AGRICULTURAL TRADE POLICIES IN JAPAN

THE NEED FOR REFORM

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Foreword

International cooperation to advance the benefits from more open and less distorted agricultural markets took a step forward when agreement was reached in the Uruguay Round in 1994. However, actual reforms in many countries, including Japan, have been minimal.

Japanese agriculture still has widespread government intervention that distorts production, consumption and trade in agricultural products. These distortions are costly to both consumers and producers in many countries.

This study represents a further step in ABARE's ongoing research into policy issues affecting world commodity markets and international trade. The report provides information designed to facilitate a better understanding of existing Japanese agricultural policies and their effects, and the potential for beneficial reform.

BRIAN S. FISHER
Executive Director

May 2001

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Summary

Domestic support

High protection levels in agriculture continue to prevail in several countries including Japan. Agricultural support policies in Japan are designed so that consumers pay for almost all of the domestic support — through substantially higher prices. In 1999 such consumer transfers constituted over 80 per cent of total support in Japan. At the wholesale level, domestic prices are often multiples of world market prices. On average, support to producers is almost twice the world market value of production. For some commodities, however, the proportion is far higher. For rice, for example, Japanese producer prices in recent years have fluctuated between about four and a half and six times world market prices while those for wheat have fluctuated around six times world prices. Milk and sugar are other products with support that is substantially above the average.

These high levels of support come at a substantial cost to the Japanese economy because they retain resources in Japan's high cost agriculture that could obtain far higher returns in other parts of the economy where Japan has a comparative advantage. They also disadvantage producers in countries with lower levels of agricultural protection such as Australia. High levels of protection restrict access to markets and cause unstable prices.

Although protection of the agriculture sector remains high in Japan, the sector's contribution to the Japanese economy has been in decline for many years. Agriculture now contributes only 2 per cent to gross domestic product and over 60 per cent of farmers are now older than 60 years of age. But the support, along with restrictive land laws, regulations affecting entry and exit, and high land values associated with competition from other land uses, have helped sustain very small scale, high cost production systems for most of Japan's agriculture.

Japan is attempting to reverse the trends of a static to declining agriculture and aging farm population by maintaining high levels of domestic support and protecting its farmers from competition with imported products. Although there have been some adjustments toward larger farm enterprises, most farms remain extremely small by any measure. The main form of adjustment has

been, and continues to be through farm family members changing from being dependent on farm incomes to earning more of their incomes from nonfarming pursuits. More than 80 per cent of farm family income is now earned outside the farm.

Benefits from liberalisation

There is an apparent paradox with agricultural support. While most economies would gain from liberalising trade and reducing market distorting policies, the ones with the most to gain are those with the highest support and largest distortions — such as Japan. In the case of agriculture, the governments of these same countries tend to be the least willing to reform their policies, for political reasons.

The benefits from liberalisation are widespread, but the adjustments that are necessary to realise them are typically concentrated in particular regions. With liberalisation, the former recipients of support face adjustment and may incur financial losses. The potential losers are visible and vocal, while the more numerous gainers are widely dispersed, with individual gains often small. In addition, the links between liberalisation and the subsequent gains are not usually evident to the gainers. So domestic consensus for agricultural reform can be difficult to achieve.

To indicate the potential economic gains from agricultural liberalisation an analysis has been carried out, in which a 50 per cent reduction in all forms of agricultural support is assumed for all countries. A general equilibrium model is used to indicate the impacts of such a reduction. This partial agricultural trade liberalisation scenario leads to estimated global economic gains of US$54 billion a year. The largest gainers would be the economies where agricultural support is currently the highest as they are the ones with the largest distortions. In fact, almost 17 per cent — or US$9 billion — of the gains accrued to Japan.

To achieve the potential domestic and global economic benefits from agricultural reform, the balance of production must be reoriented away from high cost producing countries such as Japan that are providing high levels of support toward countries with lower costs and low support. This would enable increased agricultural production in the most efficient producing countries and facilitate the movement of resources to industries that have a comparative advantage in countries that currently protect their agricultural industries.

Threats to agricultural liberalisation in Japan

Multifunctionality of agriculture

Increasing emphasis is being placed by Japan on the so-called 'multifunctional' nature of agriculture — that is, the unpriced spillover benefits of agriculture that are in addition to the supply of food and fibre. This development could pose a major threat to further agricultural trade liberalisation in Japan. The focus of Japan's argument is on benefits of flood mitigation and rural employment.

However, in addition to the *positive* spillovers from agriculture there are *negative* ones. Such spillovers include environmental damage, such as chemical and animal effluent leaching into water supplies, that can be exacerbated when production is intensified under protection.

However, because the continuing high levels of domestic support are being targeted at agricultural production as a whole and not targeted at the specific objectives of flood mitigation and rural employment, this approach is likely to be less effective and more costly than policies designed specifically to meet those objectives. If Japanese society places a high value on these positive spillovers, it should be prepared to pay to preserve them. Payments linked explicitly to the nature and size of these benefits will generally be much more effective in attaining the desired spillover effects than general support to agriculture.

Food security

A widely recognised definition of food security is the ability of all people at all times to have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

In Japan, food security issues are sometimes included as spillover benefits associated with the multifunctionality of agricultural production. Food security is often used as a major rationale for high levels of agricultural support in Japan. However, under all but the most extreme conceivable circumstances, Japanese people have the wealth and ability to ensure that their food security requirements are met — whether the food is produced domestically or elsewhere.

Japan's preoccupation with food security is manifested in policy stances predicated on trying to maintain particular levels of self sufficiency. Where there is a desire politically and culturally to protect agriculture, it can be convenient to confuse self sufficiency with food security. In Japan, with its scarce agricultural resources, high levels of food self sufficiency, short of people being starved, cannot be achieved in any case because Japanese agriculture depends on imports of fertilisers and energy that are necessary for intensive agricultural production.

Because support for production in Japan is already multiples of the real value of Japan's food output, and the associated costs of resource misallocation are substantial, it is more efficient to pursue food security through trade than through protecting and supporting domestic production. The high cost of support to sustain self sufficiency levels means that, although it is also costly to maintain large stocks, it is less costly to pursue food security goals through stockpiling food purchased at world prices and to diversify sources of supply, than to pursue self sufficiency goals.

The New Basic Law – a way forward?

There will be continuing pressures from agricultural industries in Japan to prevent trade liberalising reform of the current high support, high cost agricultural arrangements. However, new technologies are driving globalisation and the costs of resisting this movement are rising. Japan's economy has benefited from the partial liberalisation of the beef sector since the early 1990s and can benefit significantly from further liberalising its agricultural markets.

The New Basic Law for agriculture, passed by the Japanese Diet in mid-1999, does not appear to provide much more than a prescription for maintenance of the status quo along with formalising of targets for food self sufficiency that exceed present levels and that seem likely to continue to do so. Nevertheless, one article of the law (Article 30) indicates that 'the state shall take necessary measures for allowing the prices of farm products to form appropriately, reflecting the real supply/demand situation and quality evaluation, in order to promote agricultural production responsive to consumer demands'. At the same time, however, it provides that 'the state shall take necessary measures for mitigating the adverse effects of significant price changes of farm products on farm management'. Taken at face value, this second provision could negate the effects of market based reforms on Japanese production that might be construed to flow from the first.

Concluding comment

The Japanese economy has languished for almost a decade, with low growth rates, and difficult fiscal management and public debt problems in the wake of the bursting of the speculative bubble of the late 1980s and early 1990s. The problems for the economy are often portrayed as arising largely from the government using public funds and debt to sustain several large, otherwise nonviable financial institutions that are carrying large nonperforming loans. But the management problems extend well beyond the financial system. In fact, there are important parallels between the policies of providing support to sustain fundamentally nonviable financial institutions and the provision of protection and support to many fundamentally nonviable farming activities. The one substantial difference is that the extreme levels of support to farming are provided mainly through indirect taxes on Japanese consumers through inflated food prices, whereas the support for the financial sector is financed directly by taxpayers and through government debt. Both of these sets of measures are being pursued at a substantial cost in terms of curtailed growth of the Japanese economy.

If the Japanese economy is to achieve its potential for improving the lives of Japanese people, reforms to reduce the high costs from agricultural protection will need to be pursued.

1 Introduction

The Uruguay Round of multilateral trade negotiations that concluded in 1994 has had little effect in liberalising agricultural trade policies in Japan. Agricultural support levels in Japan are among the highest in the world and continue to impose significant costs on domestic consumers and producers worldwide. In 1999, 65 per cent of Japan's farm receipts stemmed from support from government policies. This is almost as high as the 67 per cent in the period from 1986 to 1988, which was the highest support period since 1979 when support estimates were first collected on a consistent basis (OECD 2000). This compares with an average level of agricultural support in OECD countries (measured in producer support estimates) in 1999 of 40 per cent (figure A).

The significance of support provided to Japanese farmers is seen most clearly when calculated per hectare of agricultural land (figure B). During the period 1997–99, support in Japan averaged over US$10 600 per hectare, the highest of any OECD country; in 1999 it was almost US$11 800 per hectare.

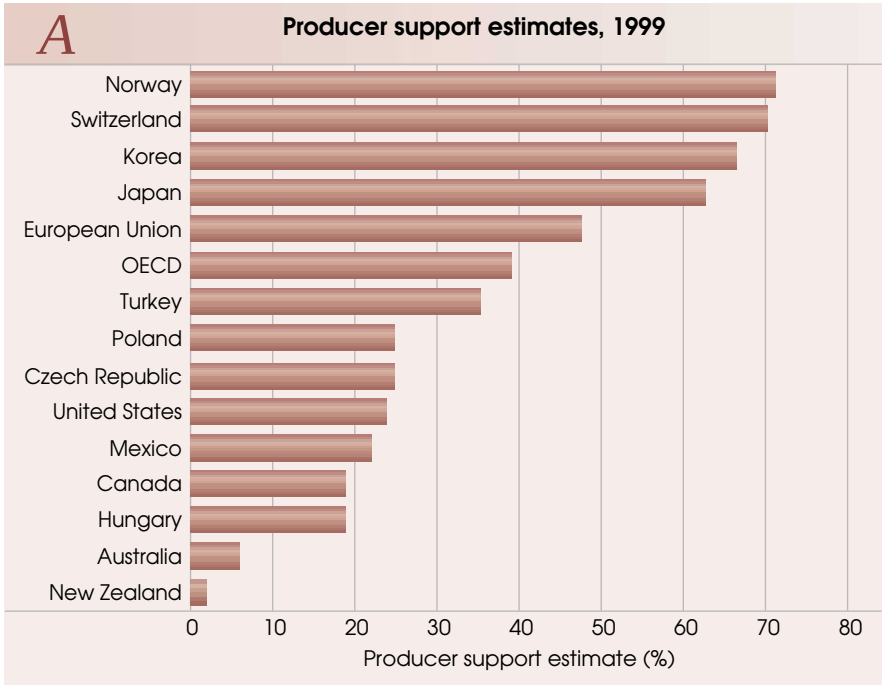
Agricultural support policies in Japan are designed so that Japanese consumers pay for almost all of the domestic support. In 1999, over 80 per cent of the producer support was provided through market based price support and heavy restrictions on imports, leading to transfers from consumers in Japan to producers (OECD 2000).

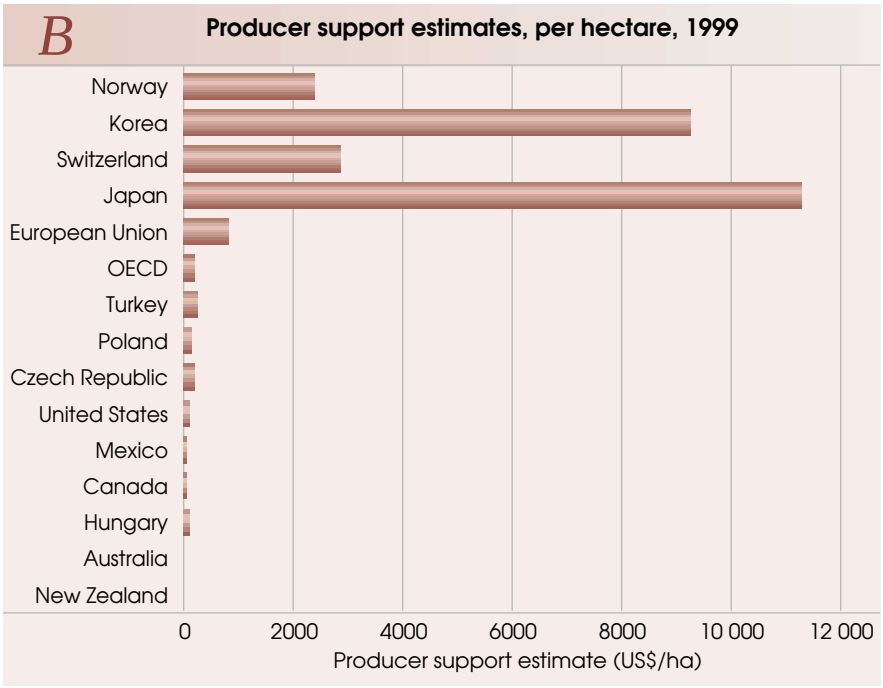
The impact of government policies on consumers in Japan is measured by the consumer support estimate (CSE) for agricultural commodities.

In 1999, 53 per cent of the amount spent by consumers in Japan on agricultural commodities consisted of support to domestic producers (OECD 2000). For rice, 85 per

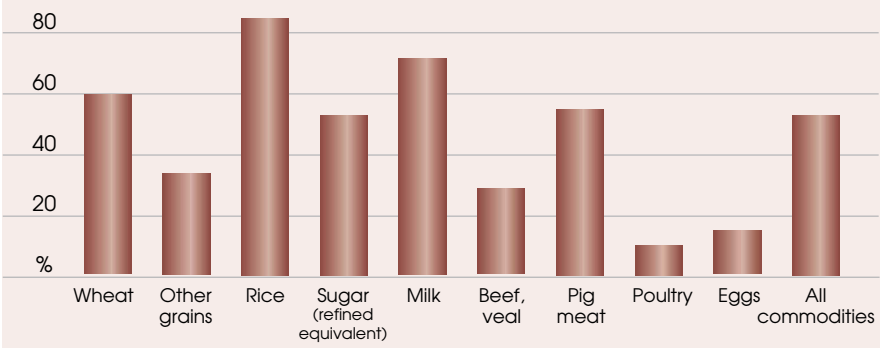
Producer support estimate

The producer support estimate (PSE) is a measure of domestic support. It is an indicator of the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income (OECD 2000). The PSE can also be expressed as a percentage of the value of gross farm receipts, valued at farm gate prices, including budgetary support — as shown in figure A.


A
Producer support estimates, 1999
Norway
Switzerland
Korea
Japan
European Union
OECD
Turkey
Poland
Czech Republic
United States
Mexico
Canada
Hungary
Australia
New Zealand
0
10
20
30
40
50
60
70
80
Producer support estimate (%)


B
Producer support estimates, per hectare, 1999
Norway
Korea
Switzerland
Japan
European Union
OECD
Turkey
Poland
Czech Republic
United States
Mexico
Canada
Hungary
Australia
New Zealand
0
2000
4000
6000
8000
10 000
12 000
Producer support estimate (US$/ha)

C **Consumer support estimates, by commodity, Japan, 1999**



cent of the value of the product consumed was made up of price support above world market levels (figure C).

The persistence of high levels of agricultural support in Japan since the ratification of the Uruguay Round Agreement on Agriculture serves to highlight weaknesses in the agreement and its implementation (Roberts, Podbury, Freeman et al. 1999). The key weakness in the case of Japan is that tariffs for many commodities are still so high that they effectively prohibit imports beyond strictly limited levels. For example, the tariff equivalent for rice in 1999 was set at ¥351 a kilogram (when the world price was equivalent to ¥55 a kilogram), making it unprofitable for private traders to import rice. Also, imports of many products enter under tariff-quotas that provide for reduced tariffs for quantities up to a specified level. Generally, the tariffs for imports beyond the tariff-quotas are extremely high or prohibitive, as is the case for rice. So the tariff-quota quantities also act as a constraint on quantities imported.

Japan has justified its high levels of domestic agricultural support by arguing that the support is needed to achieve food security objectives and to maintain the so-called 'multifunctionality' of agriculture. However, studies have shown that such objectives can

Consumer support estimate

The consumer support estimate (CSE) is a measure of the annual monetary value of gross transfers to or from consumers of agricultural commodities to producers, measured at the farm gate, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products (OECD 2000). The CSE can also be expressed as a percentage of the value of total consumption, valued at farm gate prices, minus budgetary support to consumers.

be achieved in more cost effective ways than the current support measures (ABARE 1996a; Garnaut and Ma 1992).

The economic case for further substantial reform of Japan's agricultural trade policies is strong. The agricultural sector is the most supported sector in the Japanese economy. For example, in 1995, 96 per cent of all Japanese subsidies notified under the WTO provisions were for the agriculture sector (WTO 1998b).

If trade policy in Japan were liberalised, the agriculture sector would contract and other more efficient sectors, such as manufacturing, would expand as resources previously tied up in the highly inefficient agriculture sector move to the rest of the economy (Harrigan 1996). As a result, the Japanese economy would become more efficient and higher economic growth would be achieved. Also, food prices to consumers would fall substantially and consumer choice over food products would increase.

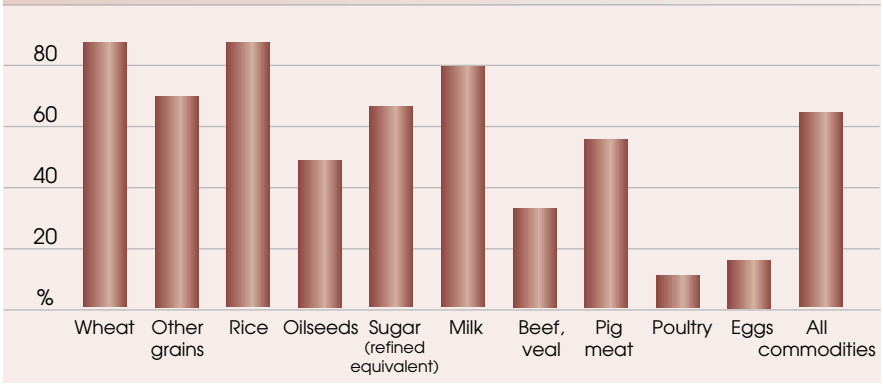
What is 'multifunctionality'

For those who use 'multifunctionality' to justify agricultural protection, the term refers to any unpriced spillover benefits that are additional to the provision of food and fibre.

Claimed benefits range from environmental values, rural amenities and cultural values, to rural employment and rural development. In some countries, food security is also emphasised (OECD Secretariat 1998).

The greatest benefits to the Japanese economy would be achieved by liberalising trade barriers on the most highly protected agricultural products such as rice, wheat, feed grains, sugar, milk and meat (figure D). Importantly, low income consumers who spend a relatively large proportion of their income on food would gain significantly (ABARE 1988).

D **Producer support estimates, by commodity, Japan, 1999**



At a global level, reforms to Japanese trade policies would reduce market distortions in world agricultural markets, increasing returns to agricultural producers in other countries and exporters, and improving world price stability (Roberts, Podbury, Freeman et al. 1999).

The key issue in reforming Japanese agricultural policies is for producers and consumers to face lower market prices that change with world market prices. When compared with average world prices, Japan's producer prices are almost three times as high and consumer prices nearly twice as high (WTO 1998b). This means that producers respond to prices determined by government, not to prices that reflect consumer demands and the efficient operation of the Japanese economy. This point was acknowledged in a recent Japanese government report that formed the basis of Japan's new fundamental philosophy and basic guideline for formulating future agricultural policies, the New Basic Law. It stated that 'under the current policy it is difficult to convey the supply and demand situation and consumer needs to farmers accurately, and this prevents farmers from cultivating the management sense.'

The purpose in this report is to demonstrate the limited extent to which Japan has liberalised its agricultural trade policies to date and to identify the benefits that can be achieved through further trade liberalisation and policy reform.

2

Japanese agricultural policies

Japan's remarkable industrial development and economic growth during the mid to late twentieth century were accompanied by equally rapid increases in its rates of domestic support to the agriculture sector. Agricultural protection in Japan grew especially from the mid-1950s. It reached a peak in the mid-1980s and again in the mid-1990s. While fluctuating, it has not shown a tendency either to rise or fall over the past decade and a half (figure E).

In the past decade or so, there have been several major reasons given for the chronic high level of support in Japan, including the desire to reverse the trends of declining rural incomes, a decreasing agricultural land base, falling agricultural employment and falling self-sufficiency ratios (Australia–Japan Research Centre 1999).

In this chapter, the overarching issues affecting the Japanese agriculture sector are outlined and some of the key policies implemented by the Japanese government, including the main components of the New Basic Law, to address these issues are discussed.

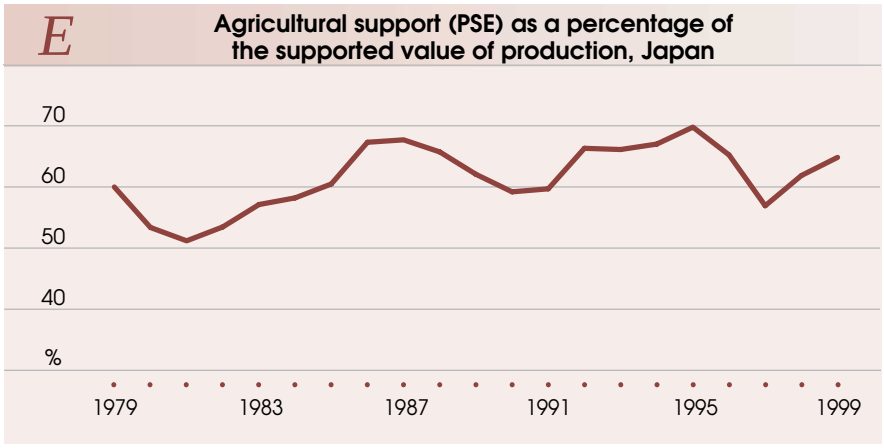
General issues

A sector in decline

The gross value of agricultural output in Japan was rising until the mid-1980s. It then stabilised, before declining gradually over the past decade. Japan is an extreme example of agriculture in most industrialised nations, the agriculture sector in Japan being very small when compared with the whole economy. In 1997, the gross value of agricultural output was ¥10.2 trillion, about 2 per cent of Japan's total gross domestic product.

Agricultural employment

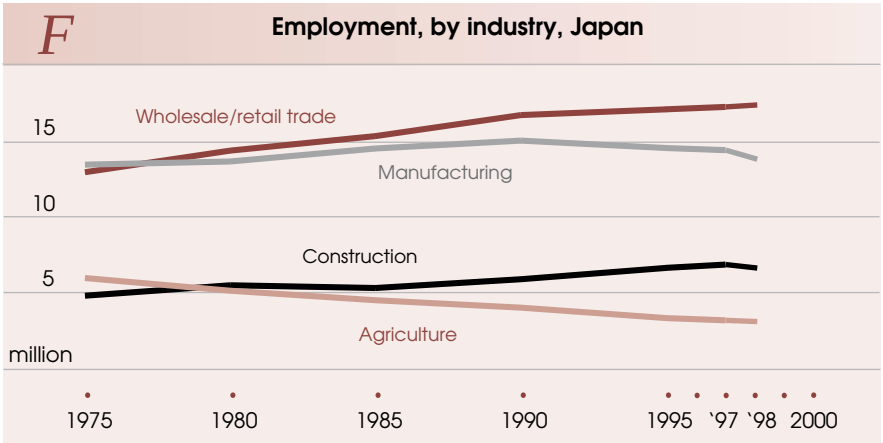
The importance of agriculture as an employer in the Japanese economy declined significantly over the latter half of the twentieth century. In 1975, employment in the agriculture sector was 11.4 per cent of total employment. By 1997, the share had approximately halved to just 5.9 per cent of the total employment in Japan (3.9 million of 65.6 million people employed). This decline occurred despite the high level of domestic support to agriculture. It

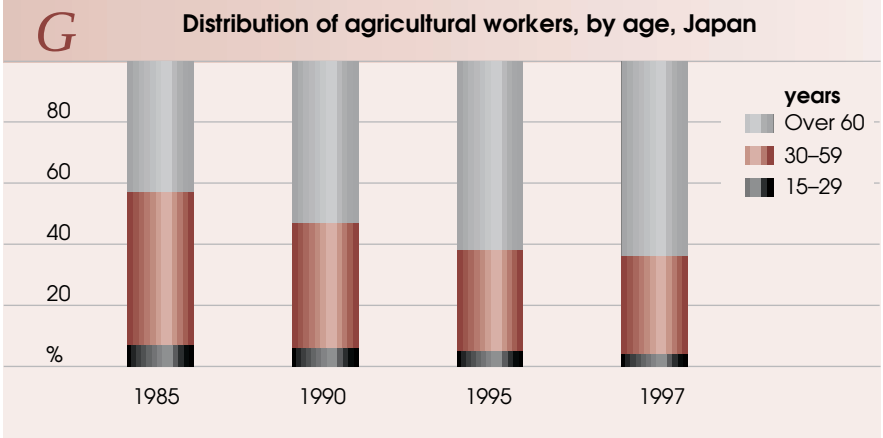


primarily reflects the replacement of labor with other production inputs as well as, in recent years, the gradual decline in the overall size of the sector.

The replacement of labor with other farm inputs over time has been a characteristic of agriculture throughout most of the world, irrespective of whether countries have had little support for agriculture or, as in the case of Japan, substantial support. Since the mid-1970s, most other major sectors of the Japanese economy have increased their employment — a recent exception being employment in the manufacturing sector, which has been falling since 1990 (figure F).

Japan's farming population is also aging. A breakdown of the farming population by age reveals that over 60 per cent of all farmers were older than 60





years in 1997 (figure G). Since 1995, with the retirement of farmers aged over 60 years, the number of workers in this age group has decreased somewhat.

According to the Japanese Ministry of Agriculture, Forestry and Fisheries, younger people wanting to enter farming from a nonfarming background face a serious handicap in obtaining the necessary land because of the very high prices of that land (MAFF 1995; Food and Agriculture Policy Research Center 1998). This means that ownership restrictions (institutional ownership and qualifications) combined with inflated agricultural land prices, part of which is caused by high agricultural support, form a substantial barrier to entry or rationalisation. This is seriously hampering economies of scale and farm efficiency.

Providing domestic support to agriculture has been seen by some in Japan as a way of stopping the decline in employment in the agriculture sector. As indicated in the previous paragraph, there has been a widespread trend internationally for labor to be displaced by other inputs in farming irrespective of levels of support, and Japan is no exception. Clearly, continuing high agricultural support in not preventing the drift away from agricultural employment.

Farm incomes

One of the main objectives of agricultural policy in Japan has been to obtain comparable living standards between rural and urban communities. Politicians in Japan generally promote such policies because the current electoral system

gives a disproportionately high weight to rural votes. For lower house elections, the average rural vote is worth three urban votes and for the upper house it is worth up to six urban votes (Boonekamp 1995).

MAFF data indicate that farm household income now exceeds the income of nonfarm employed households by around 30 per cent (MAFF 1999c; Statistics Bureau 1998). While average farm household incomes now markedly exceed those in nonfarm employed households, income per employee is over 10 per cent lower in farm households than in nonfarm employed households, reflecting the larger number of employees in farm households. At the same time, however, in most locations the cost of living in a rural environment is less than in an urban environment, so it is difficult to make a judgment about the income effects of current support arrangements.

An important factor of farming in Japan is that very few Japanese farm households specialise in agricultural production. In 1997, around 82 per cent of farm household income was derived from nonagricultural activities, predominantly from wages and salaries earned by part time farmers at alternative employment in their local towns and cities (MAFF 1999c). Not only is this true for Japan as a whole but it is also true for most regions within Japan. The area where earnings from agriculture represent the highest proportion of farm household income is Hokkaido where, in 1997, agricultural income represented 43 per cent of the total. The next highest was Kyushu, where agricultural income was 18 per cent of the total. The lowest was in the Chugoku region in south west Honshu where agricultural income was only 6.2 per cent of total farm family income (MAFF 1998, p. 188).

Decreasing land base

Japan is a small and mountainous country. About two-thirds of its land mass consists of mountainous areas and forests. Much of the remaining land is used for residential and industrial purposes and for infrastructure, leaving only about 13 per cent for cultivation for agricultural purposes and less than 1 per cent for pastures. With continuing urbanisation, the area of agricultural land has declined by around 1 per cent each year in the past two decades. Between 1985 and 1997 the area of cultivated land fell from 5.4 million hectares to 4.9 million hectares.

Scale of Japanese farms

By any standards, the scale of most forms of agricultural production in Japan is very small. This is especially the case for cropping activities. The average

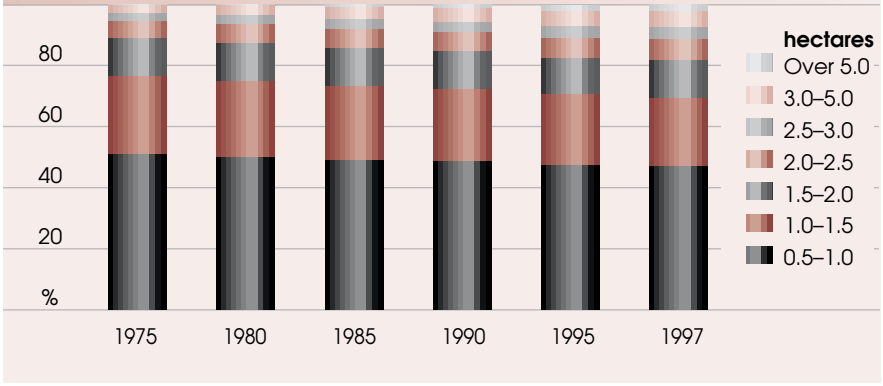
farm size in 1997 was just 1.5 hectares. Only 5 per cent of farms with rice exceed 2 hectares. Most farms with beef cattle are also small, the number with more than 100 cattle being only 4 per cent of the total in 1998.

In contrast, dairying has undergone substantial restructuring over the years and, now, almost a quarter of the farms have more than 50 cows. In Hokkaido, the largest dairying area, the proportion is around 60 per cent. Yasaka (2001) indicated that the average dairy herd size per farm increased 26 times in the past forty years and that the average herd size now exceeds that in the European Union. The scale of intensive pig and poultry operations, which are not as constrained by the limited land area, is relative large.

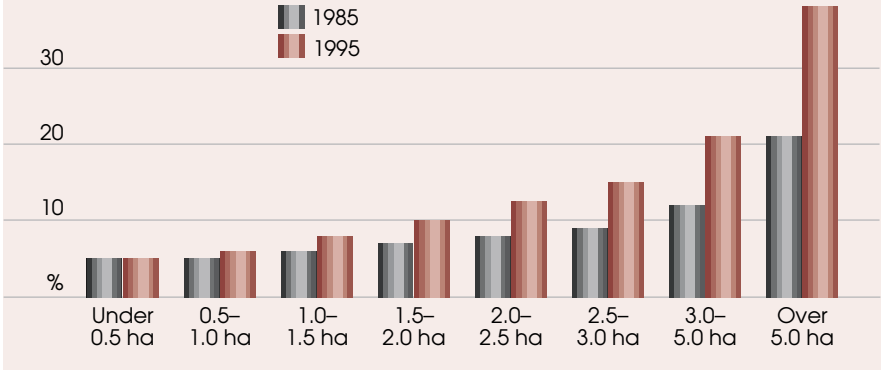
If farmers in Japan were subjected to world market prices, the relatively small size of most Japanese farms would mean that very few farms would be of a sufficient scale to maintain profitability once farm wages were taken into account. Major structural adjustment in Japanese agriculture would therefore be necessary if it were to be more competitive. Individual farms would need to become multiples of their current sizes.

Policies affecting the ownership and management of Japan's cultivated land are having an impact on the growth in scale of Japanese farming operations. The trend is toward consolidation, but agricultural policies mean that the rate of consolidation is slow. The number of smaller farms (0.5–1.5 hectares) is falling, while the number of farms of more than 3 hectares is rising (figure H). This increase is driven mainly by farmers who wish to expand their operations by leasing land from small farmers. This is demonstrated in figure I by the increase between 1985 and 1995 in the percentage of farms that are

H **Share of cultivated land, by farm size, Japan**



I **Proportion of farms operating on leased land, Japan**



now operating on leased land. This is particularly the case for farms greater than 5 hectares in size.

The number of relatively large farms, although still small, is slowly rising and the development of intensive and multiple farm management is occurring as Japan's farming operations slowly move toward consolidation. Farm consolidation has been very slow overall because of land prices inflated by support arrangements, the better pensions that owners of farm land receive and because of the aging of the farm population and the practice that many farmers at or near retirement retain their farm lands (Trewin 1999). Another important contributing factor is that prices of agricultural land are being inflated by competition for scarce land from nonagricultural alternative uses (Food and Agriculture Research Center 1998).

Also limiting the degree of farm consolidation are some tenancy laws and the exclusion of joint stock companies from farming operations. Some tenancy arrangement laws actually discourage land sales and subsequent farm consolidation. According to the Japanese Ministry of Agriculture, Forestry and Fisheries, this disincentive for farmers to sell their farm land is the major factor impeding growth in Japanese farming scale (MAFF 1996).

Joint stock companies

A major impediment to increased farm scale and efficiency are the regulations surrounding joint stock companies. These companies are similar to Australian, US and European public companies. The Farmland Law currently prohibits joint stock companies from purchasing farm land. The law's basic principle is that farm land should be owned by cultivators of the land (Honma

1999). Under current arrangements, apart from sole ownership by a farmer, only four types of organisational structures are allowed to own land — limited partnerships, partnerships, limited companies (with a minimum shareholder value of ¥3 million) and agriculture cooperatives.

A bill was passed in the Upper House in November 2000 to amend this Farmland Law to allow joint stock companies to purchase farm land. While the amendment allows joint stock companies for the first time to actually own land, restrictions would apply to both voting rights and board membership, so that effective control would remain with farmers. For example, each corporate member's voting rights is limited to 10 per cent, or a total of 25 per cent among all corporate members. Thus, 75 per cent control remains with the traditional farmer members.

Other restrictions applying to these amendments limit the attractiveness of companies as a means of attracting investment capital into agriculture. For example, one restriction is that the limited and joint stock companies can engage in nonagricultural activities, but turnover from these other activities must be less than half the total turnover of the company. A far more limiting restriction is that, although corporations can become members of farming joint stock companies, the member corporations must be engaged in continual dealing with the corporatised farm. This dealing can be as a supplier of inputs, processor or distributor of its products (for example, supermarkets and food processors) but the corporation must have an ongoing contract for these services or products. A significant effect of this restriction that imposes a degree of backward integration will be to exclude investment companies investing in agriculture — there are few obvious reasons why supermarkets would backward integrate into farming when they have the ability and freedom to source their supplies from numerous alternative sources.

The effect of these restrictions will be to leave control with the farmers. As a result, it is unlikely that the amendments to the Farmland Law will lead to a sustained investment flow of capital from other sectors into Japanese agriculture. Without wide ranging and profound structural changes that would necessitate such investment, it would not be possible for most of Japanese agricultural producers to be competitive against products from most alternative sources.

It is likely, therefore, that the agriculture sector in Japan will continue to push for and rely on high levels of domestic support to achieve the broader self-sufficiency goals of the Japanese government.

Imports remain important in Japan

After the European Union, Japan is the next largest importer of agricultural commodities in the world. Over three-quarters of these imports come from north America and Asia. In 1997 Japan imported nearly 11 per cent of the value of agricultural imports worldwide (WTO 1999). These imports represented almost 20 per cent of Japan's total value of imports in that year. Japan is a particularly large importer of animal feed, meat and skim milk powder and it ranks along with the United States as the world's largest importer of cheese. Despite the traditional place of rice in the Japanese diet, imports of rice are relatively small.

Food self sufficiency

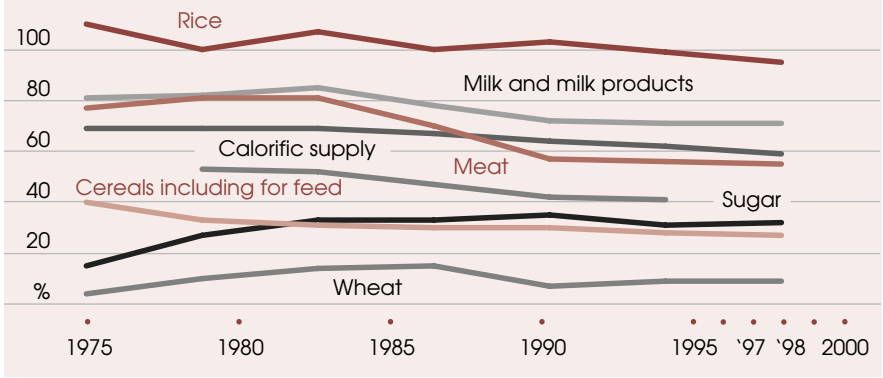
Self sufficiency in food in Japan has been declining for many years. In 1997, Japan's self sufficiency ratio was 41 per cent, the lowest in the developed world. Self sufficiency rates for many major commodity groups, apart from sugar and wheat, have fallen significantly since 1975 (figure J). The Japanese government's response to the falling self sufficiency rates is examined further in chapter 5. There is little doubt that attempting to reverse this trend has been a factor promoting the prolonged levels of high domestic support. In fact, as part

1 New Basic Law

The New Basic Law:

- represents a change in policy and has a broad acceptance in Japan, including from MAFF;
- contains provisions that promote self sufficiency and the so-called 'multifunctionality' of agriculture; and
- promotes reforms to internal pricing arrangements to better reflect the supply–demand situation.

J Self sufficiency ratios in commodity groups, Japan



of the New Basic Law (see box 1), Japan has recently announced self sufficiency targets. As is indicated later in this study, even the present levels of self sufficiency in Japan are in a sense illusory because of Japan's dependence on imports of critical inputs, such as petroleum for fuel, fertilisers and chemicals, for agricultural production.

Reform under the WTO

Under the WTO Agreement on Agriculture, there were two main approaches to reducing agricultural market distortions. One was to reduce barriers to trade (increase market access) and market distorting subsidies. The other was to encourage countries to reorient support away from highly distorting price support to less distorting production limiting arrangements or decoupled arrangements, with payments under these arrangements being exempted from agreed reductions in domestic support (Roberts 1997).

Dirty tariffication

Generally, the reductions in actual tariffs from 'tariffication' — whereby tariff and nontariff barriers were converted to tariffs and then negotiated down — were small. There were two main reasons for this: first, protection levels during the base period (1986–88) were the highest for the previous fifty years; and, second, unrepresentative tariff equivalents were used as a base for reduction commitments — Ingco (1995) termed this 'dirty tariffication'.

Dirty tariffication is basically the difference between what would have been a representative tariff conversion and the one actually offered. This practice was widespread in the Uruguay Round of negotiations which concluded in 1994 and the provisions of which were progressively applied for agriculture from 1995 to 2000, as some countries offered tariff equivalents that were obviously inflated. Dirty tariffication occurred in several commodities in Japan, including rice — see chapter 3. The effect was that relatively large reductions in some bound tariffs had very little effect on market access.

Apart from beef where the Japanese market became more open as a result of the replacement of quantitative restrictions by tariffs from 1989, access for many agricultural products to the Japanese market since the conclusion of the Uruguay Round has been largely within tariff-quotas that are applied to assure at least current access and to increase access to agreed minimum levels. If in the current WTO agricultural negotiations that commenced in

early 2000 substantial progress is not made in reducing Japan's often exorbitant applied tariffs beyond tariff-quota quantities, it may be necessary to rely substantially in the future on tariff-quotas as a mechanism to at least assure current access for some products and to further advance access for others.

This highlights the important role that provision of minimum access and assurance of current access will need to continue to play in future negotiations

Market access

Under the Agreement on Agriculture there were small gains in assuring current access and opening markets through minimum access arrangements, using tariff-quotas as the relevant mechanism. However, the tariffs for beyond quota imports were generally prohibitive, enabling tariff-quotas to be used largely as a tool for managing trade within highly distorting support systems rather than for prizing or keeping markets open (Roberts, Podbury, Andrews and Fisher 1999).

Special safeguards that were intended to provide a cushion for producers against substantial increases in imports are, in some cases, being used as an integral part of market management systems. Special safeguards are also used to protect producers against drops in import prices. Japan has used special safeguards — for example, in the pork market following substantial increases in imports of pork.

Tariffication of state trading

Before 1995, Japan restricted imports of several agricultural commodities through the operations of state trading enterprises. In the WTO Agreement on Agriculture that emerged from the Uruguay Round, tariffication was intended, in principle, to make markets more accessible to imports, at least partly reducing the monopoly power of these enterprises. The concept of tariff-quotas was introduced as something of a half way house between a tariffs only system for barriers to market access and former nontariff barriers such as import quotas and direct quantity restrictions on imports. Under the tariff-quotas, a specified quantity of imports of a particular product is permitted entry at a lower tariff than the tariff on imports of that product above the specified quantity. This access quantity does not necessarily provide a guarantee of that volume of imports. It does, however, provide an access

opportunity at a lower tariff than would otherwise be the case for imports up to the specified quantity.

Anyone can buy these imports, but they must be sold to the relevant state trading enterprise when the products arrive at the port of entry. This sale is made at the price declared to the customs authorities as the total import cost, including the original price, tariff, transport and insurance costs (cif). As soon as the imports are sold to the state trading enterprise, the enterprise has to sell the products back to the original importers at a higher price calculated by adding the markup to the total import cost. These markups generated by the state trading enterprise are transferred to farmers, while the tariff revenue goes into the general account for government expenditures.

The access quantities committed in this category are the amounts that the state trading enterprises are obliged to import. The state trading enterprises can also import beyond the access quantities and charge the same markups as on the access quantities. Hence, if state trading enterprises choose to import beyond their access quantities, there are no incentives for private enterprises to import — they could purchase the commodities from the state trading enterprises at a lower cost.

Domestic support

For the purposes of the WTO Agreement on Agriculture, levels of domestic support that are subject to negotiated reductions are measured by what is termed an aggregate measurement of support (AMS). Under the agreement, the AMS was to be reduced by 20 per cent from its 1986–88 base level over the implementation period 1995–2000, with the reduction being for agriculture as a whole. The AMS is the sum of price support and nonexempt subsidies less producer levies. In turn, price support is defined as the difference between administered internal support prices and a fixed external reference price that was set at the 1986–88 average, multiplied by the quantity eligible for support.

In Japan, agricultural support is provided predominantly through price support that is under-scored by supply control through restrictions on imports and the use of administratively determined internal support prices.

Because of the importance of price support, it might be expected that Japan's domestic support would have declined along with its commitments to reduce its AMS during the implementation period. Yet, for most major commodities, that did not happen. Actual support levels declined initially during the

implementation period at a time when world prices had risen. However, support levels subsequently rose again and in 1999 were still as high as in the 1986–88 base period (table 1). This maintenance of actual support levels for many highly supported products occurred despite the commitment to reduce domestic support for agriculture by 20 per cent.

1 PSEs for selected major agricultural commodities, Japan [a]

	1986–88	1997	1999
	%	%	%
Rice	88	78	88
Wheat	88	86	88
Sugar	67	59	67
Milk	84	75	80

a Producer support estimates (PSEs) are defined as the level of support as a percentage of the supported value of production.
Source: OECD (2000).

How could it be that actual support levels were maintained at the same time as Japan met its commitments to reduce its domestic support by 20 per cent? The answer lies partly in a somewhat greater orientation of Japanese support toward exempt forms of support such as provision of government services. However, it lies principally in the means by which the AMS is measured and the fact that it is not representative of actual domestic support.

Price support, the dominant element of the AMS in Japan, is measured as the difference between internal administered support prices and a constant external reference price, whereas the actual level of market distorting price support is determined as the difference between actual internal prices and actual import prices at world market levels. Through much of the period between the 1986–88 base period and 1999, with the exception of the period 1995–97 when world market prices rose markedly for most products, import parity prices declined in terms of yen. The strengthening of the yen relative to most other currencies contributed substantially to this development. This decline in actual import parity prices was not reflected in AMS levels, which are calculated using a constant external reference price. So, by implementing some reductions in internal support prices, Japan was able to meet its AMS reduction commitments. However, the actual levels of support were maintained as the actual levels of world market prices fell by as much in terms of yen as did the internal administered prices.

Commodity analysis

3

Japanese rice policy

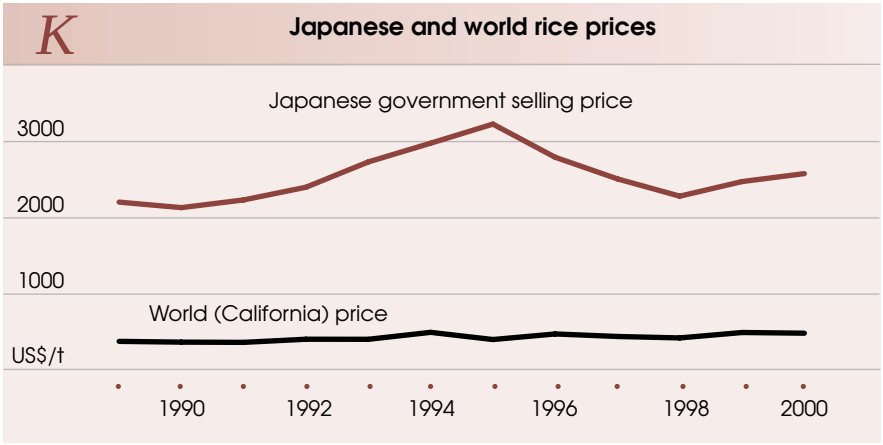
Key policy	Major impacts
Price support	• Increases consumer prices • Reduces import access • Increases domestic production surpluses
Land diversion schemes	• Increase cost to Japanese taxpayer • Increase inefficient production of other crops on marginal land

Rice is Japan's principal agricultural product, accounting for around 35 per cent of the value of all agricultural output and using almost 41 per cent of the total area devoted to agriculture and fodder crops (MAFF 1999b).

Prices

The pricing and marketing of rice in Japan are subject to government intervention. As well as determining the purchase prices that underscore the market, the government determines the prices at which the government agency may sell. Although there has been a trend toward private selling, the extent of government trading and the restrictions on imports are sufficient to maintain the extremely high internal prices and levels of protection. Japanese consumers are paying for virtually all of the support that is provided to the rice industry through high support prices that are sustained by the exclusion of competition from imported rice. Japanese consumers have been paying around four to six times the world price for domestic rice (figure K). An allowance for transport and handling is made in this calculation.

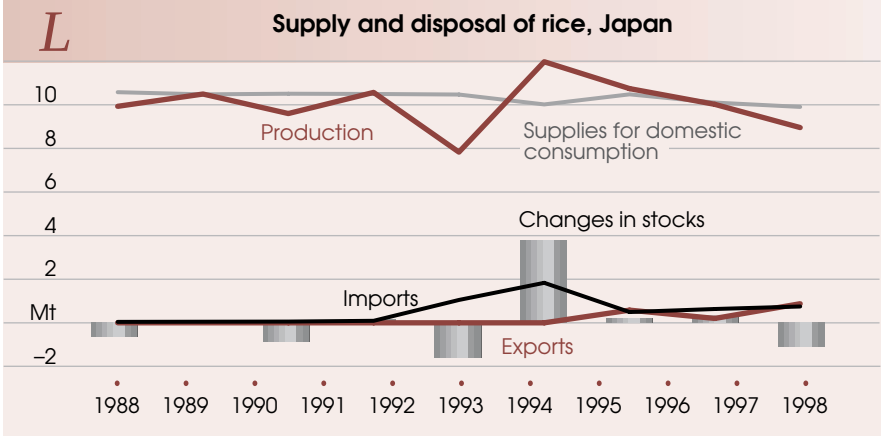
In late 1999 the Japanese government lowered the price at which it buys rice from domestic rice growers by 2.7 per cent. The purchase price was cut to around US$2500 a tonne. The Japanese government also lowered the price of imported rice by 1.6 per cent to US$2150 a tonne. This compares with a world price equivalent of around US$480 a tonne in 1999 — that is, the Japanese price was still 4.5 times the world price.



Imports

There are two major types of rice that dominate production, consumption and trade in the world rice market. One type, indica, is a long grained rice, while the other, japonica, is a shorter grained rice. Indica accounts for around 90 per cent of the total volume of global rice trade. The Japanese have a consumption preference for japonica rice, with the major exporters of japonica rice being the United States, China, Australia and Italy.

For many years, Japan's imports of rice were negligible. Japan is now obliged to import quantities of foreign grown rice under the WTO Agreement on Agriculture (figure L). Imports have averaged around 575 000 tonnes for the past five years. Most imported rice is stored for twelve months before it is



released for other purposes such as food aid; this is an additional barrier to importing.

Consumption

Rice consumption per person in Japan has been falling for the past forty years. The amount of rice consumed per person fell by 7 per cent in the 1990s (MAFF 2000). This reduction per person has combined with slower growth in population to result in aggregate consumption declining slowly. Young people now eat much less rice than did their parents. The sale of rice was controlled for many years by the Japanese government's Food Agency until the Staple Food Control Law was introduced in November 1997. This resulted in the widespread relaxation of government regulations on domestic marketing of rice and made it possible for consumers not only to select from retail outlets but also to select from different brands of rice. While there is visible growth in the consumption of some particular brands, overall consumption of rice per person remains lower than historical levels.

Production

Improved yields and high levels of support kept rice production in Japan in the 1990s at around an average of 10 million tonnes a year until 1997. However, production has been lower recently at about 9 million tonnes a year, most of which is for domestic consumption. Even so, with consumption declining, surpluses have become a long term problem. The government has tried to reduce these surpluses by encouraging farmers to divert land away from rice paddies to other uses such as soybeans and sugar beet and also use of significant quantities for overseas food aid in some years.

Production controls

Throughout most of the 1970s and early 1980s large public stocks were accumulated as production of rice in Japan far exceeded consumption. Now, not only are the high prices for rice stimulating production, but consumption has been slowly declining as diets have moved gradually away from starchy staples, including rice, as incomes have risen (ABARE 1988). Overproduction was further aggravated by bumper rice harvests in the mid-1990s and by the start of imports under Japan's minimum access commitments.

There have been several responses by government to address the problem of rice surpluses. In the 1970s the response of policy makers to the supply

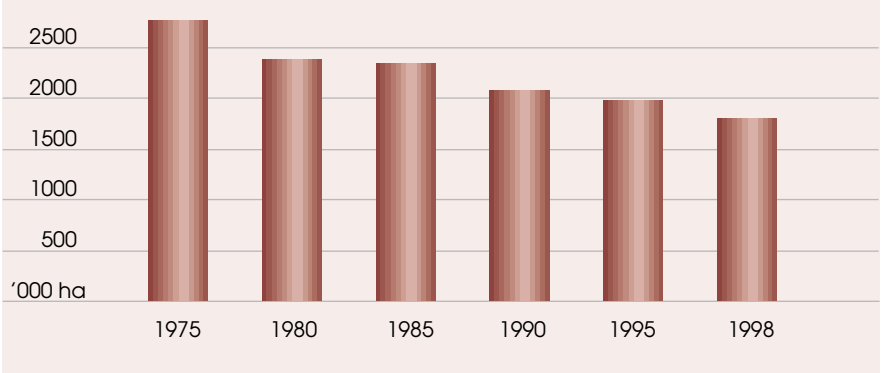
imbalance in rice was not to reduce incentives to produce and increase incentives to consume by reducing support prices, as would occur from the operation of market forces. Rather, it was to maintain support prices and embark on a land diversion program where payments were made to farmers to divert rice land to other crops and activities.

The diversion program is currently funded jointly by grower and government contributions. There are several alternative uses for the diverted land. These include 'diversion to general crops such as soybeans, wheat, barley and feed grains, diversion to permanent crops such as fruit trees, diversion to the so-called multifunctional purposes such as crops for landscape conservation, conservation of paddy fields without cropping, diversion to specific crops such as vegetables, land improvements during the production period, and conservation management' (Food Agency 1998).

Diverted areas peaked at 826 000 hectares in 1991 — an area equivalent to nearly a third of Japan's total rice paddy area. Since 1994, total subsidy payments for set-aside areas and payments per hectare have again been increasing (WTO 1998b). Consequently, the area of rice planted has continued to fall. Between 1975 and 1998 the area planted to rice had fallen by almost 35 per cent (figure M).

Current production controls are claimed by MAFF to provide greater scope for individual production decisions by farmers. Under a 'mutual compensation' system, producers not implementing production controls are required to give financial assistance to those who do implement the production controls.

M **Area planted to rice, Japan**



Stockpiling

Japan's current policies on rice stockpiling took effect in November 1995, as part of the Law for Stabilisation of Supply–Demand and Price of Staple Food, with the main goal of maintaining supplies at a flexible target level of about 1.5 million tonnes (WTO 1998b). The actual amount stockpiled is essentially determined by supply and demand trends. After falling to around zero in 1994, the stockpile increased to nearly 2 million tonnes at the end of 1996. About 5 per cent of the rice stockpiled is imported. Japan also exports significant quantities of rice (for example, 560 000 tonnes in 1995) as food aid (WTO 1998b).

Much of the rice that has been imported by Japan under its tariff-quota arrangements has been stored for long periods or used as food aid. The MAFF budget for stockpiling rice was ¥243.3 billion in 1999, or about 7.1 per cent of the total MAFF budget. The extra quantities imported would increase effective import demand and have a positive impact on world prices. However, quantities diverted to food aid do not compete on the domestic market and therefore do not directly reduce the market distortions in Japan arising from the present highly regulated and protective arrangements. To the extent that this diversion occurs, the benefits to the Japanese economy from greater use of resources in internationally competitive activities rather than growing rice at high cost for sale to Japanese consumers at high prices are not being obtained. The Japanese government's policy toward stockpiling rice and its costs are analysed further in chapter 5.

Simultaneous Buy and Sell Scheme

A limited amount of rice is imported through the simultaneous buy and sell method, whereby importers and wholesalers offer tenders simultaneously for the selling and buying prices of each variety of rice. The prices offered by the wholesalers reflect the market demand and differences between these prices and the prices quoted by importers are the market evaluation of the price differentials on imported rice. The Food Agency collects the difference between the selling and buying prices.

According to MAFF, the risk in significantly expanding this simultaneous buy and sell system is that the government may no longer be able to ensure rice imports at the agreed quota levels in the event of a lack of domestic demand (WTO 1998b).

Uruguay Round commitments

One of the more important developments from the Uruguay Round for agriculture was the opening of a degree of tariff-quota access to the Japanese market for rice. Previously, the Japanese rice market was virtually closed to imports, with only very small quantities of specialised types allowed entry.

However, with the conclusion of the WTO Agreement on Agriculture in 1994, the Japanese government agreed to permit entry of an increasing volume of imported rice over the 1995–2000 implementation period (table 2). Some countries were allowed to delay tariffication for traditional staples until 2000, but their minimum access commitment would be higher for each year in which they did not tariffy. Initially the Japanese government chose not to accept tariffication of import barriers. Instead, it undertook to import amounts increasing from 379 000 tonnes in 1995 to 758 000 tonnes in 2000. This represented an increase from 4 per cent of consumption in the 1986–88 base period progressively to 8 per cent in 2000. However, the Japanese government also maintained the ability to accept tariffication before the end of the implementation period, in which case the annual increases in imports for years beyond the time when tariffication was adopted would be half those initially agreed.

The outcome of the refusal of tariffication for rice was the larger volume of minimum access imports, which ironically placed greater downward pressure on domestic rice prices. The pressure was strong enough for the government to replace the import quantity control with a new tariff measure in April 1999. The tariff equivalent was set at ¥351 a kilogram for 1999. This is prohibitively high — no rice imports are expected by private traders. The minimum access commitment was reduced by almost 38 000 tonnes to 644 300 tonnes in 1999, and by almost 76 000 tonnes to 682 200 tonnes in 2000 (table 2).

Controversy surrounded the Japanese tariffication of rice because the tariff equivalent was based on the price gap between different qualities of domestic and imported rice. Honma (1999) pointed out that the

2 Access levels to the Japanese rice market

	Initial access	Revised access after tariffication
	kt	kt
1995	379.0	379.0
1996	454.8	454.8
1997	530.6	530.6
1998	606.4	606.4
1999	682.2	644.3
2000	758.0	682.2

Sources: Young (1994); WTO (1998a).

tariff equivalent for rice was calculated by comparing the Japanese internal price with prices for Thai broken rice, which is used in both food and food processing. If the Japanese price had been compared with comparable quality rice, for example from the United States, the tariff equivalent would have been far lower. Although this procedure was not prohibited, given a ¥150–200 a kilogram differential between the two qualities of rice, several countries including Uruguay, the European Union, Australia and Argentina criticised the way in which the tariffication was done (Honma 1999).

Japanese dairy policy

Key policy	*Major impacts*
Import tariff quotas, tariffs and special safeguards	Restrict imports, increase prices to consumers, increase prices to domestic producers
Deficiency Payment Scheme	Increases in consumer prices or taxpayer costs, depending on how financed (scheme is to be replaced by another income support scheme)

For several decades, Japanese dairy policy has been characterised by the goals of increased self sufficiency and farm income support. While farm income support remains a central objective, changes in the forms of delivering such support are being finalised to introduce a greater degree of market influence than the present highly insulated system. Even so, the support to Japanese milk producers arises largely through limitations, controls and tariffs on imports of dairy products that are not being directly affected by the changes to domestic support arrangements.

The nature and extent of those charges and controls on imports will remain prime determinants of internal prices to Japanese consumers of dairy products. They also underpin support to domestic producers, although they have been supplemented by direct payments for processing milk through the buying and selling operations in domestic and imported dairy products by Japan's Agriculture and Livestock Industries Corporation (ALIC) and measures to control supplies and interregional competition for fresh milk.

In the past, the payments for manufacturing milk have taken the form of deficiency payments to enable producer returns to reach an administratively set guaranteed price. With the changes that are occurring in support arrangements, ALIC will no longer be involved in the buying and selling operations for domestic dairy products and changes are to be made to replace deficiency payments by another form of support payments.

Production and prices

Milk production is controlled through an informal production quota arrangement and administered by the many industry producer organisations throughout the milk producing regions of Japan. The government guarantees producer prices for a fixed quantity of milk used in manufacturing through a system of standard transaction prices and deficiency payments. This system of support, known as the Deficiency Payment Scheme, has been implemented through ALIC (OECD 2000).

Producer returns for liquid milk for direct human consumption, which constitutes around 60 per cent of total Japanese milk production, however, are not covered by these government controls. They are maintained above manufacturing milk returns by informal restrictions on the trade in liquid milk between regions.

Japan's Deficiency Payment Scheme has had two main objectives — to maintain stable supplies of dairy commodities and to promote dairy farming in remote areas. A stable supply of dairy commodities has been maintained by allocating a predetermined national milk quota to producers. The scheme's producers are prefectural farm cooperatives of dairy producers. If the quota was exceeded the deficiency payment would not be made. In 1999, the deficiency payments attributable to the annual subsidy volume of 2.4 million tonnes were about ¥26 billion (Global Agriculture Information Network 1999b).

Dairy farming in remote areas has been encouraged by guaranteeing an average price of milk for dairy farmers in designated regions. Without this mechanism, dairy farming in areas such as Hokkaido that has historically been considered well suited for dairy farming would be limited by location and price disadvantages in marketing milk over other prefectures closer to major centres.

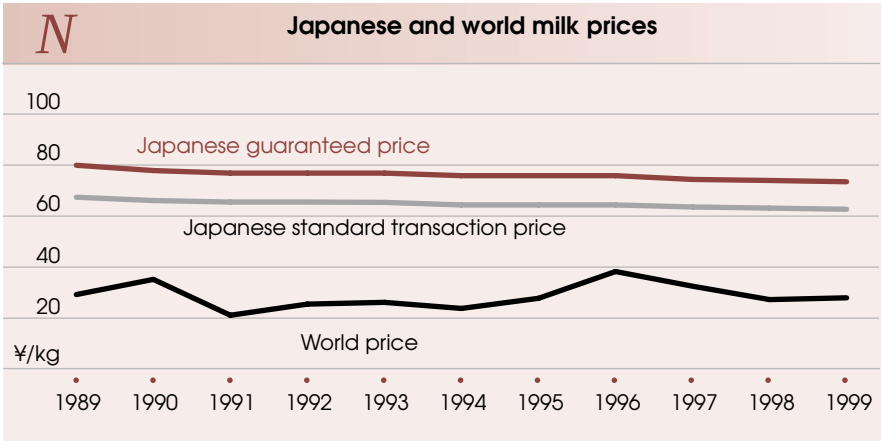
Deficiency payments were determined by the difference between the guaranteed price (the farmer's actual receipt for milk) and the standard transaction price (the dairy manufacturer's actual payments to dairy farmers for milk for processing) (table 3). The guaranteed price was based on stabilisation index prices for skim milk powder and butter. The guaranteed price was supposed to reflect the average cost of milk production in remote regions plus dairy manufacturers' average overheads and sales margins.

3 Dairy deficiency payments, Japan

	Guaranteed price	Standard transaction price	Deficiency payment	Volume subject to deficiency payment
	¥/kg	¥/kg	¥/kg	kt
1989	79.83	67.25	12.58	2 300
1990	77.75	65.98	11.77	2 350
1991	76.75	65.40	11.35	2 400
1992	76.75	65.40	11.35	2 400
1993	76.75	65.26	11.49	2 350
1994	75.75	64.26	11.49	2 300
1995	75.75	64.26	11.49	2 300
1996	75.75	64.26	11.49	2 300
1997	74.27	63.46	10.81	2 400
1998	73.86	63.02	10.84	2 400
1999	73.36	62.56	10.80	2 400

Source: MAFF yearbook 1999.

The guaranteed price was more than two and a half times the world indicator price, the New Zealand manufacturing milk price, in 1999 (figure N). In fact, the lower standard transaction price was still more than double the world indicator price. This is a result of domestic prices being propped up by import restrictions on dairy products. As fresh milk is a nontraded item internationally, the impact of any liberalisation on prices will also depend on the relative efficiency of dairy processing compared with international competitors and the proportion of domestic milk used for fluid milk production.



The Indicative Stabilisation Prices Scheme has supported Japanese wholesale prices for milk powder, butter and condensed milk. The indicative stabilisation price for each particular product was determined on the basis of the standard transaction prices paid for milk along with estimated processing costs. ALIC then maintained market prices close (within 90–104 per cent) to the indicative stabilisation price by purchasing, stockpiling and selling domestic and imported dairy products as required.

The corporation is also empowered to purchase and release imported products to ensure that prices remain below the upper limit. However, to ensure stability of the system, imports of butter and skim milk powder for human consumption outside the ALIC process are effectively stopped by high tariff rates (Australian Dairy Corporation 1999).

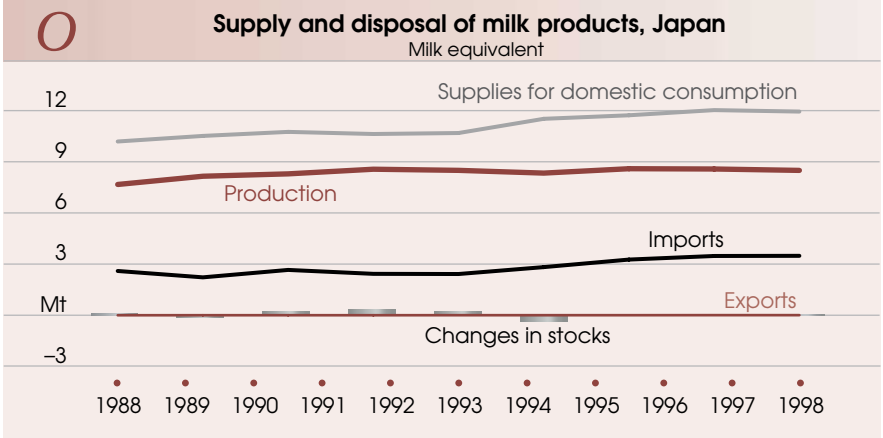
The ALIC also monitors the prices of skim milk powder and butter. They have intervened by buying and selling specific domestic and imported dairy products to bring the price of the products into a desired range, determined by the stabilisation index. The corporation also undertakes emergency imports of dairy products in case of shortages (Global Agriculture Information Network 1999b). An example of such emergency purchases was the purchase of 12 000 tonnes of skim milk powder in September 1999.

The Law for Partial Amendment of the Temporary Law for Compensation Price for Producers of Milk for Manufacturing Use was passed in the Japanese Diet and promulgated in May 2000. Consequently, in mid-2001, the Deficiency Payment Scheme will be abolished and replaced by producer subsidies. Full details of the new scheme are yet to be finalised, but producer subsidies will be set annually in the light of the unit rate paid in the previous year and changes in costs of raw milk production (Yasaka 2001).

Consumption

Consumption of dairy products in Japan increased steadily in the 1990s (figure O).

Sixty per cent of Japan's milk production is consumed as fluid milk. In 1996, domestic production of raw milk for drinking and for supply to dairy product manufacturers amounted to about 5.2 million tonnes and 3.35 million tonnes respectively. Various imported milk products also contribute to the domestic supply of dairy products, bringing the overall consumption of dairy products to over 12 million tonnes.



Trade

With the highest consumption of dairy products per person in Asia, Japan is a dominant market for Australian and New Zealand dairy products. Japan is a net importer of dairy products, producing only 15 per cent of its total cheese requirements and 75 per cent of its skim milk powder requirements (ABARE 1999a). In recent years there has been an increase in both consumption and imports of cheese. Cheese consumption in Japan has increased by around 5 per cent a year since 1994.

WTO dairy sector reform

Japan's imports of butter and skim milk powder have been closely controlled under tariff quotas agreed in the Uruguay Round negotiations. The market for cheese is more open, with imports entering on a tariffs only basis. There is a relatively wide range of tariffs for various types of cheese. For processed cheese, the tariff is now 40 per cent compared with 79.7 per cent in the base period 1986–88. As well as cheese entering on a tariffs only basis there is a scheme for natural cheese for processing that links quantities that are allowed entry duty free to use of domestically produced cheese. However, because the domestic cheese industry is relatively small, most imports now enter under the normal tariff arrangements.

Apart from cheese where tariff reductions and relative openness have been instrumental in enabling imports to increase, Japan's commitments to Uruguay Round reforms have had very little impact on support levels within the dairy sector (see table 1) because of tight constraints on imports through

tariff quotas and special safeguards. There are now some indications of more substantial reform in the sector, although these are mainly at the margin, relating to internal pricing and support mechanisms and not considering the role of trade liberalisation.

The deficiency payment scheme and the pricing arrangements for raw milk for manufacturing that applied up to 2001 are in the process of being reformed and restructured. The support price (the standard transaction price of raw milk for processing) and deficiency payments had, until 2001 been prime determinants of the contribution of support for milk to Japan's overall AMS for domestic support, which was subject to a 20 per cent reduction over the period 1995 to 2000.

The guaranteed support price is to be discontinued and the deficiency payment replaced by another form of direct payment. These changes are designed principally to enable support to be maintained but in a way by which most of it will be excluded from incorporation in the AMS which is subject to limitations under the WTO Agreement on Agriculture. As Yasaka (2001, p. 60) observed, 'for reduction of AMS, it was thought wise to abolish the price support for dairy products'. But he also observed that 'this reduction was only a formality'. Essentially, the reforms, at least as they involve the elimination of support prices for manufacturing milk and changes to the form of government support payments, constitute maintenance of price support in fact but not in name.

To more fully understand the motivation for this 'formal' change, it is necessary to appreciate the basis for determining the AMS under the present WTO Agreement on Agriculture. The AMS is that part of domestic support that is subject to agreed reductions under the agreement. It is determined from the sum of price support and nonexempt forms of government payments such as deficiency payments. However, the price support element does not measure true price support, which is determined from the difference between actual internal prices and border prices, which, for Japan, would be actual import parity prices. For the purposes of the agreement, the price support element is determined from the difference between actual *administered* support prices and a constant external reference price that was set at the average import price for the agreed base period 1986–88.

The degree of actual price support, as opposed to the highly truncated form accepted for the AMS in the agreement, is determined primarily by border measures that, for Japan, take the form of tariff quotas and safeguards on

imports and management of the flow of imports to the market by the state market managing body. By doing away with the formal high administered support price but by maintaining the import barriers that provide the primary actual price supports, the actual market prices and price support for milk products and manufacturing milk can be maintained while the price support element of the AMS can be eliminated. That does not exclude the potential at the margin for the reforms to influence the extent to which prices for drinking milk consumption can be maintained above manufacturing milk prices. Such additional price support for drinking milk depends on the extent to which regional price formation arrangements can isolate the drinking milk market from the manufacturing milk market. In any event, the support for manufacturing milk that arises from import barriers for dairy products will provide a floor for drinking milk prices.

The changes to Japanese pricing arrangements for milk for processing are likely to result in there being a distinction from how they were provided in the past without there being any significant difference. The fact that such a change can be made to obtain actual reductions in Japan's overall AMS highlights the inadequacy of the present arrangements for reducing domestic support under the current WTO Agreement on Agriculture.

Effective reforms that ensure that high levels of domestic support will be reduced require price support to be determined, not from administered support prices and a constant external reference price, but from actual internal and external prices (Roberts et al. 2001). If actual price support, not the highly contrived version that is incorporated in the present AMS were included in the AMS, it would not be possible for Japan or others to manufacture reductions in their AMS by changing the form of their support arrangements while changing their content minimally if at all.

The revision, within the framework of Japan's New Agriculture Basic Law, aims to correct the rigid price formation structure for many specific dairy commodities that has existed until now under the guaranteed price based subsidy payment arrangement. It has been suggested that these reforms will bring more transparency and market influence into the system. However, while these reforms are likely to reduce the part of the AMS attributed to dairy support, and may introduce an element of flexibility into internal pricing, Japanese dairy farmers will continue to receive substantial government protection and assistance on an open ended basis with no sunset clause, with much of the support continuing to take the form of high internal prices for milk that are underpinned by restrictions and charges on imports.

As a pilot project, in September 1999, MAFF established a dairy commodity market in which skim milk powder and butter was imported under the minimum access scheme introduced as a result of the Uruguay Round and traded in monthly biddings. Theoretically, the skim milk powder and butter prices for the minimum access quantities will be determined by market forces, in which the prices fluctuate in response to market demand and supply. However, the imports themselves are entering under tariff-quota limitations. The reform deliberations for milk do not appear to have taken the position of imports in market supplies into consideration, other than indirectly in the context of target levels of self sufficiency, so the situation on the supply side is a very constrained one — hardly one that might be considered to be truly market oriented.

Increasing demand for dairy inputs by Japan's industrial and food processing sector is expected to exceed the Uruguay Round commitments over time, leading to the possibility of additional import opportunities. Within Japan, however, there is concern in some quarters about the effects of extreme price fluctuations if producers are subject to more open import competition. MAFF is in the process of devising a relief measure consisting of compensation payments to producers for losses incurred if extreme price fluctuations occur.

Although imports of dairy products have increased since the conclusion of the Uruguay Round, Japanese consumers are still faced with prices several times the world price.

Japanese sugar policy

Key policy	*Major impacts*
Price Stabilisation Law	• Increases producer price • More inefficient domestic production of sugar • More food processors moving offshore • Increases consumer price • Reduces imports • Increases consumption of substitutes

Japan has one of the world's most diverse sugar and sweetener industries. Sugar production includes both domestic beet and cane sugar production, which together account for only a third of annual sugar consumption. The balance is imported largely in raw form for processing by a large sugar cane refining industry. Japan's production of high fructose corn syrup (HFCS) is second only to that in the United States and provides an alternative caloric sweetener to sugar for the food and beverage manufacturing industry (ABARE 1999b).

Complex government policies of producer price supports, surcharges and tariffs underpin a high cost sugar industry in Japan. The domestic price for sugar is among the highest in the world. The very high levels of support for sugar that form part of the stabilisation scheme in Japan have contributed to a declining trend in sugar consumption and imports over the years (figure P).

Production

Sugar beet is the main source of domestic sugar production in Japan. Around three-quarters of the 92 000 hectares of land under sugar production in Japan is planted to sugar beet (MAFF 1999c). In 1997-98, around 3.7 million tonnes of sugar beet and 1.4 million tonnes of sugar cane were produced. Of the total production of processed sugar in 1997-98, approximately 640 000 tonnes originated from sugar beet and 164 000 tonnes from sugar cane. Japan's total

domestic sugar production has remained relatively steady between 800 000 and 1 million tonnes a year for the past decade. Production is maintained at these levels only with the assistance of high levels of Japanese government support.

Beet sugar

Refined beet sugar production has consistently been between 550 000 and 650 000 tonnes over the past two decades. Despite some improvements in productivity, Japan's beet sector has remained high cost. The year to year stability of the sector is explained by a long standing price stabilisation scheme.

Sugar cane

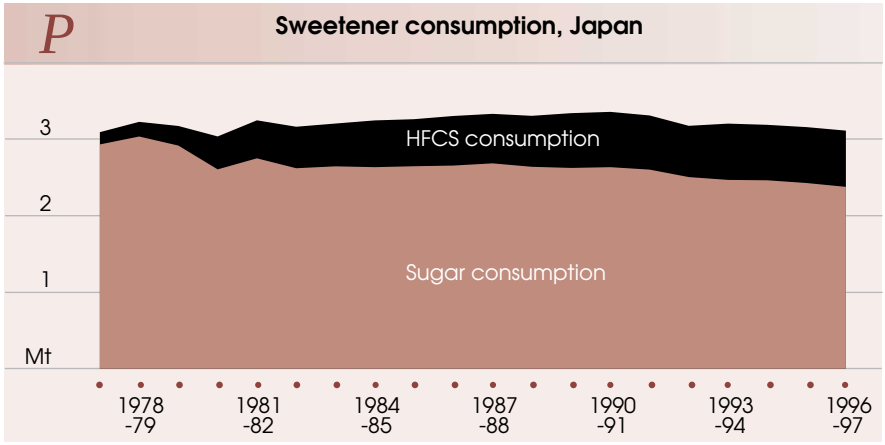
The area of land under sugar cane has fallen gradually over recent years as a result of high labor costs and substantial mill operating costs — Japan is one of the world's highest cost producers of sugar cane. This has resulted in a steady decline in cane sugar production — current production is around 30 per cent lower than production in the early 1980s (MAFF 1999c).

In recent years, only about 15 per cent of total raw cane sugar processed by Japan's refineries has been of domestic origin, with the balance supplied by imports. Raw cane sugar refining capacity has been significantly underutilised in recent years because of the fall in raw sugar imports following the contraction in domestic demand for sugar.

Consumption

Although total sweetener consumption in Japan has remained fairly constant over the past two decades, consumption of sugar has been declining. This has predominantly been the result of competition from sugar substitutes and dietary changes away from products containing sugar (ABARE 1999b).

In 1998-99, Japanese sugar consumption was 2.4 million tonnes, down from 2.8 million tonnes in the early 1990s (figure P). This equates with per person consumption of 18.9 kilograms, compared with 23 kilograms in 1990-91. Consumption is very low compared with that in other industrialised countries with similar living standards. High fructose corn syrup (HFCS) is the dominant alternative sweetener, with consumption in 1996-97 estimated at 737 000 tonnes (ABARE 1999b).



Prices

In November 1999, wholesale prices for refined sugar in Japan were estimated at ¥133 a kilogram, continuing the gradual decline in prices this decade. However, they were still greatly above world sugar prices because of Japan's domestic support system. World market prices for raw sugar, after allowing for freight to Japan have fluctuated between about ¥20 and ¥33 a kilogram. The downward trend in Japanese wholesale prices continued in 2000, falling by about ¥10 a kilogram in the year to December.

MAFF expects that consumer prices will be reduced by the same amount. Reductions in Japan's domestic sugar prices are aimed at boosting domestic demand because sugar consumption had fallen to about 2.3 million tonnes in 1998-99 — a fall of around 15 per cent over the past decade (table 4). This can be explained by competition from sugar substitutes such as HFCS and imports of products containing sugar.

The wholesale price of HFCS has been about 60 per cent of the price of sugar — thus offering a clear incentive for substitution where technically feasible.

Trade

Japan, with imports of 1.5–1.6 million tonnes a year (table 4), is consistently Asia's largest sugar importer. However, annual imports are currently about 15 per cent lower than they were a decade ago, reflecting the contraction in domestic sugar consumption. Almost all of Japan's imports are of raw sugar, with Australia and Thailand usually accounting for 80 per cent of the total.

4 Supply and disposal of sugar, Japan

	1991 -92	1992 -93	1993 -94	1994 -95	1995 -96	1996 -97	1997 -98	1998 -99 f
	kt	kt	kt	kt	kt	kt	kt	kt
Production	1 002	906	845	821	900	767	876	932
Consumption **a**	2 793	2 572	2 634	2 677	2 622	2 493	2 400	2 390
Imports	1 845	1 730	1 706	1 774	1 705	1 652	1 606	1 499
– raw	1 842	1 728	1 703	1 772	1 703	1 649	1 602	1 497
– white	3	3	3	3	3	3	2	2
Exports	2	1	1	1	4	11	9	7
– raw	1	0	0	0	0	0	0	2
– white	1	1	1	1	4	11	9	5

a Calculated as production plus imports, less exports and change in stocks. **s** Estimated.
Source: Licht (1999).

Japanese sugar policies

Japanese sugar policies have significantly distorted both the domestic sweetener market and the world sugar market. Administered support prices established under the Sugar Price Stabilisation Law constitute the main element of Japanese sugar policy. The main objectives of the stabilisation law are to stabilise the domestic sugar price, to protect the domestic sugar market from import competition and to provide income support for farm households (ABARE 1988). High support prices are reinforced by substantial import protection and heavy regulation.

As a result, support for Japan's sugar industry is very high. For example, for the period 1997–99, the producer subsidy estimate for Japanese sugar was 64 per cent. This compares with an average of 48 per cent for the OECD as a whole and 4 per cent for Australia for the same period (OECD 2000). With world prices having fallen significantly in 1999, the producer support estimate for Japan rose to 67 per cent but it is expected to fall in 2000 with a recovery in world prices. Much of the support is in the form of transfers from consumers of sugar, who pay substantially above world market prices, and also through charges on high fructose corn syrup.

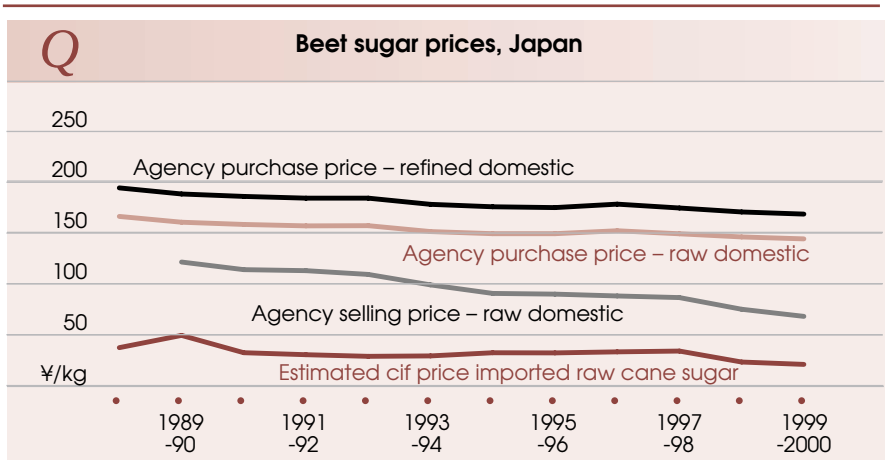
Under the stabilisation law, import prices are increased to domestic price levels through the activities of the Agriculture and Livestock Industries Corporation. Each importer is required to sell all imported sugar to the

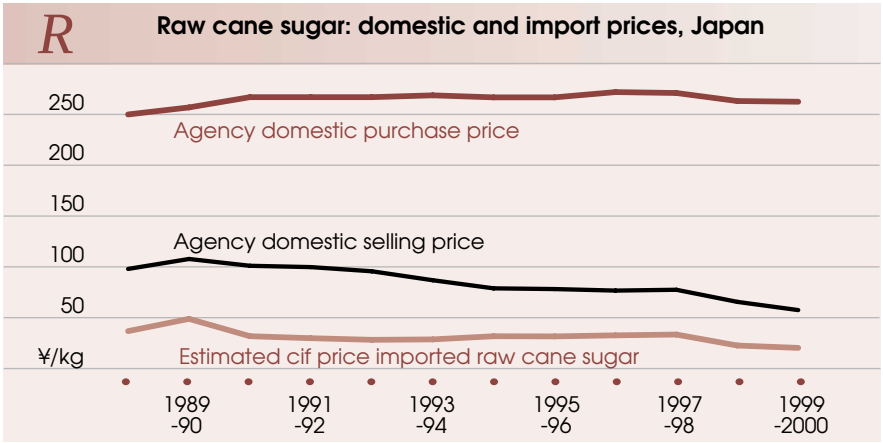
corporation at the average import price current at the time of entry. The corporation simultaneously sells back the same sugar to the same importer at a higher price inclusive of import duties, levies and surcharges. The levies increase as import prices drop below a minimum stabilisation price while the rate of surcharge is determined from the size of domestic sugar and dextrose production relative to total market supplies of sugar and dextrose (Mitsui and Co. Ltd 1990). For Japanese financial year 1999 (April–March), the minimum stabilisation price set by MAFF was ¥23 000 a tonne (¥23 a kilogram). Therefore, whenever the average import price was below the minimum stabilisation price, the difference was charged in levies.

Funds from the surcharges on imports are used to subsidise domestically produced sugar. The various levies, surcharges and duties, being built into the difference between the price paid by importers of raw sugar and the price at which the same sugar is sold back to them, effectively determine the extent to which internal sugar prices exceed world prices. This means that domestic consumers are effectively financing the transfers. To these consumer funded transfers are added taxpayer subsidies to fund additional support to the Japanese sugar industry.

The mechanisms by which the support has been provided to the domestic beet and cane sugar industries involve minimum producer prices that processors and millers must pay to growers for beet and cane, and subsidies through trading losses on domestic sugar by the Agriculture and Livestock Industries Corporation (ALIC). Each year, MAFF sets minimum purchase prices for sugar beet and cane. In 1998, those prices were ¥16 880 a tonne and ¥20 160 a tonne respectively. Broadly, ALIC purchased the beet and cane sugar produced domestically at prices that were deemed necessary to provide the required support and sold it back to the processors or refiners at much lower prices that were competitive with the prices at which it sold imported sugar back to the importers. The extent of the support provided for domestic beet and cane sugar respectively in this way is evident from figures Q and R respectively.

The system for delivering support has been modified from October 2000, with the gap between the ALIC purchase and selling prices being replaced by direct subsidies. For refined beet sugar produced in Hokkaido, the initial subsidy rate was ¥99.171 a kilogram. For raw cane sugar, the subsidy ranges from ¥208.38 a kilogram in Okinawa to ¥217.485 a kilogram in Nanboku Daito Island. These subsidy rates approximate the former difference between the Corporation's purchase and selling prices.





WTO commitments

Under the terms of the WTO Agreement on Agriculture, Japan's key commitments for sugar involve a 15 per cent reduction in the combined total of tariffs and levies on imports from their average level that applied in the base period, 1986–88. For centrifugal raw sugar, this total was to be reduced from ¥84.5 a kilogram in 1995 to a final bound level of ¥71.8 a kilogram in 2000.

Japan reduced the import tariff component of this total from ¥20 a kilogram in 1994 to ¥15 in 1997 and to ¥10 in April 1998. Although these reductions are substantial, the extent to which they have translated into lower domestic prices has been partially offset by changes to the other surcharges and levies on imported sugar (ABARE 1999b).

Implications of Japanese policies

Japanese sugar policies have distorted both the Japanese sweetener market and the world sugar market. The high sugar support price directly depresses Japanese sugar use and provides an incentive to increase sugar production to levels in excess of those that would have occurred in the absence of support. In addition, the high support price for sugar has encouraged the development and expansion of the HFCS industry. As a result, high fructose syrups have increased their share of total sweetener consumption in Japan at the expense of sugar (figure P).

By directly encouraging increased sugar production and depressing sugar consumption as well as encouraging the substitution of HFCS for sugar, Japanese sugar policies have significantly reduced Japanese import demand for sugar. This has contributed to lower world prices for sugar and lower incomes for sugar producers in exporting economies. As a result, some resources have been forced out of sugar production in low cost sugar exporting countries and resources continue to be misallocated in Japan.

With the high internal prices in Japan, the trade distortions that have evolved are not surprising. For example, some food and drink manufacturers have moved offshore, so that finished products rather than ingredients enter Japan. Also there has been increasing imports of 'blends' containing sugar, such as sugar blended with bean paste, coffee, milk powder and other products to avoid sugar duties. These blends are classified under different headings, with lower tariffs applying. Imports of sugar blends are now running at an estimated 350 000 tonnes a year.

Little progress has been made in reforming global sugar policies since the Uruguay Round of trade reforms concluded in 1994. Japanese sugar imports have actually decreased since the implementation of the Uruguay Round agreement and the differential between world and domestic prices has so far barely changed.

Simulating the effects of Japanese policy reforms

One area for policy reform is reduction of the import charges on sugar entering the Japanese market. The estimated effects on Japanese and world markets of an assumed complete removal of these charges were estimated by ABARE (1999b) using its Sugabare model.

In the reform simulation undertaken for the Japanese sugar market it was assumed that the combined import duties on sugar were progressively reduced from their current level to zero by 2005. Loss of revenues from import duties would reduce funding for producer subsidies. However, with other government support measures assumed to continue, Japanese producer prices would remain well above world prices.

The gradual removal of the Japanese import charges on sugar results in world raw sugar prices rising by an estimated 5 per cent relative to the baseline (no policy change) scenario by 2005. The price increase is the result of an estimated 33 per cent increase in Japanese imports of raw sugar because of lower domestic production and higher consumption.

Domestic Japanese producer and consumer prices would fall as the import charges were removed, despite an increase in world sugar prices. Reduced domestic producer prices would result in Japanese farmers reducing production by an estimated 22 per cent or 200 000 tonnes a year. At the same time, lower prices to users (for direct consumption and manufacture) would bring about an estimated 300 000 tonne rise in consumption and a US$1 billion a year gain to Japanese consumers.

Japanese livestock policy

Key policy	*Major impacts*
Partial liberalisation (primarily for beef)	• Lowers consumer prices • Increases imports
Special safeguards	• Restrict imports and consumption • Increase costs to consumers • Increase support to producers

The Japanese livestock sector is characterised by disparate levels of support and protection. Support levels for dairying and pig meat are high relative to levels in other countries and are comparable with those for the most heavily supported Japanese crop industries. Support for beef, although still significant, is much lower by Japanese standards, while that for poultry and eggs is considerably lower still. Levels of producer support estimates for these commodities in recent years and in the peak support period of 1986–88, are shown in table 5.

While the very high general levels of support for agriculture impose high costs on the Japanese economy through diverting resources from activities that are profitable without support to agricultural industries that are unprofitable without support, there are further costly disparities caused by the wide differences in support between the various animal products and between them and other agricultural products.

There have been some reductions in support for beef resulting from trade liberalisation and reductions in tariffs. However, reductions for other animal products have either been small (for milk, poultry and eggs) or support has actually risen (pig meat).

5 PSEs for selected animal products, Japan a

	1986–88	1997	1999
	%	%	%
Milk	84	75	80
Pig meat	42	43	56
Beef	44	33	33
Poultry	12	12	11
Eggs	18	17	16

a Producer support estimates (PSEs) are defined as the level of support as a percentage of the supported value of production.
Source: OECD (2000).

Support to livestock farmers in Japan is still delivered primarily through the maintenance of internal prices at substantially above world market levels, with its associated distortions of output, consumption and trade volumes. The much reduced rates of economic growth that have applied since 1993 and the increasingly stringent environmental constraints that have increased investment costs to manage waste disposal have resulted in a slight decline in livestock production in Japan over recent years. Self sufficiency in livestock products has also declined, substantially in the cases of pork and beef.

The Basic Plan, which is required under the Basic Agricultural Law, anticipates a decline of 3 per cent in total Japanese meat consumption by 2010. However, consumption of beef is expected to increase, along with imports of beef (up by 60 000 tonnes). Consumption of chicken and pork is forecast to fall.

Scale of production

The scale of livestock production in Japan has increased over the past three decades. Increasing costs to meet environmental regulations have been a driving force behind this shift in the scale of production (Rae 1999). The trend to larger scale intensive units is especially apparent in poultry and pig production. For example, the number of farm households with pigs has fallen by 94 per cent since 1975, with the average size of operations increasing twentyfold from an average of 34 pigs in 1975 to around 700 pigs in 1997 (table 6).

6 Livestock sector structural change, Japan

	1975		1985		1997	
	Number of farms	**Livestock per farm**	**Number of farms**	**Livestock per farm**	**Number of farms**	**Livestock per farm**
	’000	no.	’000	no.	’000	no.
Dairy	160	11	82	26	39	49
Beef	474	4	298	9	143	20
Pigs	223	34	83	129	14	702
Broilers	12	7 305	7	21 459	4	28 579
Layers	507	230	123	1 037	7	20 879

Source: MAFF (1999c).

Prices

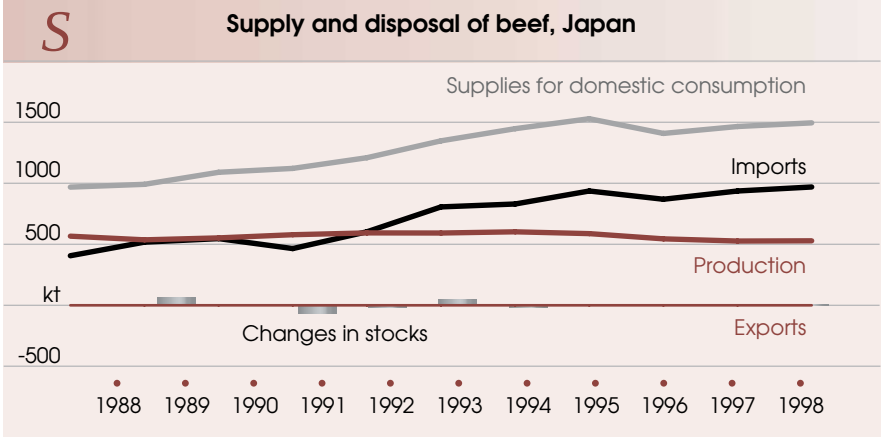
The price trends faced by Japanese consumers relative to world market prices have differed greatly for beef and pig meat since the late 1980s. For beef, they fell from 76 per cent above world market prices in 1986–88 to 40 per cent above world prices in 1999. For pig meat, the opposite has happened — in 1999, Japanese internal prices for pig meat were 122 per cent above world market prices compared with 73 per cent above them in 1986–88 (OECD 2000).

Beef

The greatest reform of any of Japan's agricultural industries has occurred for beef. Beef is one of the few commodities for which Japan has significantly reduced its production support. Consumer prices have fallen and consumption has risen significantly (figure S).

The liberalisation of beef commenced in 1989 when a decision was made to replace previous arrangements that involved both quantitative restrictions and tariffs with tariff-only barriers to market access, with a declining schedule of tariff over time. Further tariff reduction were agreed in the Uruguay Round that concluded in 1994.

Import quotas have traditionally been the measure used to assist Japanese livestock producers because they provide the government's importing agency with substantial revenue. This revenue is then distributed at the agency's discretion rather than going directly to subsidise beef production. As a result

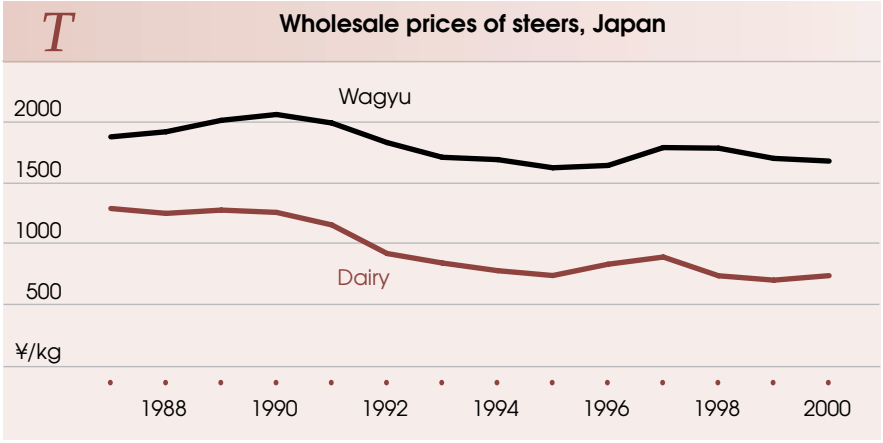


of bilateral agreements, import quotas were increased in 1988–90 and then replaced by tariffs in 1991, with progressive reductions to 50 per cent in 1993.

Then, as a result of the Uruguay Round, Japan agreed to reduce its applied tariff, with a safeguard clause to raise the tariff to the bound rate of 50 per cent if imports exceeded a critical level. The tariff equivalent was cut from 50 per cent in 1993 to 38.5 per cent in 2000. The safeguard has been triggered on several occasions.

Following two decades of rapid expansion, growth in Japanese beef production slowed from the mid-1980s, and after a peak in 1994, production has declined slightly. The removal of import quotas and reduction in tariffs have lowered domestic consumer prices and encouraged an increase in beef imports and consumption. Japan's imports of beef rose significantly in the first half of the 1990s (figure S). Flat incomes and unfounded health and safety concerns about imported beef (related to *E. coli* and bovine spongiform encephalopathy or mad cow disease) appear to have contributed to the recent static demand.

Along with the tariffication of imports of beef, wholesale prices for beef have declined, especially for lower quality cuts used for meat processing. Prices for domestically produced wagyu beef (higher quality specialised beef from traditional Japanese breeds) have not declined as much because its substitution with imported beef is very limited (figure T). Even though there is limited substitution between wagyu and imported beef, the decline in wagyu prices is nevertheless indirectly related to the tariffication of beef imports



and the resulting drop in prices of high grade, domestic dairy steer beef and higher quality imports.

This decline in prices has resulted in an increase in beef consumption in Japan, which has been reflected in a substantial increase in imports. When the Livestock Industry Promotion Corporation had total control over beef trade, imported beef was used largely as a buffer to help stabilise market prices and was therefore often stored. Japanese consumer preference is for fresh beef. Since tariffication in 1991, the strongest growth has occurred in imports of fresh and chilled beef.

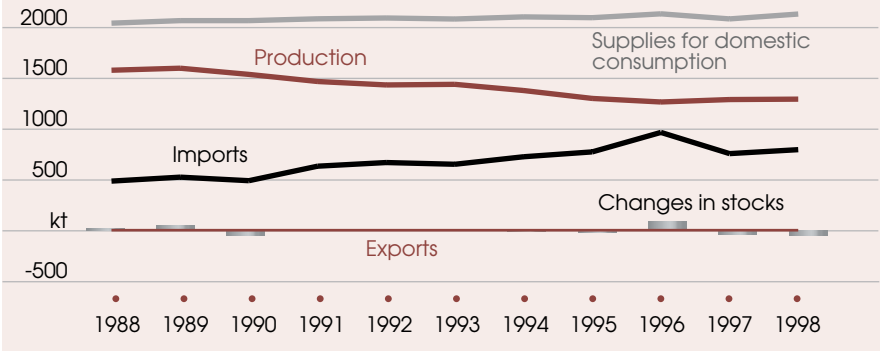
This growth in imports following liberalisation may have been substantially larger had the entire decline in wholesale prices been passed on to consumers. An apparent relative lack of competition in the Japanese retail sector, with retailers absorbing at least a part of the lower wholesale price as increased margins, may have contributed to this.

Pork

Pork imports have increased rapidly since the late 1980s — between 1993 and 1996, they rose by 31 per cent (figure U). However, these increases are not totally attributable to policy reforms such as tariffication — rather more from decreases in domestic pork production following heat waves and hog diseases.

Japan has tariff-only protection for pork. The tariff equivalent was introduced as a specific duty applied if the import price of pork was lower than

U **Supply and disposal of pork, Japan**



a specified level. However, for most pork imports, a differential tariff system operates, with the difference between the cif import price for shipments and a specified minimum price being collected as long as the cif price is less than the minimum price. If the cif price is greater than the minimum, an *ad valorem* duty is applied. The system is designed so that competition from imports will not prevent internal prices from being maintained between administratively set upper and lower stabilisation prices.

Pork is one of the products that are specified in Japan's schedule for the WTO Agreement on Agriculture as eligible for application of special safeguards that allow for temporary increases in import duties at times when imports increase rapidly or import prices drop sharply. Such safeguards were triggered several times in 1995 and 1996 (Honma 2000) and again in 1997. For a commodity such as pork for which imports have been rising over time, there is a potential for the special safeguard mechanism to provide a marked impediment to trade. This is because the import quantity trigger mechanism in the agreement relates imports in a particular period to the average level over the previous three years. The mechanism also provides for the trigger to be a lower percentage of previous imports where imports represent a large proportion of total market supplies than when they represent a small proportion. Where imports are increasing over time and they represent a large proportion of total supplies, as is the case with pork in Japan, the chances of the safeguards being triggered can be relatively high, providing a brake on the extent to which market access is actually liberalised.

Japanese wheat and barley policies

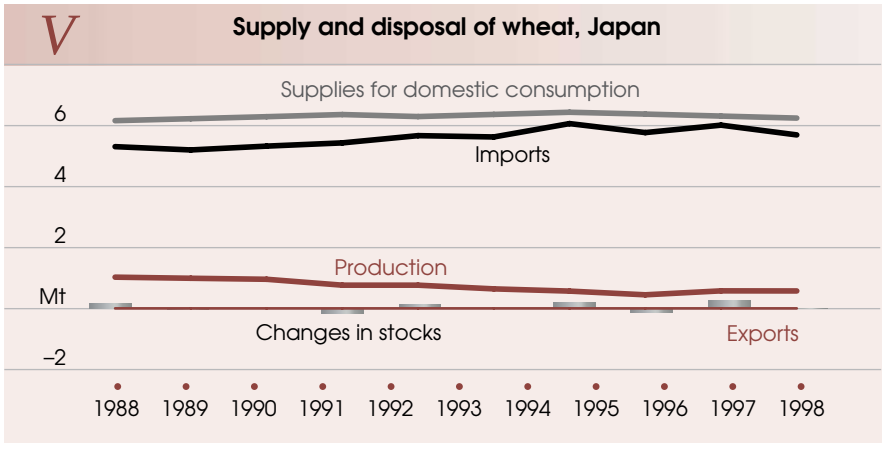
Key policy	*Major impacts*
Prohibitive beyond quota tariffs and state trading	• Virtually static imports at low levels • High transfers from consumers to producers • Very high producer prices

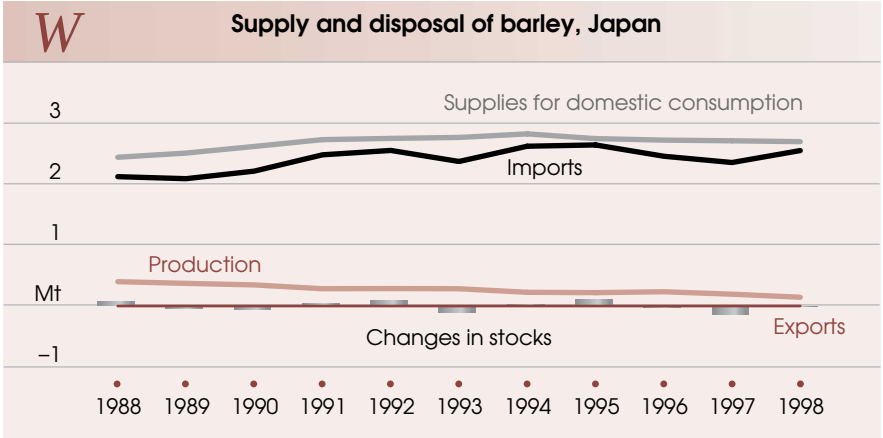
Self sufficiency

Before the Second World War, wheat and barley were regarded as staple foods in Japan, which was then largely self sufficient in both commodities. Barley mixed with rice formed the staple diet of farmers and low income workers because barley was relatively cheap compared with rice (ABARE 1988). In 1996, however, domestic production was able to constitute only 7 per cent of wheat consumption and 8 per cent of barley consumption in Japan (figures V and W).

Production and consumption

Other than rice, the main grains produced for direct human consumption in Japan are wheat and barley. While domestic production of grains has been falling, Japan's requirements for grains have been relatively static for the





past decade. The urbanisation of Japan has resulted in significantly reduced demand for rice and coarse grains for human consumption, and an increase in the demand for wheat (Rae 1999). The amount of wheat imported has not changed significantly since the implementation of the Uruguay Round commenced in 1995.

Feed grains provide the basis for Japan's intensive livestock industries and imports are allowed relatively free entry. However, for wheat and barley, which are domestically produced, imports are subject to quantity controls despite the low level of domestic production.

The New Basic Law

Increasing self sufficiency in wheat has been identified by the Japanese government as one of the high priority areas in the New Basic Law. Under the Basic Plan, which was developed under the New Basic Law, it is set down that the share of Japan's domestic production in total supplies of wheat should rise from 9 per cent (570 000 tonnes) to 12 per cent (800 000 tonnes) by 2010. Doubts remain about whether these planned production increases are feasible. Underpinning these production projections is the assumption that land planted to wheat will increase by 20 000 hectares by 2010 and that yields will increase by about 25 per cent. If Japan's average yields had been rising, such a growth target might be conceivable. However, average yields for wheat have not increased since 1985.

Despite some new financial measures that were announced in 1999, aimed at encouraging farmers to use abandoned and marginal rice paddies for wheat

production, it is believed that these incentives would not be sufficient to encourage farmers to allocate more land to wheat at the expense of other crops. It is also difficult to see where the increase in productivity will come from, given that the potential new land to be brought into production will, at best, be marginal (hilly and mountainous areas).

Prices

The Japanese Food Agency directly controls both producer and resale prices of wheat. The agency imports most of Japan's wheat and sells it to millers at around double the cif import price. Profits to the Food Agency made from these sales are used to offset the costs of purchasing the domestic crop, for which farmers receive up to three or four times the resale price to millers. For example, in 1998 the Food Agency paid the equivalent of US$1445 a tonne to domestic producers and sold domestic wheat to the mills for the equivalent of US$402 a tonne. For imported wheat, the average cif price in 1998 was about US$245 a tonne, and the agency sold that wheat to millers for around US$486 a tonne.

Grains policy and WTO commitments

In May 1998 the Food Agency announced a 'New Wheat Policy' that it planned to implement through the 2000–02 crop years. The plan calls for eventual private sector purchases of domestic wheat and a new compensation program for domestic wheat producers. One aspect of this policy that has already commenced is the Simultaneous Buy and Sell (SBS) system (similar to that used for rice) for imported wheat and barley for feed use. Under this scheme, the Food Agency sells imported wheat and barley to domestic feed manufacturers at the same time as it buys the grain from importers. This SBS system has been adopted for wheat and barley feed imports primarily because of lobbying by the domestic livestock industry. The livestock industry argued that competitive domestic feed costs were of particular significance to them because of the high level of relatively cheap beef imports.

In the WTO agreement, Japan undertook to allow tariff-quota access of 5.74 million tonnes of wheat, meslin, triticale and their processed products by 2000 (box 2). This is almost the same as import levels in the base period 1986–88. Imports are subject to tariff-quotas. The beyond quota tariff remained unchanged at more than twice the world price and the within quota tariff fell by only 12 per cent to ¥46 500 a tonne, which is still almost twice the world price.

Despite falling domestic production, imports have not increased significantly since the implementation of the Uruguay Round commitments because of the lack of increased market access and beyond quota tariffs remaining prohibitive. Effectively, the tariff-quota limits, along with Japan's inability to produce more than a minor amount of wheat, are preventing any underlying market influences, arising through increases in incomes and changes in taste and preferences, that might advance the position of wheat within the Japanese market for grain.

2 Summary of tariff rates for Japanese grains tariff-quotas

	Wheat	Barley and products
Minimum or agreed access		
1995	5.565 million tonnes	1.326 million tonnes
2000	5.740 million tonnes	1.369 million tonnes
Indicative world market price		
1995-96	¥25 000 a tonne	¥17 000 a tonne
Within quota tariff		
1995	Government markup of ¥53 000 a tonne	Government markup of ¥34 000 a tonne
2000	Maximum government markup not to exceed ¥46 500 a tonne	Maximum government markup not to exceed ¥29 500 a tonne
Beyond quota tariff		
1995	¥65 000 a tonne	¥46 000 a tonne
2000	¥55 000 a tonne	¥39 000 a tonne

Sources: Young (1994); Country schedules for the WTO Agreement on Agriculture.

4

Measuring the potential benefits of further trade liberalisation

Simulation	Impacts on Japan
Partial agricultural liberalisation (50 per cent reduction in agricultural support globally)	Increase of $9 billion in gross domestic product

As noted in previous chapters, implementation of the Uruguay Round Agreement on Agriculture has resulted in only limited benefits from agricultural trade liberalisation, particularly in Japan. Minimum access requirements led to some increase in imports but prohibitively high tariffs on beyond quota imports effectively restricted imports to quota levels and have enabled very high levels of market distorting support to be maintained. Thus, there are significant potential gains from further liberalisation of agriculture.

In this chapter, the potential gains from reforming policies affecting agriculture in Japan are estimated.

Analysis using a model of the world economy

The analysis reported in this study is based on simulation results from ABARE's global trade and environment model (GTEM) — a nontechnical description of GTEM is provided in box 3. GTEM is an appropriate framework for analysing complex trade policy issues because it takes into account the interaction between different sectors in each major economy and between economies. The model provides estimates of the impacts of policy changes on key economic variables. These include trade and investment flows between regions, the prices of consumer goods and inputs into production, sectoral and regional output and, ultimately, regional income and expenditure.

Country and commodity aggregation

The coverage of the regions and commodities used in this study is shown in box 4. Coverage has been disaggregated to represent key commodities and groups of commodities and a wide range of countries and regions.

In the commodity coverage, eleven are primary agricultural goods and eight are processed agricultural products.

It should be noted that the specific aggregation chosen could hide potentially important trade effects in specific commodities and countries, and thus some care needs to be taken in interpreting results.

3 The GTEM modeling framework

The model

The analysis of the impacts of agricultural trade liberalisation reported in this chapter is based on simulation results from ABARE's global trade and environment model (GTEM). GTEM is a multiregion, multiperiod general equilibrium model of the world economy. It is derived from the MEGABARE model (ABARE 1996b) and the GTAP model (Hertel 1997). GTEM was designed specifically to assess economic policy issues with long term, global dimensions.

A description of GTEM is given in Schneider et al. (2000) and the model code is available on ABARE's website (www.abareconomics.com).

The database

The starting point for the GTEM database is the GTAP version 4.0 database (McDougall, Aziz and Troung 1998), which contains 50 sectors — including 20 agricultural sectors — and 45 regions. It is based on 1995 production and trade data. Support to sectors in each region is represented by tariff equivalents (to capture tariff and nontariff import barriers), domestic support payments and export subsidies. Detailed information on agricultural support is included to allow policy experiments that test the implications of changing support for economic variables such as national income, terms of trade, production, consumption and trade.

The GTAP database for agriculture has undergone substantial alteration before use in GTEM. Where necessary, the input–output tables have been modified to remove obvious errors and improve consistency. Protection data have been modified to more accurately represent agricultural policies as they applied in the 1995 base period. For example, many bound tariff rates in the original GTAP database have been replaced by applied rates that more accurately capture the effects of tariffs on marginal returns to producers and consumer prices.

In this study, version 4e of the GTAP database is used in GTEM. The standard GTAP database has been modified to improve the representation of economic structures and policies in the 1995 base period (Freeman et al. 2000)

The modeling does not take into account gains from technology transfers or other dynamic gains.

4 GTEM region and commodity aggregation

Regions	Commodities
Australia	Paddy rice
New Zealand	Wheat
Japan	Coarse grains
Indonesia	Vegetables, fruit and nuts
Malaysia	Oilseeds
Philippines	Sugar cane, beet
Thailand	Other crops
China	Live cattle and sheep
India	Live pigs and poultry, hides and skins
Canada	Raw milk
United States	Wool
Argentina	Ruminant meat products (beef and sheep meat)
Brazil	Non-ruminant meat products
Rest of Latin America	Vegetable oils and fats
European Union (15)	Dairy products
Africa	Processed rice
Rest of World	Sugar
	Other food products
	Beverages and tobacco
	Textiles
	Manufactures
	Motor vehicles
	Services
	Energy

China includes Hong Kong. Rest of Latin America includes Mexico, Chile, Central America, Venezuela, Colombia, Rest of Andean Pact, Rest of South America and Uruguay. Rest of World includes the Republic of Korea, Singapore, Chinese Taipei, Sri Lanka, Rest of South Asia, Central European Associates (including Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia), former Soviet Union, Turkey, Rest of Middle East and other countries not specified here. The Rest of World region also include developed countries of the EFTA region (including Norway, Iceland and Switzerland). Textiles include wearing apparel and leather products. Manufactures include wood products, paper products and publishing; petroleum and coal products, chemicals, rubber and plastic products; mineral products; metal products; nonferrous metals, ferrous metals and transport equipment nec, electronic equipment, machinery and equipment nec and manufactures nec. Services include electricity, gas and water distribution, construction, trade and transport, financial, business and recreational services, public administration and defence, education and health, and dwellings. Energy includes coal, oil, gas, minerals nec, forestry and fishing. See McDougal, Aziz and Troung (1998) for definitions.

Basic principles: gains from trade liberalisation

The arguments in favor of trade liberalisation are based on two fundamental ideas in trade theory. One is that the size of the global economy is maximised when each country focuses on producing and exporting the goods and services that they can produce and deliver most efficiently, and importing the goods and services that are produced less efficiently domestically. The other is that a world trade system that is undistorted by government intervention will deliver price and profit signals that lead to a globally efficient pattern of production. Put another way, when comparative advantage is the sole basis of trade, the allocation of resources cannot be altered in any way to improve the economic wellbeing for all countries in the trading system (Caves and Jones 1985).

The world economy, however, is characterised by government intervention, often in favor of inefficient sectors where countries do not have a comparative advantage. This moves productive resources away from their optimal uses, resulting in higher costs of living, lower incomes and lower economic growth. Once the distorting policies are in place it is very difficult for them to be removed (Anderson 1998).

Under these circumstances, trade liberalisation and more generally the removal of market distortions can be expected to translate into higher economic growth performance than would otherwise be the case.

Another important finding in the literature is that countries can benefit from unilaterally reducing their own trade barriers without waiting for others to open up their markets. Within a unilateral setting, the most important effect of liberalisation occurs as market forces take a greater role in allocating scarce resources to their most profitable uses and competition compels firms to innovate and adopt cost saving measures. These factors act to increase national income (Harrison, Rutherford and Tarr 1995).

Reference case

Before simulating policy changes, it is necessary to construct a baseline or reference case to project likely levels of output, trade, protection and other variables in the absence of the policy changes. This scenario projects the situation in the absence of any further multilateral trade reform beyond that agreed in the Uruguay Round.

The reference case provides a benchmark against which alternative reform scenarios can be compared. Projections are for the period 1995–2010. The reference case contains projections for population, gross domestic product (GDP) and agricultural policies as they are expected to evolve given the implementation of agreements from the Uruguay Round.

Some judgment is required in projecting agricultural support levels, because these may vary with market conditions and the way in which policy reforms under the Uruguay Round have been and will be implemented. In general, relatively shallow cuts in agricultural support levels from the 1995 base period have been assumed, because to date there is little evidence that much reduction in support has actually occurred (Roberts, Podbury, Freeman et al. 1999). Nominal rates of assistance for agriculture in OECD countries at the beginning of the Uruguay Round implementation period in 1995 averaged 60 per cent. Latest figures for 1999 suggest a significant increase to around the levels of the mid-1980s, which were the highest in at least the past half century (Freeman et al. 2000).

The instigation of tariff rate quotas to replace nontariff barriers ensured minimum access levels for some commodities, but tariffs on overquota imports are often prohibitive. For example, overquota rice imports into Japan attract a tariff of ¥341 a kilogram (equivalent to US$3200 a tonne at mid-2000 exchange rates — in comparison, world japonica rice prices in 1999-2000 averaged under US$440 a tonne). In the European Union, beef imports draw a 12.8 per cent *ad valorem* tariff plus a specific tariff of 1768 ECU (US$1690) a tonne (in comparison, the US cif beef price in 1999-2000 was US$1980 a tonne).

In many cases under the Agreement on Agriculture, quotas were set to allow imports to rise to 5 per cent of the 1986–88 base level of consumption by 2000. Although these minimum access provisions resulted in some improvement, on the whole there remains much to be done in removing border protection.

For the simulation exercise, rather than reduce all 1995 tariffs by 36 per cent from the 1986–88 average, with minimum cuts for individual items of 15 per cent (developing country cuts are two-thirds of these), as agreed under the Uruguay Round, reductions in tariffs over the baseline are based on available information on applied rates in 1995 and likely rates in 2000. Support has actually risen for many products since 1995, because 1995 protection levels were low at a time of high of world prices (Freeman et al. 2000).

Switch to domestic support

One change observed over the base period has been the switch to forms of domestic support that were exempted from cuts under the WTO Agreement on Agriculture. Forms of domestic support that are deemed to have few or minimal trade distorting effects are exempt from reduction commitments. This has encouraged a switch from direct output and input related subsidies and export subsidies to direct income support. For this reason, for most countries it is assumed that there are no reductions in domestic support over the baseline.

Export subsidies

A similar approach applies to export subsidies. In the European Union, these have largely been replaced with direct domestic compensation payments. This maintains production distorting effects but eludes reduction commitments. The United States also provides direct payments for farmers producing for export. The agreed 1986–90 base period also allows scope for increases in subsidised exports in some cases. In other instances unused credits from earlier years were carried forward to allow greater subsidised volumes in future years. For these reasons exports subsidies have not acted as a constraint in the baseline.

Partial agricultural liberalisation scenario

To assess the economic effects of continuing agricultural liberalisation alone, a further 50 per cent reduction in tariff equivalents, domestic support and

5 Simulation assumptions

The major assumptions of the GTEM analysis in this report include:

- the analysis involves, for all participating countries, a 50 per cent reduction for agriculture in tariff equivalents, domestic support and the value of subsidised exports beyond what the Uruguay Round achieved;
- the reforms are implemented over the period 2005–10 — the reductions are assumed to apply to both developed and developing countries and to be phased in evenly over six years from 2005;
- there are no rents, or water in the tariff — this means that reductions in tariff equivalents lead to increases in imports; and
- domestic support is assumed not to be decoupled.

the value of subsidised exports in all countries over and above the agreed Uruguay Round commitments is simulated (see box 5). It is assumed that the reductions are phased in evenly over six years from 2005. Results focus on the impact of the reforms on gross domestic product, terms of trade and trade in different products.

Results

General equilibrium models of the world economy such as GTEM are able to capture the impacts of policy changes on a number of economic variables. The estimated impacts of policy changes, such as tariff and subsidy reduction measures, on economic variables are expressed as the percentage deviations between the equilibrium levels of those variables in the reference case and their equilibrium levels in the policy simulation.

Impacts on income

The estimated overall economic impacts of 50 per cent agricultural trade liberalisation alone are presented in table 7. The first point to note is that the global impact and the impact on all regions is positive. Global gains in gross domestic product amount to over US$53 billion a year (in 1995 dollars). The distribution of gains between countries depends on trade flows and the depth of reductions. As the bulk of the market distorting protection is in the European Union, Japan and, to a lesser extent, the United States, it is not surprising that much of the gain (US$39 billion) is in these countries. Almost a quarter, or US$9 billion, of these gains are in Japan. On a per person basis the annual gains to Japan are greater than for any other country except the European Union.

Impacts on terms of trade

The terms of trade measure captures changes in relative prices facing different countries. Terms of trade increase if export prices rise relative to import prices and decline if import prices rise relative to export prices. Under agricultural liberalisation alone, the greatest benefits among developing countries from increased terms of trade are likely to accrue to agricultural exporting countries. This is because world market prices are likely to rise with the reduction in market distorting domestic and export subsidies and the increased levels of market access that increase world import demand.

Agricultural importers are the most prone to any adverse effects from partial agricultural trade liberalisation because of rising prices of agricultural imports.

Japan is adversely affected by movements in its terms of trade, reflecting its high reliance on agricultural imports and a severe land constraint in agricultural production. In this context, the countries such as Japan that have experienced negative terms of trade effects from agricultural trade liberalisation alone are generally those that have a comparative advantage in nonagricultural products. Their economies are likely to obtain greater benefits from a more comprehensive round of trade liberalisation. For example, comprehensive liberalisation of agriculture and manufacturing results in a 0.43 per cent increase in Japan's terms of trade, compared with a 0.47 per cent decrease under partial agricultural trade liberalisation (Freeman et al. 2000).

Impacts on output

In general, trade liberalisation for agriculture alone results in higher levels of production and exports in countries that have had relatively low levels of

7 Impact of 50 per cent agricultural trade liberalisation on gross domestic product and terms of trade

	Annual increase in real GDP		Change in terms of trade
	US$m	%	%
Africa	479	0.08	–0.20
Argentina	312	0.08	2.69
Australia	189	0.04	1.74
Brazil	1 447	0.16	0.60
Canada	66	0.01	0.30
China	2 570	0.18	–0.27
European Union (15)	28 310	0.25	0.01
India	894	0.19	–0.17
Indonesia	64	0.03	0.06
Japan	8 980	0.14	–0.47
Malaysia	467	0.35	–0.15
New Zealand	264	0.32	3.41
Philippines	208	0.24	–0.40
Thailand	505	0.23	0.35
United States	1 830	0.02	0.40
Rest of Latin America	329	0.03	0.10
Rest of World	6 360	0.15	–0.32
Total	53 249	0.14	

Source: GTEM simulations.

support and protection. For those that have higher levels of support, agricultural liberalisation would place downward pressures on agricultural production and on subsidised exports while imports would tend to increase. Resources currently used in agriculture would flow more to other activities. Broadly, liberalisation constrains production in the European Union and Japan and for some commodities in north America, and provides greater market access opportunities for exporters including those in many developing countries.

Impacts on nonagricultural outputs

Despite partial agricultural liberalisation leading to some decline in Japanese agricultural production, Japan's economy as a whole stands to obtain significant benefits from liberalisation. These benefits arise mainly in the form of gains to consumers who would face lower market prices as well as from the redirection of resources away from agriculture into other sectors, allowing increased production in those sectors.

8 Estimated change in Japanese imports and outputs, relative to the reference case, from partial agricultural trade liberalisation, 2010

	Imports				
	Value cif (excl. duty)	Volume	Export value	Price of imports (incl. tariff equivalents) a	Volume produced
	%	%	%	%	%
Commodity					
Wheat	16.8	4.8	na	–18.0	–43.3
Other grains	8.1	1.2	na	–22.3	–49.7
Oilseeds	6.2	–	na	–6.5	–13.5
Live cattle and sheep	73.0	54.0	na	–16.9	–7.0
Other animal products	82.8	72.8	na	–21.6	–1.5
Beef and sheep meat	13.7	8.7	na	–8.5	–6.4
Other meat products	20.3	15.7	na	–11.6	–1.8
Vegetable oils and fats	7.1	4.2	na	3.0	–1.1
Dairy products	99.6	81.6	na	–32.4	–8.0
Processed rice	160.7	150.0	na	–37.0	–10.1
Sugar	24.0	21.0	na	–15.1	–7.1
Sector					
Textile	–0.3	–0.1	0.7	0.1	0.3
Manufacturing	–0.2	–0.2	0.5	0.3	0.2
Motor vehicles	–0.2	–0.2	1.0	0.3	0.4
Services	–0.1	–0.1	0.4	0.4	0.1

a After reductions in import duties. **na** Not available. *Source:* GTEM results.

As a result of the allocation of resources to other sectors from liberalisation for agriculture alone, jobs lost in agriculture are taken up in other parts of the economy and part time farmers allocate more time to off-farm work. The value of output and exports in all other sectors increases (table 8).

Impacts on agricultural commodities

Rice

The increase in the value of Japanese rice imports of 161 per cent in 2010 in response to reductions in import barriers is the largest estimated change compared with the reference case. Such a change would take imports as a proportion of Japanese rice consumption from 9 per cent in 2004 to just over 25 per cent in 2010, a moderate increase reflecting the standard assumption of limited substitutability between imported and domestically produced rice.

Nonetheless, the only suppliers of the japonica rice favored in Japan — Australia, the United States and China — would be expected to significantly increase their exports of processed rice.

Grains

The more open markets following liberalisation would result in increases in the values of imports of wheat and other grains by Japan — of almost 17 per cent and 8 per cent respectively in 2010 relative to the reference case. Reductions in support result in decreased Japanese production and increased imports. Increased supplies from the United States, Canada, Australia and several developing countries could be expected to meet demand.

Livestock

Partial agricultural trade reform is estimated to result in increases in the value of beef imports into Japan of 14 per cent in 2010 relative to the reference case, increasing market opportunities for major exporters.

Dairy

In response to the various reforms, farm level milk production in Japan is reduced by an estimated 8 per cent while the opening of markets where imports are currently suppressed would increase imports greatly. It is estimated that Japan would experience the largest percentage increase in the value of dairy product imports by any country — a doubling. There would also be large increases in imports in the United States and Canada. Australia and New Zealand would be major suppliers of the additional quantities to Japan.

Sugar

Sugar is one of the most highly protected products in the world, with substantial distortions to markets in both developing and developed countries. Trade liberalisation would result in marked reductions in subsidised EU production and exports, and large increases in import demand by other major importing countries including the United States and Japan.

Increases in the value of sugar imports of 24 per cent in 2010 in Japan following partial agricultural trade liberalisation would expand the market for sugar exporters such as Australia, Thailand and Brazil.

5

Factors affecting further Japanese trade liberalisation

Although substantial gains to the Japanese economy would arise from liberalising agricultural trade and reducing domestic support, there are several emerging 'threats' to realising such reforms. These stem from the so-called 'multifunctionality' of agriculture, concerns about food security and Japan's New Basic Law.

Multifunctionality

A major impediment to negotiations of further Japanese trade liberalisation is the increasing emphasis that Japan is placing on the so-called 'multifunctional' nature of agriculture. Advocates of the concept of 'multifunctionality' emphasise the unpriced spillover benefits of agriculture that are additional to the supply of food and fibre and use these benefits as a justification to maintain high levels of subsidies and protection for their agricultural sectors. Claimed benefits of multifunctionality include: environmental values, rural amenities, cultural values, rural development and rural employment (OECD Secretariat 1998).

Current Japanese examples of claimed spillover benefits

Flood mitigation and rural employment are argued to be two of the main spillover benefits of agricultural production in Japan warranting ongoing protection of agriculture. However, there are more efficient ways of achieving these outcomes that are less costly to Japanese consumers and taxpayers and that do not reduce the welfare of other countries and of Japan itself.

Flood mitigation and soil erosion

Currently, paddy rice production in Japan is given credit for important spillover benefits in flood mitigation and control, and prevention of soil erosion. This is despite the fact that forests play a similar role (Nishimura 1991). In fact, over 60 per cent of Japan is covered in forest, so forests may well play an even more significant role than rice paddies.

All rice in Japan, whether produced in paddies or in upland fields, is heavily supported. However, the upland fields, such as those in the Hokuriku region, are not cultivated in the same way as paddy fields. The spillover

benefits of flood mitigation provided by upland rice fields are relatively much smaller than those associated with paddy fields (MAFF 1999a). Therefore, if support for rice production was based on the multifunctionality benefits of flood mitigation, the rice produced in upland fields should probably have a much lower rate of support. Instead it is currently protected at the same rate as paddy rice (production is currently supported at prices over six times the world market price). The question of the most efficient means of obtaining the spillover benefits of flood control, water storage and the prevention of soil erosion is a matter to be determined by scientific research.

Cultivating paddy fields is unlikely to be the only way of providing the desired environmental benefits. There would obviously be a number of other flood mitigation options that need to be assessed and compared with the costs (such as fertiliser leaching into ground water tables) and benefits (flood control and prevention of soil erosion) of growing rice.

However, even if it can be demonstrated that cultivated paddy fields are the most direct and least cost form of providing flood mitigation benefits, the most efficient policy is to pay farmers based on their capacity to maintain specific paddy fields as a water buffer. Payments would be directly related to the contribution of the fields to flood mitigation and would be made only to growers who provide the spillover of flood control at a payment rate based on the degree of water buffering provided by paddy maintenance or alternative activities. This means that not all farmers would be subsidised at the same rate (Roberts, Podbury, Freeman et al. 1999).

The key difference between the method of subsidising farmers at different rates for their contribution to flood mitigation and the current broadly based support measure is that the payments that farmers receive would be decoupled from the production and price for rice. Under a decoupled system, producers would receive the world price for rice instead of the artificially high supported price while those tending the paddies would receive remuneration according to the flood control benefits of the activity. This would minimise both the distortion to the allocation of resources domestically and the international spillover effects on rice producers in other countries (Roberts, Podbury, Freeman et al. 1999).

Rural employment

Another argument used by Japanese supporters of multifunctionality to justify the high levels of agricultural support are the alleged spillover benefits of enhanced rural employment (OECD 1998).

While agricultural industries are located in rural areas, rural economies are not necessarily dominated by agriculture. In Japan, many rural areas are adjacent to urban areas and have numerous nonfarm as well as farm activities. For example, in 1997, Japanese farm households earned an average of 82 per cent of their income from nonfarm sources (MAFF 1998).

If rural employment is a desired social policy, a more efficient and lower cost option would be to redirect agricultural support payments specifically to rural or regional employment programs. Furthermore, reductions in cost of agricultural support would reduce taxation burdens on nonagricultural activities including those in rural areas, advancing opportunities for nonagricultural employment in such areas.

Domestic spillovers have international consequences

Enhancing spillovers as a policy objective is a domestic issue. However, because the Japanese government's justification for continued support for rice production to provide flood mitigation and rural employment benefits distorts world production and trade, it becomes an international issue. Such policies not only impose considerable costs on consumers and taxpayers in Japan, but also impose costs on efficient agricultural producers elsewhere. This is contrary to the aims of the World Trade Organisation that are to increase the economic benefits from more open markets.

Positive and negative spillovers

In a policy context, the provision of agricultural support is strongly argued by many in Japan as an appropriate mechanism for enhancing spillover benefits. Maintaining and enhancing these spillover benefits may appear to be reasonable objectives of any country; however, providing high levels of domestic support to agricultural industries is highly unlikely to be the most efficient way of achieving such outcomes. There is also evidence that the process of producing agricultural commodities and achieving the spillover benefit may be conflicting goals. For example, extensive crop production and hedgerows are not always complementary — using large agricultural machinery to cultivate small fields surrounded by hedges is impractical (Conniff 1997).

There are strong arguments against using agricultural support policies to enhance spillover benefits. Indeed there is a strong case that the current way in which its advocates are recommending the concept of multifunctionality be applied in Japan is little more than a rationalisation for continuing agricultural protection. There are two key reasons for this.

First, in addition to the positive spillovers from agriculture there are negative spillovers. These include environmental damage, such as water pollution from animal effluent and fertilisers, increased salinity and loss of vegetation. In Japan, the main source of surface water and ground water pollution from agriculture is through leaching of nitrate and phosphorus from fertilisers. However, the discharge of livestock wastes and pesticide runoff is also a significant source. The negative spillovers of livestock production, such as offensive odors and wastes, reflect, in part, the fact that Japan has one of the highest rates of livestock stocking density in the world and this is increasing (Tahe 1992). Further, there is considerable evidence that protecting agriculture worsens such negative spillovers (US Environment Protection Agency 1990; Mahé and Ortalo-Magné 1999. These papers are not specific to Japan but their conclusions are applicable).

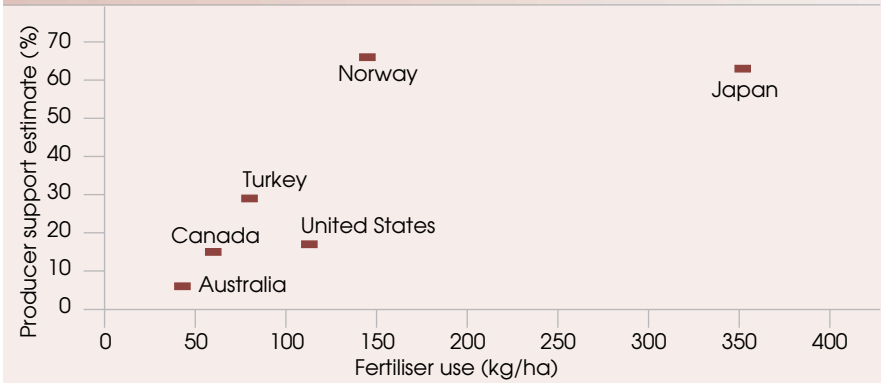
Second, providing agricultural support is a very indirect and high cost way of enhancing spillover benefits. Policies that directly target specific positive spillovers are more effective and efficient (Roberts, Podbury, Freeman et al. 1999).

Subsidising agriculture means that production and input use in Japan is higher than would be the case in the absence of support. This in turn leads to the production of even more negative spillovers from the greater amounts of inputs used. For example, the maintenance of high levels of agricultural protection in Japan has resulted in extremely high fertiliser use in Japanese agriculture. MAFF recently completed the first survey of chemical and fertiliser use in Japanese agriculture and found that the use of chemicals per hectare in Japan is higher than in any other country (Global Agriculture Information Network 1999a). There are indications to suggest a close association between the level of producer support and the rate of application of fertilisers (figure X) and pesticides (Parris and Melanie 1993).

To date, agriculture has not featured dominantly in the Japanese environmental policy process because of a reluctance to impose additional costs on farmers by introducing more stringent environmental policies. Both agricultural and environmental policy reform have been strongly opposed by farm lobby groups in Japan, which traditionally have exerted a powerful influence on policy making despite the relatively small farming population (Honma 1999).

The additional costs that strengthening environmental policies could impose on farmers are seen to run counter, at least to some extent, to Japan's

X **Rate of fertiliser use and producer assistance in OECD countries**



traditional policy of encouraging a high level of food self sufficiency (George and Rapkin 1993). The increase in costs to producers to meet such guidelines will reduce their profit margins and thereby lead to lower production.

The high levels of farm input use prevalent in Japan can also be traced partly to the large number of part time farmers in Japan. Almost 82 per cent of Japanese farm household income comes from off-farm sources (MAFF 1998). As the opportunity cost of the labor of part time farmers is high, such farmers often rely heavily on the use of high levels of fertilisers, pesticides and other labor saving farm inputs (Hayami 1998). It is suggested by Hayami that larger commercial farms in Japan make more effort than small part time farmers to conserve soil fertility with the use of organic fertilisers. Without the high levels of support offered to farmers, the number of profitable small (fertiliser intensive) farms is likely to decrease substantially.

Addressing spillovers directly

Providing agricultural support is a very indirect, high cost and often ineffective way of achieving enhanced spillover benefits from agriculture. Most of the benefits claimed by supporters of the concept of multifunctionality as a basis for continuing agricultural support in Japan and elsewhere are only indirectly related to agricultural production. In these cases, subsidising agricultural production is unlikely to enhance positive spillovers because the subsidy is not targeted at the spillovers themselves.

A more direct and effective way of enhancing spillover benefits is to explicitly pay for specific spillovers to be supplied. If society places a high value

on the positive spillovers, it should be prepared to pay to preserve them. Payments linked explicitly to the size of those benefits will generally be much more effective in attaining the desired spillover effects than support to agriculture (Roberts, Podbury, Freeman et al. 1999). The receipt of such payments would need to be conditional on generating the desired spillover benefit.

With direct payments being used to address the spillovers, markets should then be allowed to address production outcomes. Hence, the price that producers receive for their output should be the unsupported world price.

Some countries already have targeted policies for achieving some of the spillover benefits. For example, the Countryside Stewardship Scheme in England offers direct payments to conserve, restore and/or maintain a range of landscape, wildlife and historical features (MAFF United Kingdom 1999).

There are no strong arguments based on effectiveness and efficiency for pursuing spillover benefits through broad based agricultural protectionist policies unless all of a number of stringent criteria are met. Those include — all spillover benefits and costs must be taken into account, including the costs to the national economy and to those elsewhere; the net spillover benefits, if any, must be jointly produced with the supported agricultural products and in direct proportion to production of the supported products; and there must be no lower cost, usually more direct, other means of achieving the spillover benefits. It is extremely difficult to envisage situations where all of these conditions would be met. For example, addressing the issue of flood mitigation or soil erosion in some areas by providing support to all rice growers at several times world prices does not meet the necessary criteria.

By increasing domestic production and reducing imports, Japan's agricultural support policies have negative impacts on producers from other countries. When support is provided through price support, as with rice in Japan, trade is reduced and world prices are depressed. Using agricultural protection in Japan to obtain multifunctional benefits also lowers the benefits from agriculture, including multifunctional benefits everywhere else.

Food security

Food security is often used as a rationale for high levels of agricultural support in Japan. In fact, food security issues are often included as claimed spillover benefits associated with the 'multifunctionality' of agricultural production

in Japan. However, food security can be achieved through other more efficient and less costly means.

It would only be under abnormal circumstances, such as war or a major coordinated export embargo, that Japan's food imports could be threatened. But protection of high cost domestic industries would do little to secure supplies for more than a short time if trade flows were interrupted. This is because much of Japan's agricultural production is based on imported inputs. For example, Japan's livestock production is based on imported feeds. Furthermore, crop production depends largely on intensive use of large quantities of fertilisers and chemicals that are either imported or manufactured from imported mineral oil (ABARE 1996a). In 1997, of the 1.5 million tonnes of fertiliser used in Japan, 64 per cent was imported (FAO 1999). Any restrictions on imports of oil, fertilisers and chemicals would limit Japan's ability to sustain production.

Consequently, Japan's present food production levels are far higher than those that could be sustained in isolation — that is, Japan's present levels of food self-sufficiency are illusory in terms of providing food security in the event of trade being cut off.

Food security and self sufficiency

Food security is defined by the FAO as the ability of all people at all times to have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO 1996). Food security therefore deals with people's ability to obtain food, regardless of where the food is produced. Access to food is determined largely by incomes and the presence of efficient markets and infrastructures that provide access to these markets. Japan has all these aspects and so could ensure food security by purchasing food from the cheapest sources — that is, the world market.

However, Japan's approach is different. Japan is attempting to achieve food security through self sufficiency in food. In 1997, Japan's self sufficiency ratio was 41 per cent on a caloric basis, the lowest rate among developed nations. If established trends were to continue, this ratio would fall to 38 per cent by 2010 (Koyama 2000). Japan has serious concerns with this low level of self sufficiency because it is believed that an increasing dependence on trade will make Japan vulnerable to being cut off through conflict or embargoes and vulnerable to world food shortages and price fluctuations and hence

has a lower level of food security (Ohga 1998). Given these concerns and the declining self sufficiency ratio, Japan has attempted to change self sufficiency into a policy objective rather than a function of demand and supply by incorporating the concept of self sufficiency ratio targets into the New Basic Law (Article 15-2(2)). In March 2000 Japan announced a target self sufficiency ratio of 45 per cent in its 'Basic Plan for Food, Agriculture and Rural Areas'.

Instead of being a threat to food security, food trade with many countries could actually reduce any potential impacts on food supplies in the event of a conflict or embargo and so would actually improve food security in Japan. Such embargoes are unlikely and, apart from the 1973 US soybean export embargo, have been rare in recent times. An importing country can improve the certainty of supplies in the event of an embargo or restriction on exports by any particular supplying country by developing supply relationships with a number of major producing countries. The basis for a potential shortage of food is also questionable as many widely accepted models do not predict the massive increase in prices that the model used by the Japanese does (box 6).

6 Food supply and demand models

Japan uses an undocumented model to predict food supply and demand. The results from this modeling work have been used to support Japan's policy for self sufficiency in food. In some instances the model provides predictions where there are no apparent shortages in food. In others, under extremely pessimistic assumptions and with per person consumption increasing, some food shortages are apparent. However, the model does predict massive world price increases for food — of around 400 per cent by 2025 — which may result in additional supplies being attracted into the market (Trewin 1999).

In the early 1980s, MAFF also forecast that there would be shortages of food and that world market prices would rise to many times their 1978 levels. However, in real terms, prices have actually fallen below 1978 levels and have remained low ever since.

There are also a number of well documented and tested models that predict world food balances and prices. One such example is the International Food Policy Research Institute's IMPACT model that has been widely accepted (Mitchell, Ingco and Duncan 1997). This model predicts an increase in world food supplies of around 13 per cent and a decline in real prices of between 9 and 19 per cent by 2020.

Food security via agricultural support policies?

Japan is a wealthy nation that has the capacity to obtain its food supplies from the world market at prices that are substantially below those currently being paid for highly protected domestic production. Furthermore, Japanese purchasing power is sufficient to ensure that the quality of imported products would be equal or superior to that of domestically grown products (ABARE 1996a).

It is important to note that for wheat, rice and poultry, Japan's consumption is equivalent to a declining proportion of world trade (table 9). Currently, trade accounts for only a small proportion of total world production. For example, world trade in rice averaged only 5 per cent of production during the 1990s (ABARE 2000). As markets become more open, total volumes traded will rise and Japan will increasingly be able to draw supplies from other countries. However, restrictive trade policies will continue to limit trade relative to production. The small size of the world market in some commodities such as rice and the large variability in that market are largely brought about by the restrictive trade policies adopted by Japan and other countries (Tyers and Anderson 1992). Modeling, including that discussed in chapter 4, shows that in the event of substantial trade liberalisation, Japan could draw substantially increased agricultural supplies from a wide range of countries that would increase production and exports if greater access to markets were available.

9 Japan's food consumption relative to world trade

	Wheat	Rice	Poultry
	%	%	%
1984–86	7	82	109
1987–89	6	75	92
1990–92	6	76	55
1993–95	6	60	39

Source: US Department of Agriculture (1996).

Stockpiling

Given Japanese agriculture's dependence on imported inputs, in the event of Japan being isolated, it is likely that domestic food production could only be sustained for a relatively short period. For example, the slaughter of livestock would enable Japan to maintain its meat supplies in the very short term. The period over which food supplies could be sustained could be extended by maintaining a strategic stockholding of grain and other key food and feed products, although maintenance of such stocks would be at a cost to the economy. If the Japanese considered that maintaining strategic food stocks was desirable, it would be far less costly to the Japanese economy if products for

stockholding were imported at world prices than if they were produced domestically by highly protected, high cost agricultural industries.

The Japanese government currently stockpiles some quantities of staple foods, especially rice. Japan's current policies on rice stockpiling took effect in November 1995, as part of the Law for Stabilisation of Supply–Demand and Price of Staple Food, with the main goal being to maintain supplies at a flexible target level of about 1.5 million tonnes (WTO 1998b). The other major agricultural products subject to stockpiling requirements include 1 million tonnes of wheat for food, about 50 000 tonnes of soybeans for food and about 1.2 million tonnes of animal feed (WTO 1998b). This totals around 3.7 million tonnes of grain.

For the 1999-2000 Japanese financial year, the MAFF budget allocation for the storage of rice was ¥243 billion. This represents 7.1 per cent of MAFF's total budget. Details on the stockpiling of rice are outlined in box 7.

Liberalising rice trade and stockpiling sufficient rice to meet a production shortfall would be a more efficient policy instrument for achieving food security than using distorting domestic agricultural subsidies. Stockpiling, although representing a direct cost to the government for storage facilities and maintenance, would be more efficient than distortionary agricultural production and trade policies that cost Japanese consumers and the wider economy through higher prices and a misallocation of resources.

If Japan were to store rice for contingency, in case of domestic production shortfalls, a substantial increase over present stored volumes could be achieved through storing an additional 2 million tonnes. This amount of rice is the largest deviation below average production in Japan for over fifty years. Current production is around 9 million tonnes and the average variation in production is around 10 per cent (figure Y). Under conditions of excess storage capacity, as currently apply, it is estimated that storing an additional 2 million tonnes of rice in Japan, even if it were stored in refrigerated warehouses for the whole year would be ¥26.3 billion a year. This compares with the extra cost to consumers of the current arrangements, under which they have to pay up to six times the world price for rice, at the wholesale level.

OECD (2000) estimates of consumer support for rice in 1999 were ¥2266 billion for total consumption of approximately 9 million tonnes. So even based on this simple analysis, Japan would be much better off liberalising

7 Rice stockpiling in Japan

In Japan the Food Agency stores rice in government designated warehouses. The storage costs of such warehouses are lower than normal charges paid by a private organisation for rice stocks. Although the costs paid by the Food Agency vary from warehouse to warehouse, industry sources indicate that the average storage costs are ¥25 per tonne a day in a normal temperature warehouse and ¥36 per tonne a day in a refrigerated warehouse.

A total of around 13 600 warehouses, with a total storage capacity of 12.5 million tonnes, are designated by the Japanese government for stockpiling government marketed rice. Of these warehouses, refrigerated warehouses comprise 57 per cent of capacity, with the balance being normal temperature warehouses.

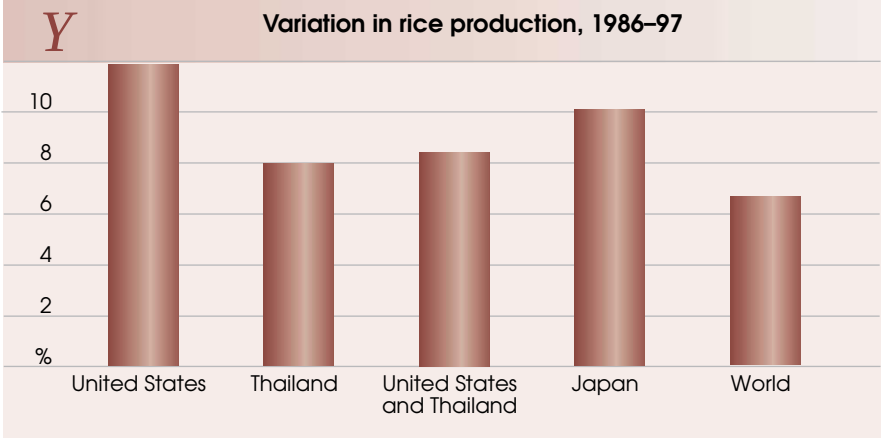
Stockpiling policy

The Food Agency's basic policy of stockpiling 1.5 million tonnes of rice (with a variation of 500 000 tonnes) equates to around two months consumption. However, the stockpile of government marketed rice reached 3.44 million tonnes in October 1988 following excellent harvests. Actual stocks have remained well above the 1.5 million tonnes target since 1988, apart from 1994 when a production shortage in Japan resulted in a temporary significant decrease in stocks. The Japanese government planned to reduce the stockpile of rice to 1.89 million tonnes by the end of October 2000.

To keep grain temperature at 15 degrees Celsius or below and maintain moisture of the grain at an appropriate level, the Food Agency policy is to stockpile rice in refrigerated warehouses. However, newly stored rice is usually stored in normal temperature warehouses after harvest until April in the following year. The rice is then transferred to the refrigerated warehouses after the middle of April. Without this transfer, the quality of the rice would deteriorate quickly and fumigation would be required to prevent damage caused by insects.

Distributing stockpiled rice

Stockpiled rice is currently distributed in the Japanese market under brand names indicating its origin — for example, *Takumae-Kun* is a blend of old and new rice with the exact blend varying between prefectures. The government believes that the oldest stockpiled rice that is acceptable to consumers is three year old rice and that the maximum blending ratio of three year old rice to new rice is 5 per cent and that for two year old rice is 25 per cent. The average market price for the stockpiled blended rice is around 25 per cent less than that of new rice. Despite these 'guidelines' some *Takumae-Kun* rice was harvested in 1995, so consumers have actually revealed that they will eat rice that is older than the three year acceptance rate outlined above.



trade in rice — stockpiling could continue in case of a production shortfall or other emergency.

If the rationale for stockpiling rice was the unlikely event of trade embargoes that might last several years, then subsidising domestic rice production again is not the most efficient policy. Much of Japan's agriculture is heavily reliant on imported inputs. Unless these inputs were also stockpiled on a grand scale, Japan would not be able to produce enough rice in any instance.

Instead of subsidising rice production, if trade was used to obtain sufficient supplies of food during normal situations, trade links with various rice exporting countries could be established. Such links would diversify the sources of supply so that Japan would not be adversely affected if one or two key exporters suffered a production or crop shortage. The variability of rice production for Thailand and United States combined and the 'world' is lower than the variability of production in Japan alone (figure Y). This means that Japan would be better off relying on imports for food security in rice. They would have less variation in supply than if they just relied on their own rice production and the lower cost of rice to consumers facing the world price for rice would increase the purchasing power of their incomes, thereby further improving their food security.

Japan's New Basic Law

In July 1999 the Japanese Diet passed a bill for the Basic Law on Food, Agriculture and Rural Areas (New Basic Law), which replaced the Agricultural Basic Law of 1961. The New Basic Law followed a report by

a Special Advisory Committee to the Prime Minister in September 1998. The changes resulted from pressures from Japan's trading partners and from Japanese interest groups and consumers. Many of the changes were contained in earlier guidelines agreed to between the government and agricultural groups in the fundamental Principles of Agricultural Policy Reform adopted in December 1998.

The New Basic Law aims to provide a dynamic, sustainable vision for Japanese agriculture (Trewin 1999). It contains elements that might be interpreted as making Japanese agriculture more market oriented. For example, Article 30 provides for prices for farm products to reflect 'appropriately' the real supply/demand situation and make production responsive to consumer demand. However, it then provides that the state should take necessary measures for mitigating the adverse effects of significant price changes of farm products on farm management. The meaning of 'appropriately' reflecting the real supply/demand situation, when the normal role of prices in competitively structured markets that are open to the world is to reflect the real supply/demand situation, is difficult to interpret. It suggests that there could be a desire to interpret the supply/demand situation in a very limited, internally focused way, especially considering other provisions in the law requiring food self sufficiency targets. Furthermore the provision that the state should act to mitigate the effects of price fluctuations would reduce the effectiveness of real market price signals as determinants of production and of correcting supply/demand imbalances. Nevertheless, there is some recognition provided in the GATT (Article XIX) and in the special safeguards provisions of the present WTO Agreement on Agriculture for measures to ameliorate injury to domestic producers from marked price reductions (WTO 1994).

In line with the provisions of the new Basic Law, price support policies for a number of major commodities are now under review, with the stated aim of increasing market functions (Australia–Japan Research Centre 1999). There is, however, no indication that any of these reviews have led to any increased trade liberalisation.

Decoupling and concerns with the New Basic Law

If the objective is to provide effective income supplements to farmers, the least distorting method is through systems that are designed to have as little impact on production and consumption as possible. While it is recognised that systems that do not affect production or consumption at all would be

very difficult to design, the types of systems that would most closely approach these criteria are ones involving lump sum transfers that are unrelated to production, prices or input use (International Agricultural Trade Research Consortium 1988). Such payments can be made on an ongoing periodic basis provided they are in no way related to important market variables. Payments under such arrangements are described as 'decoupled'.

The New Basic Law does not outline the reductions in support and trade barriers that would be necessary to make the agriculture sector more market oriented. In fact, the New Basic Law places significant emphasis on maintaining and expanding the agriculture sector.

A major concern about the New Basic Law is that it lacks specifics, leaving implementation open to interpretation by bureaucrats. For example, the New Basic Law mentions that food should be available at reasonable prices (Article 2-1); however, a continuation of high levels of support to commodities such as rice would result in prices continuing to be many times world prices (a tariff equivalent for rice of 1100 per cent according to Fu 1999). Other concerns include some of the specific arrangements, such as tariff-quotas that could favor particular countries with which Japan is running large trade deficits (Trewin 1999).

Article 12 of the New Basic Law indicates that consumers should be encouraged to better understand food, agriculture and rural areas. This, along with a self sufficiency target of 45 per cent for 2010 set by the Council for Food, Agriculture and Rural Area Policies (JIRC 2000) that is above current self sufficiency levels of around 40 per cent, implies the favoring of a shift in consumer purchases to Japanese products despite these products not necessarily matching consumers' evolving dietary preferences. Japanese consumers have expressed a preference for Japanese products, but only on the condition that prices come down to a level similar to imported products and close substitutes (Trewin 1999). If Japanese consumers had an absolute preference for Japanese food, implying nonsubstitutability of imports, current price supports could be implemented without the present high tariffs and other barriers. However, it appears that the Japanese authorities do not believe the preference to be large, as they have maintained the high barriers.

The New Basic Law is also very general and lacking in specifics. This generality leads to some inconsistencies between it and the recent WTO Position Paper generated by Japan, *The Fundamental Position of Japan on the Upcoming WTO Negotiations on Agriculture, Fisheries and Forestry* (WTO

Position Paper 1999). For example, some articles mention measures to allow prices to form appropriately (Article 30-1) yet arrangements such as import restrictions and producer subsidies supporting the stated self sufficiency goals work against such price mechanisms (Article 18-1). Article 2 is inherently protective and encourages increased domestic production and less trade but criticises limitations put on trade by exporters. The encouragement of domestic production as a basis for food supplies 'together with an appropriate combination with imports and stockpiles' implies a judgmental approach that is not indicative of commitment to true market based approaches to reform. However, the criticism of limitations put on trade by exporters has much to commend it, given that limitations on exports undermine the confidence that importers can have in the international market as a reliable source of necessary supplies.

There are some more positive aspects of the New Basic Law from a trade liberalisation viewpoint. The increase in use of market tenders along with a trend toward gradually lowering guaranteed prices may improve the efficiency of the state trading enterprises and internal price formation.

One area of particular concern to the sustainability of Japanese agriculture and the efficiency and competitiveness of Japanese agricultural industries is the management structure. While Japanese agriculture is based on the extremely small farms that currently predominate, it will not be able to access many production economies that can be obtained from a larger scale of operation. Article 21 of the Basic Agricultural Law stipulates that the state should promote agricultural production infrastructure and take other necessary measures for improving farmers' management structure and efficiency. While recognising the need to address the inadequacies of the present structure, the means of addressing them are not indicated.

In this context, one area of debate in the council has been about whether joint-stock corporations should be allowed to own farm land. According to Honma (2000), the Agricultural Land Law states that farm land should be owned by cultivators of the land. As joint-stock companies are owned by nonfarming stockholders, they have been excluded from land intensive farming enterprises. Farmers resisting change to the law indicate that joint-stock companies could purchase land speculatively, neglect it and wait for the chance to convert it to residential or industrial use. However, the same incentives face present farmers. Clearly, joint-stock companies represent only one form of entity that could help change Japanese farming structures to enhance their economic efficiency. However, the difficulties in even obtaining agree-

ment on how they might be given a role is indicative of an inertia that is impeding the restructuring of Japanese agriculture to make it more efficient and competitive.

State trading enterprises

In Japan, for some commodities, the state trading enterprises can import as much as they want of commodities and sell them in the domestic market. As long as the markups charged by the state trading enterprise are less than the tariff equivalents charged on private imports, there are no incentives for private enterprises to import.

The tariffs on privately imported goods are collected by the Ministry of Finance while the markups are collected by the state trading enterprise and used for promoting domestic production. However, as the markups for most goods are less than the tariff equivalents, there is very little private trade.

Article XVII of the GATT states that state trading enterprises shall purchase or sell only in accordance with commercial considerations and shall afford the enterprises in other countries adequate opportunity to compete for participation in such purchases or sales. However, in Japan, imports by the Agriculture and Livestock Industries Corporation are linked directly to buffer stock operations to stabilise domestic prices. Also, the Food Agency controls imports to implement its own domestic policy objectives and, because of the markup and tariff equivalent differential, limits the ability of exporters in other countries to trade.

The activities of the state trading enterprises continue to erode the competitive conditions in the markets of the commodities involved. With the likely addition of China to the WTO, rules on state trading will be a major issue not only specific to Japan at the current WTO agricultural trade talks.

6

Some final observations

Despite the commitments that Japan made as part of the Uruguay Round of multilateral trade negotiations, Japan's levels of support for all agricultural products, with the exception of beef, remain around the record levels in the mid-1980s when the Uruguay Round negotiations commenced.

Much work has gone into bringing agriculture fully into the multilateral trading system. But that work will be of limited value unless market distortions in agriculture can be reduced substantially toward levels of other major traded goods.

A key goal of current and future WTO negotiations should be to advance the benefits of trade through further reducing market distortions imposed by countries with high levels of agricultural support.

The benefits of Japan's current agricultural policies are far exceeded by the costs to consumers, nonsubsidised producers and the Japanese economy generally. Japanese consumers clearly lose through having to pay very high prices for highly supported products. Other Japanese industries, such as processing, also lose through the higher cost of their inputs. Supported farm incomes lead to higher land prices, thereby raising production costs and reducing farmers' rate of return. These high land prices and an intensely regulatory approach to entry into farming and transfer of farm land deter new farmers and incumbents wanting to expand their farming scale.

Japan's agricultural support policies also have negative impacts on other countries, including Australia. Japan's distorting domestic support policies reduce production in many countries. This is not only the case for exporting and potential exporting countries but it also leads to a reduction in production in other net importing countries. Proponents of the current Japanese agricultural policies use the argument that Japan imports more food than any other country. However, this is because of the size and affluence of the Japanese population and the country's poor agricultural resource endowments — not because of trade liberalisation.

Nor do recent developments such as the new Basic Agricultural Law or the advancement of multifunctionality as a basis for justifying agricultural

protection provide an indication of commitment to trade liberalising reform. If the potential gains to the Japanese economy from further liberalisation in Japanese agricultural trade are to be realised, it is important that the impediments to true market related reforms are addressed and that policy induced distortions to agricultural production, trade and prices are substantially reduced. True market related reforms go much further than reforms to domestic processing and handling institutions — they involve increasingly exposing domestic producers to international competition and developing sufficiently flexible internal arrangements and institutions to facilitate the continuous adjustment that arises from such competition.

At times of rapid growth in the economy overall, the perception can arise that the economy can accommodate the costs arising from maintaining the kinds of extreme levels of support that have developed for Japanese agriculture. However, since 1993, the previously rapid growth in the Japanese economy has come to an abrupt halt, and the economic burdens arising from the support for agriculture and noncompetitive practices in some other key sectors are impairing the ability of the economy to shake off its present malaise.

Glossary

Above (or beyond) tariff-quota tariff The tariff rate that applies to quantities of imports above or beyond the specified quantities entering within a tariff-quota.

Aggregate measurement of support (AMS) The measured level of domestic support that is subject to limitations and reductions under the WTO Agreement on Agriculture. It is applied for a member's agriculture as a whole but is determined from the sum of commodity specific AMS levels and non commodity specific nonexempt support. Commodity specific AMS levels are the sum of price support and nonexempt commodity specific subsidies, less specific agricultural levies or fees paid by producers. In turn, price support is the difference between administered support prices and constant external reference prices (import parity for net importers and export parity for net exporters) that are maintained at the average for the 1986–88 base period, multiplied by the quantity of production eligible to receive the administered support prices.

Allocated tariff -quota access Access of imports to a market within tariff-quotas that is allocated to specific supplying countries.

Applied tariff The actual tariff rate applied to imports at a particular time.

Base period The time period agreed during the negotiations as the basis on which all reductions and commitments are made. For the WTO Agreement on Agriculture, the base period for market access commitments is 1986–88; for export subsidy commitments, the base period is 1986–90 (Young 1994).

Bound tariff rate The maximum tariff rate that a WTO member undertakes to apply. The bound rate provides a ceiling that applied tariff rates cannot exceed, except by negotiations, with compensation for affected trading partners.

Consumer support estimate An indicator of the annual monetary value of gross transfers to (from) consumers of agricultural commodities,

(CSE)	measured at the farm gate level, arising form policy measures that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products. The CSE can also be expressed as a percentage of the value of total consumption, valued at farm gate prices, minus budgetary support to consumers.
Decoupling	The provision of support to producers that is not linked to variables that affect markets, including production, prices, trade or factors used in production. Such support is less market distorting than support that is linked to those variables.
Export subsidies	Government payments or other financially quantifiable benefits provided to domestic producers or exporters contingent on the export of their goods or services (Young 1994).
Fill rate	The proportion of a tariff-quota quantity that is actually imported in a particular year.
Food Agency	The Food Agency is part of Japan's Ministry of Agriculture, Forestry and Fisheries. It is responsible for ensuring the orderly and stable supply of some foods including rice. The agency establishes annual plans for the stabilisation of supply, demand and prices of rice. The agency buys, sells, stockpiles, imports and transports rice in accordance with this plan (MAFF website).
Food security	The ability of all people at all times to have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO 1996). Food security therefore deals with people's ability to obtain food, regardless of where the food is produced.
GATT	The General Agreement on Tariffs and Trade which was formed in 1947 with the view to reducing tariffs and other trade barriers and eliminating discriminatory treatment in trade in order to raise the living standards of member countries.
Implementation period	The period over which the provisions of an agreement are put into effect. For the WTO Agreement on Agriculture, the implementation period is 1995–2000 inclusive

	for developed countries and 1995–2004 for developing countries.
In (or within) tariff-quota tariff	The reduced tariff rate that applies for the specified quantities that enter within a tariff-quota.
Marginal cost	The additional costs that a producer incurs in producing one additional unit of output.
Marginal revenue	The additional revenue that a seller receives from selling one more unit on the market.
Minimum access	A minimum quantity of imports that is allowed into a market. In the Uruguay Round negotiations for agriculture, it was agreed that, at the beginning of the implementation period, minimum access should be 3 per cent of consumption in the 1986–88 base period, rising to 5 per cent of base period consumption by the end of the implementation period.
Multifunctionality	Any unpriced spillover effects that are additional to the provision of food and fibre in agricultural production. These include environmental and social effects.
Multilateral trade negotiations	Eight rounds of multilateral trade negotiations have been held under GATT auspices since 1947. Each round represented a discrete series of interacting bargaining sessions among the contracting parties. The aim was mutually beneficial agreements, working toward the reduction of barriers to world trade (Young 1994).
Nonallocated tariff-quota access	Access of imports to a market within tariff-quotas that is global and not allocated to specific supplying countries.
Producer support estimate (PSE)	A measure of the value of monetary transfers from domestic consumers and taxpayers to producers, expressed as a percentage share of the total supported value of farm production. The higher the PSE, the higher the level of support.
Quantitative restrictions	Explicit limits, or quotas, on the physical amounts of particular commodities that can be imported or exported during a specific time period. These restrictions are usually measured by volume but may sometimes be measured by value (Young 1994).

Quota rents	When a country limits production or market supplies through quota restrictions (on productions or imports), internal prices are maintained above levels that would apply without the quota restrictions. The difference between the internal price and the price that would apply without the quota restrictions is termed a quota rent. Where production or import quota rights are tradable, those rents represent the price at which quotas will be traded.
Special safeguard provision	A provision in the WTO Agreement on Agriculture that allows importing countries to increase tariffs on commodities specified in the agreement schedules, temporarily beyond bound levels, when world prices drop sharply or there is a significant increase in imports.
Spillovers (externalities)	Any benefits or costs associated with the production or consumption of a product that are not incorporated in the price or cost of the product.
Tariff	A duty (or tax) levied by an importing country on goods transported from another customs area. Tariffs raise the price of the imported good, thus making them less competitive within the market of the importing country.
Tariffication	Conversion to tariff equivalents of nontariff measures applying to particular products and the opening of minimum access opportunities for these products.
Tariff-quota	A specified quantity of imports for a particular product that is permitted entry at a lower tariff than the tariff on other imports of that product.
World Trade Organisation (WTO)	The institution established at the beginning of 1995 to cover a range of objectives concerning international trade. It subsumed the GATT. Its objectives include: to set rules for international trade and trade related activities; to provide a forum to negotiate trade liberalisation multilaterally; to settle trade disputes between contracting parties; to provide information on trade and trade policies; and to cooperate with other multilateral institutions (Anderson 1996). There are currently 136 member countries.
WTO Agreement on Agriculture	The Agreement on Agriculture that was negotiated in the Uruguay Round and which was ratified in 1994.

References

ABARE 1988, *Japanese Agricultural Policies: A Time of Change*, Policy Monograph no. 3, Canberra.

—— 1996a, *Food Security: An Historical Perspective*, Canberra.

—— 1996b, *The MEGABARE Model: Interim Documentation*, ABARE, Canberra.

—— 1999a, *Australian Commodities*, vol. 6. no. 2, June quarter, Canberra.

—— 1999b, *Sugar: International Policies Affecting Market Expansion*, ABARE Research Report 99.4, Canberra

—— 2000, *Australian Commodity Statistics*, Canberra.

Anderson, K. 1996, 'Why the world needs the GATT/WTO', ch. 1 in *Strengthening the Global Trading System: From GATT to WTO*, K. Anderson (ed.), Centre for International Economic Studies, University of Adelaide, pp. 3–12.

—— 1998, *Agriculture and the WTO into the 21st Century*, CIES Policy Discussion Paper 98/03, Prepared for the Cairns Group Farm Leaders Strategy Seminar, Sydney, 2–3 April, Centre for International Economic Studies, University of Adelaide.

—— and Hayami, Y. 1986, *The Political Economy of Agricultural Protection – East Asia in International Perspective*, Australia–Japan Research Centre, Australian National University, Canberra.

Australian Dairy Corporation 1999, *Dairy Compendium 1999*, Melbourne.

Australia–Japan Research Centre 1999, *Has Japanese Agricultural Protection Had its Day?* Australian National University, Canberra.

APEC 1999, *APEC Tariff Database* (www.apectariff.org/tdb.cgi).

Boonekamp, L. 1995, *Agriculture in Japan: Current Issues and Possible Implications of the Uruguay Round Agreement*, Ministry of Agriculture, Forestry and Fisheries, Tokyo.

Caves, R.E. and Jones, R.W. 1985, *World Trade and Payments: An Introduction*, 4th edn, Little, Brown and Company, Boston and Toronto.

Conniff, R. 1997, 'Can Britain save its hedgerows?', *International Wildlife Magazine*, July/August (www.nwf.org/nwf/intlwild/hedgerow.html).

Dyck, J., Childs, N., Ackerman, K., Skully, D. and Hanson, S. 1999c, 'Rice tariff in Japan: what does it mean for trade?', *Agricultural Outlook*, Economic Research Service, US Department of Agriculture, Washington DC, April.

East Asia Analytical Unit 1997, *A New Japan? Change in Asia's Megamarket*, Department of Foreign Affairs and Trade, Canberra.

FAO (Food and Agriculture Organisation of the United Nations) 1996, *Rome Declaration on World Food Security and World Food Summit Plan of Action*, Rome (www.fao.org/wfs/final/rd_e.htm).

—— 1999, FAOSTAT Agriculture database, Rome (http://apps.fao.org/cgi-bin/nph-db.pl?subset=agriculture).

Food and Agriculture Policy Research Center 1998, *Changes in Japan's Agrarian Structure*, Report of Study Group on International Issues SG11 no. 18, Tokyo.

Food Agency (Japan) 1998, *An Outline of Japan's New Rice Policies*, Tokyo.

Freeman, F., Melanie, J., Roberts, I., Vanzetti, D., Tielu, A. and Beutre, B. 2000, *The Impact of Agricultural Trade Liberalisation on Developing Countries*, ABARE Research Report 2000.6, Canberra.

Fu 1999, Liberalisation of the rice sector in Japan, Korea and Taiwan, Paper presented at the 25th Pacific Trade and Development Conference, Osaka, 16–18 June.

Garnaut, R. and Ma, G. 1992, *Grain in China*, East Asia Analytical Unit, Department of Foreign Affairs and Trade, Canberra.

George, A. and Rapkin, D. 1993, *GATT Negotiations and the Opening of Japan's Rice Market: A Two-Level Game Approach*, Pacific Economic Papers no. 215, Australia–Japan Research Centre, Australian National University, Canberra.

Global Agriculture Information Network 1999a, *This Week in Japan*, vol. III, issue no. 35, GAIN Report #JA9529, Tokyo, 31 August.

—— 1999b, *Japanese Dairy Sector Reform*, GAIN Report #JA9103, Tokyo.

Harrigan, J. 1996, 'Openness to trade in manufactures in the OECD', *Journal of International Economics*, vol. 40, nos 1–2, February, pp. 23–39.

Harrison, G.W., Rutherford, T.F. and Tarr, D.G. 1995, Quantifying the Uruguay Round, Paper presented at the Uruguay Round and the Developing Economies, A World Bank Conference, 26–27 January.

Hayami, Y. 1988, *Japanese Agriculture under Siege: The Political Economy of Agricultural Policies*, Macmillan, London.

Hertel, T.W. 1997, *Global Trade Analysis: Modeling and Applications*, Cambridge University Press, Massachusetts.

Honma, M. 1999, Agricultural trade liberalisation and domestic policy reform in Japan, Paper presented at a workshop on 'A Way Forward for Japanese Agriculture?', Australian National University, Canberra, 13 July.

—— 2000, The New Agricultural Basic Law and Trade Policy Reform in Japan, from 'A Way Forward for Japanese Agriculture?', Pacific Economic Papers, No. 300, February, Australia-Japan Research Centre, Australian National University, Canberra.

Ingco, M. 1995, *Agricultural Trade Liberalisation in the Uruguay Round*, Policy Research Working Paper 1500, World Bank, Washington DC.

International Agricultural Trade Research Consortium 1988, *Bringing Agriculture into the GATT: Designing Acceptable Agricultural Policies*, Summary presented at a Symposium in Annapolis, Maryland, 19–20 August.

Japanese Diet 1999, *Basic Law on Food, Agriculture and Rural Areas*, Tokyo, July.

JIRC 2000, 'Target for food self-sufficiency rate set at 45 per cent', *Japan Agrinfo Newsletter*, vol. 17, no. 9, May, Tokyo.

Koyama, O. 2000, 'Target of food self-sufficiency rates in "The Basic Plan for Food, Agriculture and Rural Areas",' Adopted by the Cabinet and reported to the Diet on 24 March, Tokyo.

Licht, F.O. 1999, *International Sugar and Sweetener Report: World Sugar Balances 1989-90 – 1998-99*, F.O. Licht, Germany.

McDougall, R.A., Aziz, E. and Troung, P. (eds) 1998, *Global Trade, Assistance and Protection: The GTAP 4 Data Base*, Center for Global Trade Analysis, Purdue University, Indiana.

MAFF 1995, *Annual Report on Japanese Agriculture FY 1995 (Summary)*, Ministry of Agriculture, Forestry and Fisheries, Tokyo.

—— 1996, *A Summary of the Annual Report on Japanese Agriculture, FY 1996*, Ministry of Agriculture, Forestry and Fisheries, Tokyo.

—— 1998, *MAFF Yearbook 1997-98*, Ministry of Agriculture, Forestry and Fisheries, Tokyo (and previous issues).

—— 1999a, Environmental externalities provided by upland fields, (www.maff.go.jp/soshiki/kambou/Environment/env8.html).

—— 1999b, *Basic Facts about Japanese Agriculture*, Japan's Agricultural Review, vol. 28, Tokyo, March.

—— 1999c, *Abstract of Statistics of Agriculture Forestry and Fisheries in Japan: 1998*, Ministry of Agriculture, Forestry and Fisheries, Tokyo.

—— 2000, *Food Balance Sheets, 1998*, Tokyo.

MAFF (United Kingdom) 1999, Countryside Stewardship Scheme, London, (www.maff.gov.uk/ environ/envsch/cs.htm).

Mahé, L.P. and Ortalo-Magné, F. 1999, 'Five proposals for a European model of the countryside', in CAP and the Countryside, *Economic Policy*, April.

Mitchell, D.O., Ingco, M.D. and Duncan, R.C. 1997, *The World Food Outlook*, Cambridge University Press, Massachusetts.

Mitsui and Co. 1990, 'The revised sugar price stabilization law', *Japan Sugar Yearbook 1989*, Tokyo.

Nishimura, N. 1991, 'Environment conservation functions of agriculture', *Farming Japan*, vol. 25, no. 6, pp. 20–5.

OECD 1998, *Agricultural Land Conservation*, Organisation for Economic Cooperation and Development, Paris.

—— 2000, *Agricultural Policies in OECD Countries: Monitoring and Evaluation: 2000*, Paris.

OECD Secretariat 1998, The OECD and agricultural trade analysis: recent history, possible future directions, Document prepared for OECD Workshop on Emerging Trade Issues in Agriculture, Paris, 26–27.

Ohga, Jeiji 1998, *World Food Security and Agricultural Trade*, University of Tokyo.

Parris, K. and Melanie, M. 1993, 'Japan's agriculture and environmental policies: time to change', *Agriculture and Resources Quarterly*, vol. 5, no. 3, pp. 386–99.

Podbury, T. and Roberts, I. 1999, WTO *Agricultural Negotiations: Important Market Access Issues*, ABARE Research Report 99.3, Canberra.

Rae, A. 1999, Japan's livestock sector: consumption, production and trade, Paper presented at a workshop on 'A Way Forward for Japanese Agriculture', Australia–Japan Research Centre, Australian National University, Canberra, 13 July.

Roberts, I.M. 1997, *Australia and the Next Multilateral Trade Negotiations for Agriculture*, ABARE Research Report 97.6, Canberra.

Roberts, I., Podbury, T., Andrews, N. and Fisher, B 1999, The dynamics of multilateral agricultural policy reform, ABARE Conference Paper 99.25, Canberra.

Roberts, I., Podbury, T., Freeman, F., Tielu, A., Vanzetti, D., Andrews, N., Mélanie, J. and Hinchy, M. 1999, *Reforming World Agricultural Trade Policies*, ABARE Research Report 99.12, Canberra.

Schneider, K., Graham, B., Millsteed, C., Saunders, M. and Stuart, R. 2000, *Trade and Investment Liberalisation in APEC: Economic and Energy Sector Impacts*, ABARE Research Report 2000.2, Canberra.

Statistics Bureau 1998, *Japan Statistical Yearbook, 1998*, Management and Coordination Agency, Government of Japan, Tokyo.

Tahe, F. 1992, 'Environmental constraints in east and south east Asia: potential for changing patterns of agricultural production and trade', *Pacific Rim Agriculture and Trade Report*, Situation and Outlook Series, September, Economic Research Service, US Department of Agriculture, Washington DC, pp. 47–52.

Trewin, R. 1999, Issues in Japanese agricultural policy, Paper prepared for a workshop at the Australian National University, Canberra, 13 July.

Tyers, R. and Anderson, K. 1992, *Disarray in World Food Markets: A Quantitative Assessment*, Cambridge University Press, Massachusetts.

UNCTAD (United Nations Conference on Trade and Development) 1999, Trains database (www.leman.com/~kuwahara/untrains.htm).

US Department of Agriculture 1996, *USDA Production, Supply and Distribution Data*, Washington DC.

US Environment Protection Agency 1990, *Agriculture and the Environment: OECD Policy Experiences and American Opportunities*, Washington DC.

WTO 1994, *The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts*, World Trade Organisation, Geneva.

—— 1998a, *Rectification and Modifications of Uruguay Round Schedules, Schedule XXXVIII – Japan*, G/MA/TAR/RS/57, Committee on Market Access, Geneva, 21 December.

—— 1998b, *Trade Policy Review, Japan*, Report by the Secretariat, Geneva, 5 January.

—— 1999, *Preparations for the 1999 Ministerial Conference*, WT/GC/W/220, Communication from Japan, 28 June.

WTO Position Paper 1999, 'Fundamental position of Japan on the upcoming WTO Negotiations on Agriculture, Forestry and Fishery', Ministry of International Trade and Industry, Tokyo.

Yasaka, M. 2001, 'Dairy Farming and the Dairy Industry', chapter II from *Japan's Livestock Industry: Now and in the Future*, Food and Agriculture Research Center, Tokyo.

Young, E. 1994, *Uruguay Round Outcomes: Agriculture*, Agriculture Branch, Trade Negotiations and Organisations Division, Department of Foreign Affairs and Trade, Canberra.