sector. In Korea, agriculture's share of employment fell from 40% to 16% in just 14 years – a transition which took 53 years in the United States and 68 years in the United Kingdom (the first country to go through the industrial revolution).

Table 1. Pace of adjustment in various countries, based on agriculture share of GDP and employment

	Agriculture share of GDP			Agriculture share of employment		
	Year of 40%	Year of 7%	Years required	Year of 40%	Year of 16%	Years required
Netherlands	1800	1965	165	1855	1957	102
Denmark	1850	1969	119	1920	1962	42
UK	1788	1901	113	1800	1868	68
Chile	1875	1980	105	1950	1993	43
Mexico	1890	1992	102	1969	2000	31
USA	1854	1950	96	1897	1950	53
France	1878	1972	94	1921	1965	44
Brazil	1910	2003	93	1960	2005 (20.5%)	>45
Germany	1866	1958	92	1900	1942	42
Japan	1896	1969	73	1940	1971	31
Poland	1935	1991	56	1968	2006 (18.7%)	>31
India	1962	2006 (17.5%)	>44	2005 (58%)		--
China	1967	2006 (11.7%)	>39	2006 (43%)		--
Turkey	1970	2007 (8.9%)	>37	1998	2007 (28.7%)	>9
Korea	1965	1991	26	1977	1991	14
Indonesia	1971	1997	26	2006 (42%)		--

Source: Adapted from Kim, H. and Lee, Y.K. (2003).

The reasons for agriculture's declining relative economic importance are well documented (for an overview, see Timmer, 1998). On the demand side, income elasticities for food tend to be less than for other consumption so that the demand for food does not grow as fast as demand for other goods. On the supply side, total factor productivity typically rises faster in agriculture than in other sectors of the economy (Martin and Mitra, 2001). Moreover, technical innovation associated with agricultural productivity growth is labour saving which has permitted the reduction of the share of labour devoted to production (Johnson, 2000). These combined developments permit the release of resources, especially labour, to other sectors. In absolute terms, the agricultural sector may nevertheless continue to expand. Pressures for farm resources to shift into other sectors may be lessened by the scope for increased exports in countries with a comparative advantage in agricultural activities, or reinforced by pressure from imports in the case of countries with a comparative disadvantage.

Who faces adjustment pressure as a result of these changes?

The farmers and households facing adjustment pressure are those which cannot compete with efficient domestic agricultural businesses or with imports. With technology improving, and more efficient use being made of scarce resources, including the exploitation of scale economies, smallholders that do not participate in sectoral cost improvements will inevitably face pressures on their incomes. Faced with this pressure (and in the absence of protection), there are two options: adjust by joining the ranks of efficient commercial producers, or seek to bridge the gap by obtaining additional income from other sources – either by diversifying the household's income sources or by exiting the sector altogether.

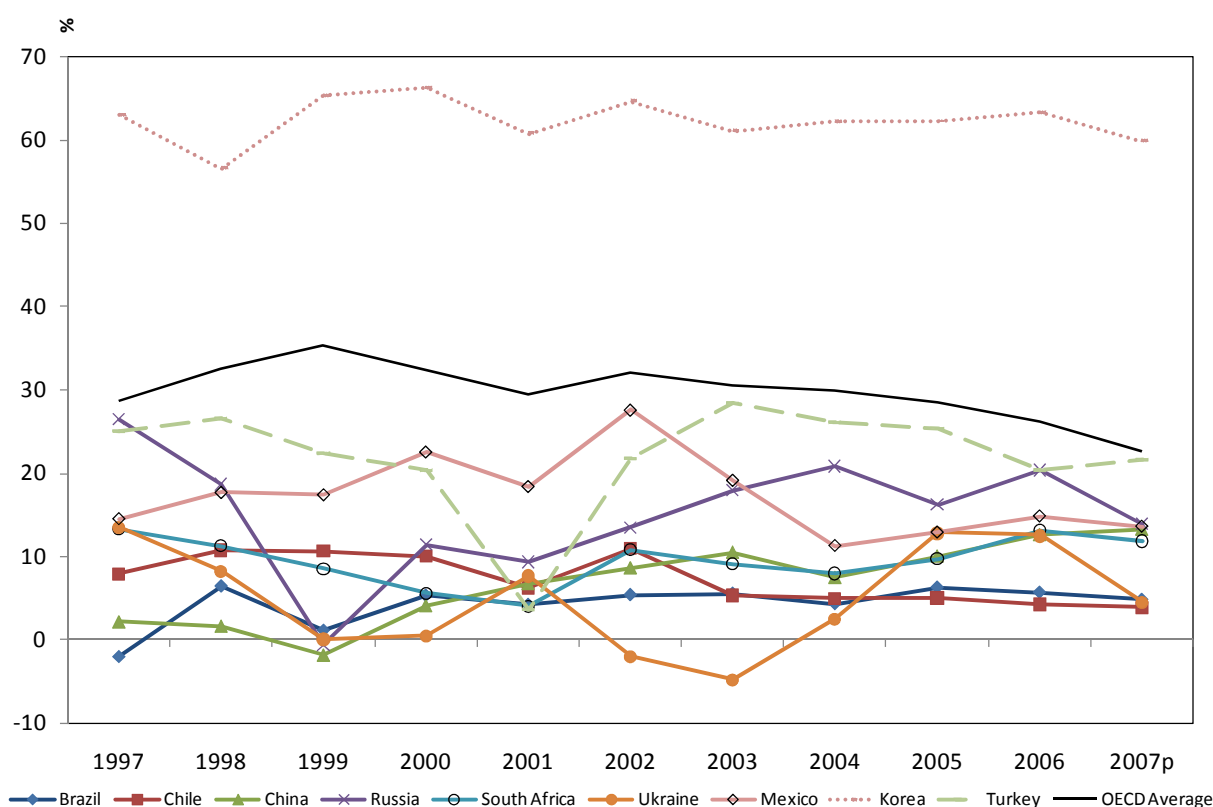
How have governments responded?

If farm households' incomes are comparable with incomes in other sectors, and farm households can adjust seamlessly to adjustment pressures, then there would be no need for a policy response. But semi-

subsistence farmers often have relatively low incomes which are put under further pressure by productivity improvements in which they do not participate. Hence there may be a need for help both in making suitable adjustments and in cushioning the effects of income pressures. One problem with protecting against income declines is that this may discourage households from adjusting in the first place – hence the need to recognise that agricultural support is a poor substitute for social protection and that it can undermine broader development initiatives.

Most OECD countries have provided significant support to their farmers. Over the past ten years, producer support as a share of gross farm receipts, the %PSE, has fallen from just over 30% to 23% in 2007. For the nine emerging economies covered by OECD’s Monitoring and Evaluation exercise – a group which includes three OECD members (Korea, Mexico and Turkey) and six non-members (Brazil, Chile, China, Russia, South Africa and Ukraine) – producer support has been consistently lower for all except Korea (Figure 4).

Figure 4. Evolution of the PSE’s in OECD and selected countries, 1997-2007



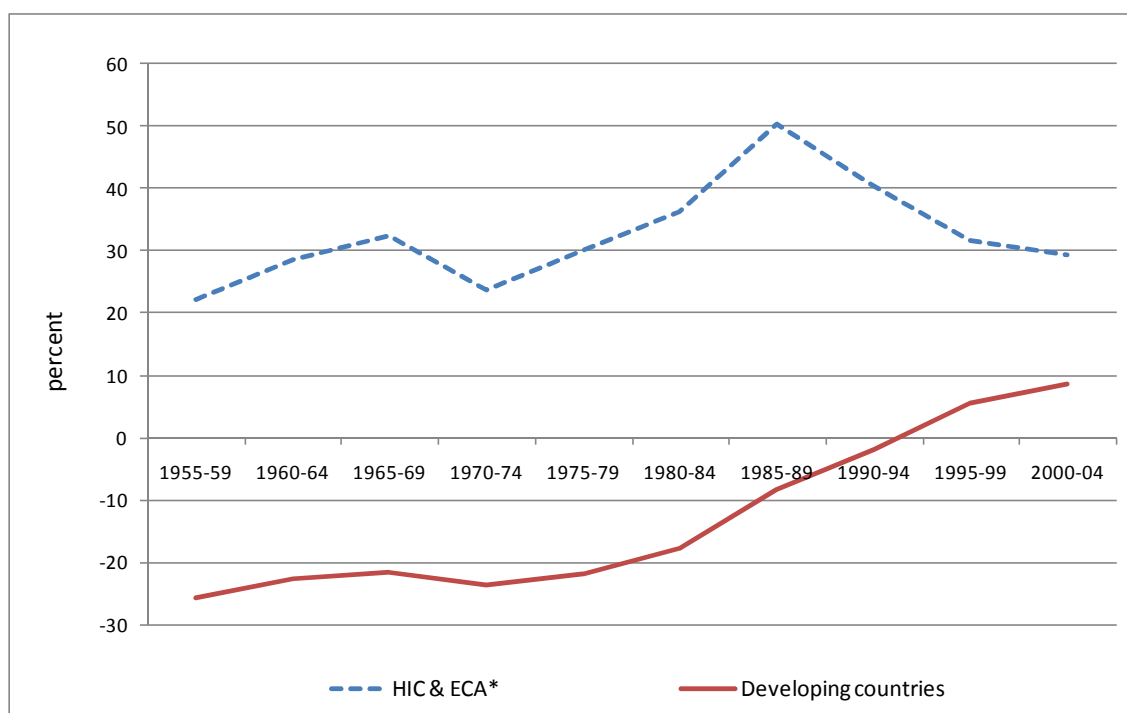
p = preliminary.

Source: OECD PSE/CSE Database (2008).

Support in OECD countries has in many cases sought to put a brake on the process of adjustment rather than facilitate it. In general terms, income support has not discriminated in favour of smallholders. First, support is often provided across the sector as a whole, even though there is no widespread evidence that farm households in high income OECD countries are on average poorer than non-farm households (OECD, 2003; OECD 2002; OECD 2008a). Second, a large share of support is still provided through market price support, which is linked to production and concentrates benefits among large producers rather than smallholders.

As incomes rise and as agriculture's share of employment decreases, countries can afford more easily to provide support to their agricultural sectors (Figure 5). In a recent study, Anderson *et al.* (2008) note that whereas the total nominal rate of assistance (NRA) which measures the ratio of domestic farmgate prices to adjusted border prices, has fallen in high income countries since the mid 1980s, it has risen in developing countries. In the past ten years, developing countries have, on average, started to subsidise their agricultural sectors rather than tax them. Some caution needs to be exercised in interpreting these numbers, as the NRAs are weighted averages for import-competing products, exportables and non-tradables, and in some cases different patterns can be observed when these categories are treated separately.

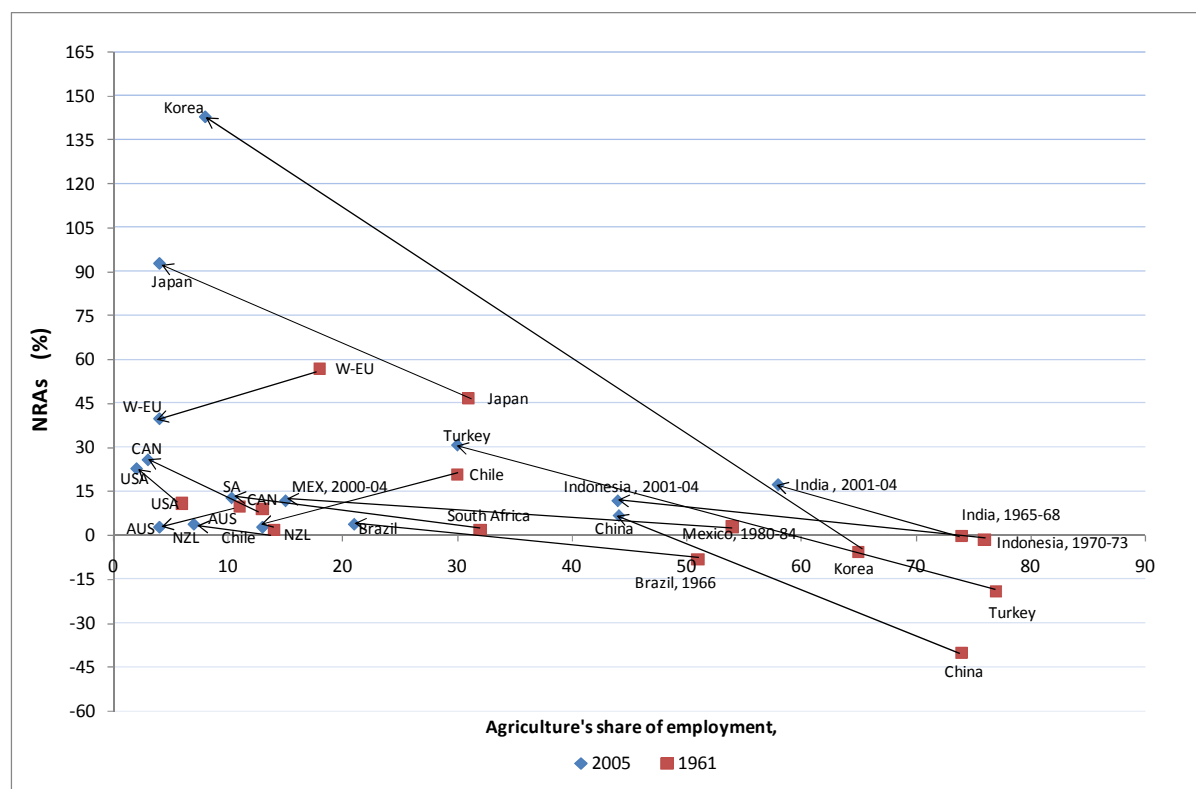
Figure 5. Nominal Rate of Assistance to agriculture in developed and developing countries, 1955-2004



* HIC= High income countries; ECA=Eastern European and Central Asia countries.
 Source: Anderson *et al.* (2008).

Figure 6 also helps to illustrate the connection between the level of protection and agriculture's share of employment. The horizontal axis shows agriculture's share of total employment, while the vertical axis measures the NRA. The arrows show the movement for each country between 1961 and 2005. For nearly all emerging economies, the arrow points to the north-west, indicating an increasing rate of protection as labour leaves the sector, whereas the pattern for high income OECD countries is mixed. The arrows are also much longer for emerging economies, as more dramatic structural changes have taken place, and the associated change in protection has been larger. Interestingly, developing countries have undergone significant adjustment, seemingly irrespective of whether the rise in protection has been large or small.

Figure 6. Level of support and agriculture's share of employment, 1961 and 2005, selected countries



Source: Anderson *et al.* (2008); FAO (1999); WDI (2008).

As pressure for support in emerging economies increases, it is important that policies for smallholders facilitate adjustment. This calls for a logical framework that acknowledges two important things. First, the long-term, *i.e.* inter-generational, future for the majority of smallholders cannot exclusively lie in farming; hence there is a need for policies that enhance households' opportunities outside the sector as well as within it. Second, in order to improve both agricultural competitiveness and the prospects for earning more outside the sector, the most important policies may not in fact be agricultural policies. It is therefore important that smallholder policies are framed in an economy-wide context, with agricultural policies a component of the overall policy mix.

A strategic framework for smallholder development

A strategic framework for smallholder development policies needs to make a distinction between those who potentially have a competitive future in the sector and those who do not. If the policy objective is simply to keep as many smallholders as possible in farming, then that needs to be stated explicitly, as it is not possible to have coherent policies that simultaneously seek to improve productivity and competitiveness, and yet provide enough protection that smallholders do not face competitive pressures. On the other hand, if the policy objective is to encourage a productive and competitive agricultural sector, then there is a need to embrace structural adjustment and identify policies that can facilitate that process.

The premise of the proposed strategic framework is that different types of agriculture-dependent households will have different potential pathways to improved incomes over the long term, and correspondingly different policy requirements. Development pathways and policy instruments are described in Table 2. The development pathways are described in the columns, and the policy instruments

in the rows. The first column (improving competitiveness within agriculture) applies to farm households only, but the other columns apply to both farm households and salaried worker households. Note that the development pathways (columns) are not mutually exclusive: for example, one household member can enhance the farm's competitiveness while another provides off-farm income. Also, the instruments (rows) do not exhaust all possible policies, but focus on those with persuasive arguments.

Table 2. Strategic framework for more inclusive agricultural development

<i>Policy instrument</i>	<i>Development pathway</i>				Safety nets for those unable to adjust
	Help farmers become more competitive within agriculture	Diversify income sources		Leave the sector for off farm work	
		Within agriculture	Outside agriculture		
Investment in human capital	Minor effects of formal education for this generation; technical training more appropriate for productivity.	Can help farm family members and rural workers move into skilled jobs	Important for farm family members and rural workers	Important for managing inter-generation change	
Investment in infrastructure	Helps with market integration	Helps improve local job opportunities		Can ease migration decisions for offspring	
R&D and extension	Public and private sector important; gains from adoption and adaptive research.	Can expand agricultural employment			
Credit	Should focus on correcting market failures	Indirect impacts			
Labour market reforms		Important for raising employment opportunities and wage incomes			
Cash transfers (possibly conditional)				Conditional school attendance may complement investments in schools	The most important policy for those unable to adjust. Some examples: Chile solidario, Oportunidades, Mexico, Bolsa Familia, Brazil.
Regional policies	Important for improving market integration	Expanded non-farm activity would raise farm wages	Important for building a diversified rural economy with wider job opportunities		
Develop producer associations	Reduce transaction costs and help exploit economies of scale	Indirect impacts			
Land policies and property rights	Need to encourage rental markets and facilitate land purchases by small farmers				

Source: OECD (2008c).

Improving the competitiveness of farm households

In respect of farm households, it is important to have a realistic view of which farmers are likely to succeed within the sector. Although farm numbers are likely to decline, in many cases this is likely to reflect the dynamics of structural change, which include a consolidation into fewer and more efficient enterprises, rather than the inherent non-viability of farming in existing areas.

The main role for agricultural policy would appear to be in providing public goods that can improve competitiveness, but impose few distortions to incentives at the margin (such as investments in infrastructure, in skills and training, and R&D). Such investments are unlikely to crowd out the development of other activities and potential income streams, although they are likely to accelerate the shake-out between more and less competitive farmers. Most of the relevant expenditures would need to be made at the economy-wide or sectoral level as opposed to payments to individuals. A possible exception is credit policies. Access to credit is important for smallholders, and private credit markets may find it not worthwhile engaging with smallholders, simply because of their size and the difficulties of becoming informed about the creditworthiness of many small operations. In these cases, there may be a case for government policies, although the focus should be on correcting endemic market failures, rather than simply providing subsidies.

In many emerging economies rental markets function poorly. Rental contracts can help compensate for market failures, provide flexible responses to economic and productive incentives, allow farmers to invest in farming capital, and help the poor and young gain access to land under conditions that are less demanding than those required to participate in land sales markets. Renting land may also be a first step to future land acquisition. The underdevelopment of rental markets may prevent the consolidation of land into more productive units, thus impeding agricultural investment and making it more difficult for uncompetitive farmers to diversify out of the sector.

Income diversification for farm households and salaried agricultural workers

There is evidence that income diversification is important for many farm households. For the poorest farm households, many of which may be wholly dependent on farm income, this is likely to provide some insurance and is in effect a “coping” strategy. For other farm households, the direct links between off-farm income and total income are less clear, but having one or more family members draw income from outside agriculture may be the start of a successful move into more remunerative activities. Policies that support farm income alone, such as market prices support, act as a disincentive for income diversification, providing an argument for their reform. The key policies required to help households diversify their income sources are again those that improve human capital. Regional development policies, including the development of rural infrastructure, may also have an important role.

Leaving the sector for skilled employment

In many emerging economies, the conditions of salaried agricultural work are at least as important as the development of small scale farm entrepreneurs. Labour market policies have an important role in ensuring that core standards of employment are met. Improved labour market flexibility has been suggested as a way of reducing informality. The key would appear to be investment in the education and skills that would enable households to obtain higher wages, typically outside the agricultural sector.

Regional development programmes may also have a role in bringing jobs to people (rather than the other way round) and prevent the problems of migration into the cities. However, rural policies are not fundamentally agricultural policies (nor vice versa). Income differences point to the need for public

investments in poorer areas. Such regional policies can boost development within and outside agriculture, but without prejudicing individual household decisions.

Social policies

Many poor households, notably older ones, face severe limitations in their adjustment potential, irrespective of the policies that are in place (for example, resource poor and post retirement age farmers). Hence there is a strong need for social programmes. These policies can lift households out of poverty even if they cannot deliver “development”. Investments in human capital (notably education) and measures such as contingent cash transfer can ensure that the next generation makes a quantum leap in terms of development.

Conclusions

Agriculture faces adjustment pressures as part of the general process of economic development. As productivity in the sector improves, resources are released from the sector and, as a consequence, agriculture’s share of GDP and employment declines. This is a universal and unavoidable tendency. The parts of the sector that face severe adjustment pressures are those that do not participate in the productivity gains.

In the case of emerging economies, it is important to recognise that, for the majority of agriculture-dependent households, the long term (*i.e.* inter-generational) future lies outside the sector. Policies need to make a distinction between those who potentially have a competitive future in the sector and those who do not. For both types of development path, many of the necessary policies will not be agriculture-specific, so it is important that agricultural policies are framed in a broader economy-wide framework of the type proposed in this paper.

The specific role for agricultural policies needs to be centred on improving the competitiveness of potentially viable farm households, with non-agricultural policies and social policies addressing the needs of those with better prospects outside the sector, or who have difficulty in adjusting. In the case of smallholders, this means targeted measures to correct the specific market failures they confront and complement broader investments in public goods (such as infrastructure), which improve competitiveness across the sector more generally. For many smallholders however, including those that are potentially competitive within agriculture but could have even better opportunities elsewhere, the highest returns are likely to come from investing in human capital and thereby developing transferable skills.

The government is not in a position to judge which farmers are potentially competitive at the individual level, but a degree of targeting is necessary. One way is to target investments to regions where specific agricultural activities are potentially profitable. A second filter is to require that farmers apply for assistance, rather than simply receive it, and present a substantiated business plan. In general terms, however, the more the government can pay for supportive public investments and avoid farm-specific subsidies, the fewer the distortions to farmers decisions over whether they should invest in the farm or take the opportunity to diversify their income sources or seek out non-farm opportunities. Such a formulation of agricultural policies would involve establishing criteria for policy targeting, and limiting subsidies to the correction of market failures and the provision of public goods.

There are no easy solutions to the design of adjustment policies, and it can be difficult to gain support for the notion that people will not be able to do in the future what they have done in the past. However, case study experiences, not just from the agricultural sector, but from other industries that have faced radical adjustment pressures, such as fishing, mining and shipbuilding, may offer some practical insights.

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