TRANSITION ECONOMICS SOMEWHERE UNEXPECTED: THE AUSTRALIAN SUGAR INDUSTRY[1]

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Introduction

Central and Eastern European Countries (CEECs) have been on a painful transition path from the centrally-planned model of 'existing' (as opposed to theoretical) socialism to the mainstream market system. A separate field of economic investigation has emerged that specializes in the issues of economic transition and provides policy advice for conducting the process (Gregory and Stuart 2001, Ch. 12)

There are perhaps surprising similarities between the starting situation of agriculture in transition countries and the management model of the Australian sugar industry of twenty-odd years ago. The industry is now in crisis which is arguably partly its own making. Unavoidably, it must transit to a more market-oriented system, without the government largesse it used to receive and what some other agricultural industries in transition can hope for. Hence, the objective of this paper is to identify the similarities and look for transition policies that could also be of use for the Australian sugar industry.

It is argued in this paper that underlying behaviour and institutions should be the basis of policy response, rather than the nominal ones. Planning and management along the supply chain betray the real institutions, and central planning in CEECs and the Australian sugar industry showed close resemblance in the past. The costs of such restrictive institutions have been substantial. Nevertheless, however desirable transition to a new system is, it is not without costs either. Policies and programmes for transition differed widely in their consideration of both the potential benefits and costs of transition. Policy implications for the Australian sugar industry, at the end of the paper, attempt to reflect the transition experience both in Australia and CEECs.

Apparent and underlying institutions

Advice to transition economies centred on the need to create properly functioning markets. The Washington Consensus (Gregory and Stuart 2001, p. 265) saw privatization as the main avenue to achieve this objective. Critics of the Washington Consensus pointed to the role of institutions and the difficulty of establishing them. This institutional criticism and approach is what makes transition economics relevant for the Australian sugar industry, as by virtue of private ownership the latter should, in principle, be a functioning part of a market economy. The fact that it is not can be explained by the dichotomy of its apparent and underlying institutions. It is argued in this paper that,

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despite its being composed of private businesses, the Australian sugar industry used to resemble the centrally-planned systems of 'existing socialism'. The proof of this lies in its modus operandi, discussed in the next section.

Models and methods of central planning in agriculture

Swain (1993) characterized socialist agriculture as the "combination of two … systems: the socialist sector characterised by bureaucratic control and shortage, and the family economy … based on family labour which follows an economic logic described by Chayanov in the 1920s." The soft budget constraint, a distinguishing feature of socialist economies, was identified by Kornai (1980): enterprises are not constrained by notions of financial efficiency, as they are rescued by governments if they get into trouble. Schleifer and Vishny (1994) lined up evidence that the soft budget constraint is due to the political influence of the recipients.

The agricultural sectors of most CEECs used to be dominated by large holdings either in state ownership or (more or less nominal) cooperatives. In these countries, land redistribution was the most obvious aspect of agricultural transition, something clearly not reminiscent of the Australian sugar industry. However, the situation in Poland and Yugoslavia had more commonality, as agriculture in these countries was dominated by small private farms. Thus, Polish agricultural transition was primarily concerned with market-oriented transformation – rather than land reform as in other CEECs – and the Polish experience will be most extensively used in this paper.

In Poland, the socialist economic framework intended to contain private farms included state and quasi-state institutions: various state-controlled cooperative marketing and credit organizations, and the state Machinery Centres providing contract machinery services (Kocik 1996, p.122). State control involved restrictions on land sales by, and machinery to, private farmers, as well as state-controlled 'marketing'. The latter consisted of outright compulsory deliveries until 1972 and procurement contracts by state or nominally cooperative marketing organizations (Swain 1993, p. 32). Input and output marketing was made to favour specialized farms working as a cog in the centrally-planned machinery (Swain 1993, p. 33). Swain (1993, p. 29) emphasized that Polish private farms were run as 'peasant holdings', not as private businesses, both because of the administrative restrictions on the scale of activity and the non-market environment of their operations. The system has left its mark by creating strong psycho-social dependency: a 1990 survey quoted by Swain 1993 (p.33) found that 82% of Polish farmers did not want to change the size of their farms, and 67% saw no prospect to sell them - even though half of the farms were near bankruptcy.

In terms of government regulation and land tenure, the Australian sugar industry showed parallels with centrally-planned Polish agriculture. At the peak of intervention into operations of the sugar industry, the Commonwealth government fixed the price of raw sugar acquired from mills, the wholesale price of sugar, its sale price to refiners and food manufacturers and the retail price. Queensland legislation enacted the assignment system, licensing canegrowing and barring unlicensed entry, and specified the splitting of proceeds between mills and growers. The industry's incentive system effectively emulated the tight plans in a socialist economy: if farmers wanted to stay in the No.1 pool, they had to produce to their physical capacity, not to the extent dictated by market-oriented rationality. As long as international market conditions were favourable, demand was not a constraint for the lowest-cost producer of sugar in the world. Australian supply was restricted by the assignment system, so that it would not disturb the world price (and achieved the exact opposite according to Borrell and Duncan 1992, p.173). Government help was forthcoming whenever the industry hit turbulence, perpetuating the soft budget constraint.

Costs of institutional constraints[3]

The Australian sugar industry and transition agriculture share the major legacy from their centrally-planned days: the loss of international competitiveness, the result of a long-term decline of efficiency brought about by closed-system thinking (Kamiński 1991). Preserving the outdated institutional frameworks proved very damaging to both.

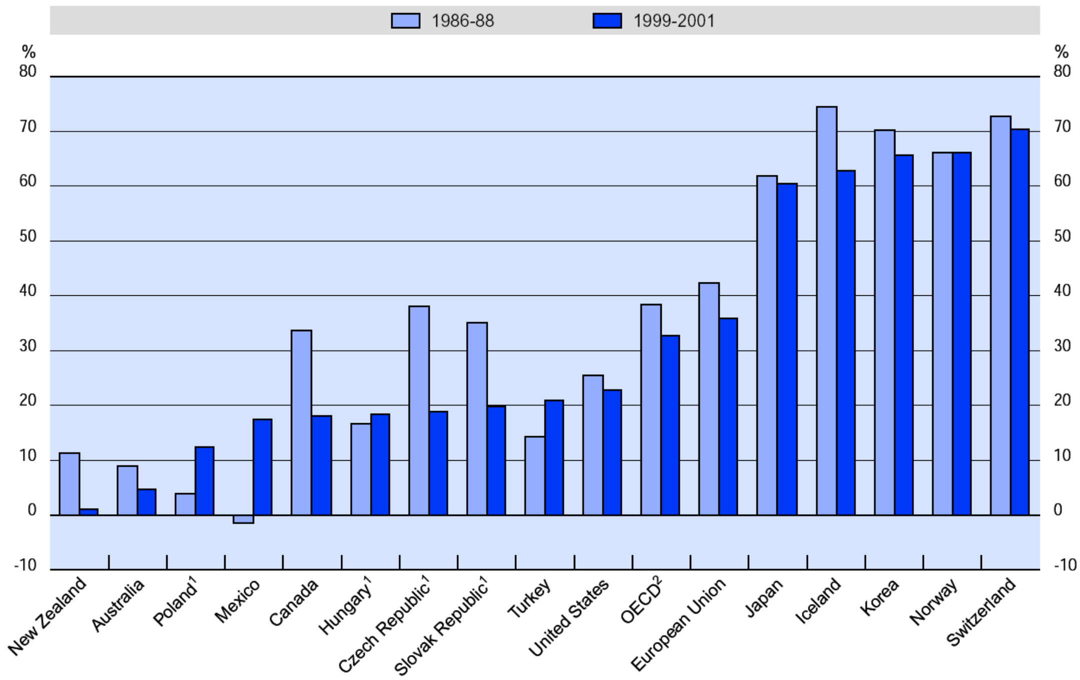
Agriculture was a highly-subsidized sector of socialist countries. Between 1975 and 1987, Polish agriculture received four to eleven times its contributions from the state budget, typically through farmgate prices that well exceeded retail prices (Kamiński 1991, pp. 63-64).

In Australia, the dominant methods of subsidy were domestic price schemes and input subsidies, plus regular handouts for 'exceptional circumstances' – too much or too little rain, low international prices, etc – and industry restructuring. Most of the systematic payments have been removed by now (with a few exceptions, e.g., dairy). Australian agricultural subsidies have been among the lowest in the OECD (OECD 2002, p. 1 (Figure 1). Subsidies to the sugar industry were the third highest (after milk and eggs) in 1986-88. remained the highest, and static, at 10% of gross farm receipts in 2001 – not high by general OECD standards, but 2.5 times the Australian average. Numerous studies - e.g., IAC (1983) ABARE (1988) IC (1990) - have argued against the rigid structure of central planning in the Australian sugar industry. ABARE (1990) calculated the opportunity costs of regulations. In their assessment, land area under sugar would have been 30% larger without assignment, an industry-wide increase of AUD130m (1984/85 prices) would have been due to savings in transport and processing, and a AUD54m (1986/87) increase in profitability from the rationalization of harvesting equipment. Together, potential gains amounted to 9% of production costs. Borrell et al. (1991) arrived at very similar amounts. CIE (2002, p. xii) claimed that full deregulation could potentially increase grower and mill profits by AUD252m.

[3] Note that environmental aspects are not assessed in this paper. This was necessary to keep the paper short, notwithstanding the significance of environmental issues before and during agricultural transition.

Fig 1 – Producer Support Estimate by country

Per cent of value of gross farm receipts



Notes: Countries are ranked according to 1999-2001 levels. For more detail, see Table III.3.
1. For the Czech Republic, Hungary, Poland and Slovakia 1986-88 is replaced by 1991-93.
2. For 1986-88, the Czech Republic, Hungary, Poland and Slovakia are excluded.

Source: OECD 2002, p. 26

Costs of transition, movers of transition

A common element of agricultural transition in CEEC was the exposure of small farms to an unaccustomed market system, with which the farmers had little familiarity and a very unequal power relationship with input/output marketers that are often monopolies (Lavigne 1999, p. 198). The removal of subsidies further aggravates generally declining profitability (Tanic et al. 2001, p. 34) that slows the transition process and leads to the erosion of resource base, e.g., soil fertility. However, off-farm environmental impact is more favourable, as reduced production intensity lowers such externalities as fertilizer runoff. With the collapse of the eastern trading bloc and removal of trade protection, CEEC farmers became just as exposed to the EU's malign influence on international markets as Australian ones, both in terms of EU protectionism against imports and its subsidized exports (Lavigne 1999, p. 199). While CEEC market access to the EU has gradually improved, the greatest longer-term hope of CEEC agriculture is EU accession and the subsidies that become available under the Common Agricultural Policy (Lavigne 1999, p. 199). In the mean time, the cost-price squeeze caused by price deregulation and subsidy reduction resulted in negative returns in Poland (Christensen and Lacroix 1997, p. 6). However, this was better absorbed by small farms that are in themselves uneconomic, as the household's other income sources acted as a buffer. In comparison, commercial farms were forced to accumulate debt.

The current incentive system in the Australian sugar industry is the major impediment to transition to a more efficient system It does not reward risk taking, adoption of new technologies or willingness to sacrifice lifestyle benefits, but it reinforces conformist behaviour.

Agnew et al. (2002) estimated the potential reductions in cane losses just by slowing down harvesters to be worth around AUD100/ha. Although the industry as a whole would benefit, since harvesting contractors are paid by the tonne, it is against their financial interest to do so (Antony et al. 2003). There is an awareness of this problem by industry stakeholders, but no consensus exists yet on how to do better.

Reducing the overcapacity of harvesters in the industry may appear to offer costless returns, but only in the financial sense. Discussions with stakeholders reveal an ingrained preference for the current system. Harvester operators are farmers too who prefer cutting their own cane and using some surplus capacity in contract harvesting. They accept the costs of underutilization partly because of the freedom it gives them, partly because they tend to focus on cash costs. In addition, realignment and amalgamation of current harvesting groups is hampered by personal relations and preferences between farmers and harvesters.

Increase in risk faced by farmers is a transition cost that is rarely accounted for. Industry stakeholders, demonstrated by their submissions to the numerous inquiries, clearly preferred predictable prices and production environment by government regulation (Milford 1984). Higgins and Muchow (2003) identified large potential efficiency gains merely by rescheduling harvesting of farms and paddocks to maximize sugar yield. Feedback from farmers explain the reason for the disappointing adoption of this method: it would bring about a disparity in risks faced by various farmers compared to the current system of 'equity harvesting'. Incentives inherent in the way farmers are paid for sugarcane now do not compensate for unequal risk sharing.

Policies for transition – theory and practice

Policy advice given to transition countries was plentiful and diverse after the initial narrow scope of the Washington Consensus. Stiglitz (1993) emphasized that transition agriculture should not mean the cessation of government role in agriculture, merely its change. Governments are active in developed economies to reduce the relative disadvantage characteristic of agriculture vis-à-vis other sectors in: (a) information asymmetry between the many producers and the oligopolistic marketing companies that limits the formers' ability to manage price risk, (b) a limited ability to share yield risk. While central planning has substantially reduced the risks faced by farmers, this had its cost in reduced economic efficiency through poor incentives. Providing subsidized credit was one of the vehicles used by governments, but this was one reason behind the "soft budget constraint". Maintenance of credit subsidies through transition merely perpetuates farmer expectations of financial help on demand. Stiglitz (1993) drew attention to the overzealous approach to monopolies in transition countries. He urged discouraging predatory business behaviour rather than monopoly positions per se, since "It is virtually impossible to devise policies or rules that discourage speculation and rent seeking without adversely affecting true entrepreneurs at the same time" (p. 39).

Influencing eventual farm size was at the core of transition policies, and the debate on optimal farm size was heated. Van Zyl et al. (1996) found that large farms are not inherently more efficient than small ones, while small family farms used more labour – primarily because owner-operators and their families accept lower returns to their labour (p. 9). Stiglitz (1993, p. 32) cautioned that agricultural transition in the one-time socialist countries is more than just establishing private property rights "that by themselves are insufficient to assure even a reasonable chance of success". Lavigne (1999, p. 199) challenged the "myth of an intrinsic superiority of small private farming over large cooperative farming". Her recommendation was to exploit the apparent vitality of cooperatives. Indeed, the empirical evidence from CEEC agriculture indicates that farming businesses different from the standard family farm model dominant in the West proved quite resilient even in a market environment (Lerman 2000).

Some policies CEECs aimed at creating a market-oriented agriculture based on private ownership – inspired by the Washington Consensus – indicate the pitfalls of ideological approaches to transition. Enforced dismantling of production cooperatives in Hungary resulted in large numbers of smallholdings that are starved of capital and production know how, produce low quality output, and require regular government intervention by causing large market fluctuations and perpetuating rural poverty (Antóny 2001).

Other policy measures aimed at mitigating negative impacts of transition. Some of these became "part of the problem rather than part of the solution" (Christensen and Lacroix, p.7): the provision of credit subsidies is most relevant for the Australian situation. Valdés (2000) assessed in detail the subsidies of different kinds that were reintroduced by most transition countries after their initial removal and contrary to recommendations by development experts

As Polish participants of a World Bank workshop emphasized, "farmers must realize that in the new environment they are not simply agriculturists, but also managers, marketers, and salesmen" (Csáki and Lerman 2000, p. xix). Hence, government role in transition includes farmer education in these new roles. A network of financial counsellors was established in Hungary to provide basic education in market economy and ongoing help to private farmers. In various other transition countries, similar programmes were initiated to teach farmers about the market economy and provide ongoing support.

It is notable that CEEC agricultural transition is increasingly seen in the social context of rural development, rather than merely a market transformation (Csáki and Lerman 2001).

In Australia, a national policy drive to achieve agricultural transition was started in the early 1980s, although the sugar industry has successfully stonewalled until the early 1990s. With the notable exception of the sugar-marketing monopoly, most government regulations restricting the industry's scope of independent decision making were removed by 1996. In their place, stakeholders at the mill level were empowered to make collective decisions on production and marketing.

Effectively sweeteners to make deregulation palatable to the industry, recent assistance packages provided to the Australian sugar industry were supposed to facilitate transition to economic sustainability. However, they achieved little as incentives for transformation, and ended up being industry welfare instead. In light of the industry's track record, the Federal Government is exasperated by requests for yet more assistance, but cannot refuse it (Read and Parnell 2002). Removal of government regulation did not result in a more market-oriented system, as stakeholders in mill regions freely agreed among themselves to replicate the system that used to be imposed by government fiat (Antony and Higgins 2002).

Even so, many policy recommendations given to the Australian sugar industry do not reflect the hurdles in the way of transformation: the symbiotic relationship between sugar mills and farmers, the limitations on stakeholders' ability to make decisions due to the long production cycle and exposure to the consequences of others' choices, or the transition costs of reaching the prescribed system. Insistence on increased farm size and complete deregulation indicates a firm belief in the existence of economies of size and market perfection, respectively. Single-issue policy analysts keep recommending complete deregulation of the industry as the solution for all its ills - the latest being CIE (2002).

The Bureau of Sugar Experiment Stations (BSES) has been providing extension services for the industry in Queensland. However, their advice has been traditionally much stronger on technical issues than financial ones, and increasing commercialization of BSES has reduced their capacity to offer free services on demand. Such other avenues of extension as local productivity boards, agricultural advice by mills, and Canegrowers organizations also tend to concentrate on technical issues. This leaves farmers with little opportunity to learn about financial management in a competitive market setting.

Summary and policy implications

The extent and kind of regulation in agricultural sectors of CEECs and the Australian sugar industry showed surprising parallels up to the point of reform, the mid-1980s to mid-1990s. Similarities are particularly strong with Poland where small private farms predominated even under central planning. Common elements of pervasive regulation included production and price controls, marketing restrictions, government subsidies and large costs, both in terms of actual payments and missed opportunities. Farmers became dependent on others' taking decisions for them, cushioned by the 'soft budget constraint'. Once reforms started, transition has gradually exposed farmers to the market by the reduction of subsidies and regulations. Defying expectations, both seemingly uneconomic small farms and large producer cooperatives remained resilient in CEEC agriculture. Both in Australia and CEECs, the effectiveness of government support for transition is questionable. Policy advice for CEECs varied from market fundamentalism to a marked acceptance of continued government role to rectify market failures in agriculture. In contrast, most advice to the Australian sugar industry can be classified as market fundamentalist. The argument in this paper is that drawing on the CEEC transition experience instead would serve the Australian sugar industry better.

Government intervention into the transformation process should be based on a consideration of all circumstances, not merely ideological preferences and limited mathematical models. Perfect competition is not an option in the Australian sugar industry, given the natural monopsony of sugar mills in most regions. Hence, it is not realistic to expect market forces to guide the industry to profitability after the removal of regulation, and policy advice based on market orthodoxy should be treated with caution.

Instead of the mirage of a perfectly competitive, profit-oriented industry, one must accept the multi-objective nature of cane farming, including lifestyle choices that counteract financial incentives. However, this understanding should not extend to subsidizing such choices by governments, as they have been in the past. Industry stakeholders who trade off profitability against other objectives should bear the financial costs of their decisions.

Policy measures must be designed for a system where farming may be one of a number of income sources for a household and all farms do not need to be of an 'economic size'. Even so, small-farm efficiency can be improved without farm amalgamation through, e.g., contracting out operations requiring large capital investment. Horizontal and vertical integration, from partnerships to cooperatives, hold some promise to overcome fragmentation of the supply chain

Based on past experience, financial assistance must be made conditional on the adoption of specific practices – e.g., harvest rationalization, allowing the entry of new farms, payment formulae with more efficiency incentives. Alternatively, governments may consider underwriting the risks associated with such practices as harvesting a farmful of cane towards the end of the season, regardless whether the businesses involved are in financial difficulty or not.

Extension services must be restored and realigned to build financial-management skills in small businesses involved in the industry, not merely to convey technical information. Farm financial planning assisted by extension agents has been the precondition of financial assistance to Australian farms before, and this approach could be used for the sugar industry too.

References

ABARE (1988). The effect of regulations and controls on the productive capacity of the sugar industry. Submission to the Central Sugar Cane Prices Board inquiry into the Productive Capacity of the Queensland Sugar Industry. Australian Bureau of Agricultural and Resource Economics, Canberra.

ABARE (1990). Increasing flexibility for the sugar industry. Submission to the Sugar Industry Working Party. Australian Bureau of Agricultural and Resource Economics, Canberra.

Agnew, JR; Sandell, GR; Stanley, GT and Whiteing, C (2002). 'Increased sugar industry profitability through harvesting best practice.' *Proceedings of the 24th Annual Conference of the Australian Society of Sugar Cane Technologists* 24, 184-189.

Antony, G and Higgins, A (2002). 'Torn between social equity and economic efficiency: the evolution and crisis of institutional relationships in the Australian sugar industry.' Paper presented at the conference Evolution of Institutions and the Knowledge Economy. University of Debrecen, 4-5 October.

Antony, G; Prestwidge, D; Sandell, G and Higgins, A (2003) 'Scope for cost savings from Harvesting rationalisation in the Australian sugar industry.' *Proceedings of the 25th Annual Conference of the Australian Society of Sugar Cane Technologists*. forthcoming

Antóny, G (2001) 'Tied to the sod.' [in Hungarian] *HVG* 30 June, 47.

Borrell, B and Duncan RC (1992). 'A survey of the costs of world sugar policies.' *World Bank Research Observer* 7(2), 171-194

Borrell, B; Quirke, D and Vincent, D (1991). *Sugar: Winning in a Corrupt World Market.* Centre for International Economics, Canberra.

Christensen, G and Lacroix, R (1997). *Competitiveness and Employment: A Framework for Rural Development in Poland.* Discussion Paper No. 383. World Bank, Washington DC.

CIE (2002). *Cleaning up the Act – The Impact of Changes to the Sugar Industry Act 1999*. Consultancy report prepared for State Development Queensland. Centre for International Economics, Canberra. Published on the World-Wide Web at www.theCIE.com.au

Csáki, C and Lerman, Z (eds) (2001). *The Challenge of Rural Development in the EU Accession Countries.* Third World Bank/FAO Workshop, June 17-20, 2000. Technical Paper No. 504. World Bank, Washington DC.

Gregory, P and Stuart, R (2001). *Russian and Soviet Economic Performance and Structure.* Addison-Wesley.

Higgins, A. J. and Muchow, R. C. (2003). "Assessing the potential benefits of alternative cane supply arrangements in the Australian sugar industry", *Agricultural Systems*, In Press.

IAC (Industries Assistance Commission) (1983). *The Sugar Industry 1983*. Report No. 332. Australian Government Publishing Service, Canberra.

IC (Industry Commission) (1990). *Statutory Marketing for Primary Products*. Report No. 10. AGPS, Canberra.

Kamiński, B (1991). *The Collapse of State Socialism: The Case of Poland.* Princeton University Press.

Kocik, L (1996). 'The privatisation and market transformation of Polish agriculture: new conflicts and divisions.' In Abrahams, R (ed.) *After Socialism: Land Reform and Social Change in Eastern Europe*. Berghahn Books, Oxford.

Kornai, J (1980). *The Economics of Shortage.* New Holland, Amsterdam.

Lavigne, M (1999). *The Economics of Transition: From Socialist Economy to Market Economy.* 2nd ed. St Martin's Press, New York.

Lerman, Z (2000). 'Status of land reform and farm restructuring in Central and Eastern Europe: a regional overview.' In Csáki, C and Lerman, Z (eds) *Structural Change in the Farming Sectors in Central and Eastern Europe: Lessons for EU Accession.* Second World Bank/FAO Workshop, June 27-29, 1999. Technical Paper No. 465. World Bank, Washington DC.

Milford, B (1984). Summary of official inquiries into the sugar industry. Mimeo. Mossman Central Mill Company.

OECD (2002). *Agricultural Policies in OECD Countries: Monitoring and Evaluation.* Organisation for Economic Cooperation and Development, Paris.

Read, R and Parnell, S (2002). 'Strings attached to Howard's sugar sweetener.' *The Courier Mail* 13 August.

Schleifer, A and Vishny, R (1994). 'Politicians and firms.' *Quarterly Journal of Economics* 109, 995-1025.

Stiglitz, JE (1993). 'Incentives, organization and contractual choice in the reform of socialist agriculture.' In Braverman, A; Brooks KM and Csáki, C (eds) *The Agricultural Transition in Central and Eastern Europe and the former USSR – A World Bank Symposium.* World Bank, Washington, DC., 39-

Swain, N (1993). Polish Agriculture Prior to System Change. Centre for Central and Eastern European Studies. Rural Transition Series Working Paper No. 27. University of Liverpool.

Tanic, S; Sipiläinen, T; Bäckman, S and Sumelius, J (2001). D4- Description of Current Farming Systems in Central and Eastern European Countries. Report for the Commission of the European Union. FAO Regional Office and University of Helsinki, Budapest

Valdés, A (ed.) (2000). *Agricultural Support Policies in Transition Economies.* Technical Paper No. 470. World Bank, Washington, DC.

Van Zyl, J; Miller, BR and Parker, A (1996). *Agrarian Structure in Poland: The Myth of Large-Farm Superiority*. Policy Research Working Paper 1596. World Bank, Washington, DC.