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Policy Responses in Emerging Economies to International Agricultural Commodity Price Surges

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LIST OF ACRONYMS AND ABBREVIATIONS

ARG	Argentina
BRA	Brazil
CET	Common External Tariff
CHL	Chile
CHN	China
CIF	Cost, Insurance and Freight
CPI	Consumer Price Index
CV	Compensating Variation
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FFPI	FAO Food Price Index
FOB	Free On Board/Freight on Board
GDP	Gross Domestic Product
GNI	Gross National Income
ID	International Dollar
IDN	Indonesia
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IND	India
LCU	Local Currency Unit
MEP	Minimum Export Price
MFN	Most Favoured Nation
MOU	Memorandum of Understanding
MSP	Minimum Support Price
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing Power Parity
RTA	Regional Trade Agreements
RUS	Russia
TRQ	Tariff Rate Quota
UKR	Ukraine
USA	United States of America
VAT	Value Added Tax
VNM	Vietnam
WFP	World Food Programme
WTO	World Trade Organisation
ZAF	South Africa

Currencies and exchange rates

ARS	Argentine peso
BRL	Brazilian real
CLP	Chilean peso
CNY	Chinese yuan renminbi
EUR	Euro
IDR	Indonesian rupiah
INR	Indian rupee
RUB	Russian ruble
UAH	Ukrainian hryvnia
USD	United States dollar
VND	Vietnamese dong
ZAR	South African rand

POLICY RESPONSES IN EMERGING ECONOMIES TO INTERNATIONAL AGRICULTURAL COMMODITY PRICE SURGES

Summary and policy conclusions

The report covers ten major emerging economies: Argentina, Brazil, Chile, China, India, Indonesia, Russia, South Africa, Ukraine and Vietnam. Its purpose is two-fold: (a) examine and classify short-term policy responses in these countries to the rise in international commodity prices over the period 2006-08 and (b) analyse impacts of these responses on the domestic market to evaluate their effectiveness in meeting stated policy objectives. While the report considers the impact of policy responses on trade flows in and out of the countries, it does not analyse the impact of changing trade flows on the international market, in particular the upward pressure on world commodity prices caused by export restrictions. These spill-over effects are examined in another paper "Potential market effects of selected policy options in emerging economies to address future commodity price surges" (Thompson and Tallard, 2010).

To meet the first objective, a classification system was developed in line with that used by other international agencies that have surveyed policy responses. It separates government responses into four major types: market interventions to limit the rise in food prices, market interventions to control inflation, assistance to consumers through safety nets and support to producers. While not all policy reactions might have clearly identifiable fiscal implications, the unique feature of this report is that it attempts to estimate the fiscal impact of policy responses as an indication of the relative importance of these responses in a given country. A consistent methodology was used to estimate marginal changes, both increases and decreases, in fiscal expenditure or revenue. Developments in trade flows, price transmission, inflation, consumption and production were used to investigate the second objective. The analysis focussed on three cereal crops (wheat, maize and rice) and one oilseed crop (soybeans). In many cases more than one policy response was affecting a commodity. It is thus impossible to separate out the impacts of the different policies.

Main results

Eight of the ten countries took some measure to directly affect the price or increase the supply of agricultural commodities to limit the rise in food prices. Only Chile and South Africa did not. Brazil, China, India, Indonesia, Russia and Vietnam all reduced or removed tariffs on specific commodities, some of which were still in place at the end of 2009. Argentina, China, India, Indonesia, Russia and Vietnam introduced or increased export taxes or reduced export price incentives. However, it has to be underlined that the vast majority of the short-term interventions represent a reinforcement of already existing policy settings rather than new policy measures. If new policies were introduced, they were most likely to be imposing some form of restriction on exports. Thus, it can be said that in most cases short-term policy responses fitted into longer-term policy frameworks and were driven by long-term policy objectives, such as food security or stabilisation of farm revenues.

In terms of the estimated fiscal implications, increases in receipts were greater than expenditure in Argentina, with the fiscal gain representing 0.1% of fiscal receipts in 2008. In all other countries, increases in expenditure were greater than increases in revenue. The difference between expenditure and revenue, indicating a fiscal cost, ranged from 0.1% of fiscal receipts in Chile through to 19% in India, with most in

the range of 0.5%-2.5%. In 2008, expenditure on consumer safety nets was the most fiscally important policy response in Brazil, Chile and South Africa. Market interventions were important for Argentina and Vietnam. Policies to support producers dominate the fiscal value of policy responses in China, India, Indonesia, Russia and Ukraine.

The diversity between countries in terms of the type, timing and scope of policy responses reflects differences in national income, the level and distribution of poverty, the share of expenditure on food, the contribution that agriculture makes to GDP and employment, the pre-existing policy framework and fiscal capacity. However, policy responses were also influenced by other, less measurable factors such as political systems, election cycles, existing institutional capacity, historical experiences, prevailing system of values or overall policy culture. For example, in the four Asian countries, the high importance of food in household consumption and the large contribution agriculture makes to the economy helps explain their twin response of attempting to both protect consumers from rising prices and support producers through raising input subsidies and minimum purchase prices. The fiscal ability of governments to compensate consumers for rising food prices is greatest in Brazil, Chile and South Africa, and a major focus of their response was on direct support to consumers. While Brazil and Argentina have many similarities across socio-economic variables they responded quite differently in terms of policy, due in large part to differences in the existing policy framework and objectives.

In terms of the impact of policies on trade flows, the focus of the evaluation was on the impact of export restrictions. It found that the restrictions imposed by Ukraine (export quotas), India (export bans, minimum export prices and export taxes) and China (a combination of quotas, export taxes and reduction in export rebates) had a significant effect on limiting the volume of exports in the commodities covered. Although annual exports from Argentina remained close to historical levels, restrictions kept exports below what they would have been in a rising world market. The interventions undertaken by Russia and Vietnam did not necessary affect the overall volume of product exported, although they did alter the pattern or timing of exports.

Elasticity of price transmission calculations were used to consider the degree to which policy responses were able to insulate the domestic wholesale markets from international commodity price developments. Appreciating domestic currencies *vis-à-vis* the USD in real terms during the period 2006-08 reduced the rise of world prices in domestic currency equivalents in all ten countries except South Africa, where the local currency depreciated *vis-à-vis* the USD. The offsetting effect of an appreciating real currency was particularly significant for Brazil, Russia and Ukraine. For example, while the international price for maize rose 120% in real USD terms between April-June 2006 and April-June 2008, it increased only by around 60% in real local currency terms for these three countries.

After accounting for exchange rate movements, the study found that policies implemented in India and China for rice, wheat and maize, and in Indonesia for rice and soybeans were most effective in insulating the domestic market during the period of rising international prices from 2006-08. This conclusion was made by comparison with price transmission rates for the same commodities in other countries, other commodities in the same country (soybeans in the case of India and China, and wheat in the case of Indonesia) and price transmission rates in the preceding three-year period 2003-06. By controlling the timing of exports and raising export taxes, the degree of price transmission from the world to the domestic market in Argentina remains relatively low for a major exporter. Despite successfully controlling export volumes, Ukraine was not able to limit price transmission to any great degree. Vietnam was completely unsuccessful in its attempt to control rice prices. Price transmission rates were generally higher for soybeans than for the three cereals, and across all commodities in Brazil, Chile, Russia and South Africa.

Consumer food prices rose at a faster rate in all ten countries during the period 2006/07-07/08 as compared to 2003/04-05/06, with food prices rising the fastest in Chile and South Africa, two relatively small, open economies. Consequently, the rise in inflation attributed to food prices also increased in all ten countries between those two periods. In 2006/07-07/08, the increase in inflation due to higher food prices ranged from 1.5%-2.5% in Brazil, Chile, Indonesia and South Africa, 4%-5% in Argentina, China, India and Russia, 7.5%-8.5% in Ukraine and Vietnam, and was just 0.6% for the OECD as a whole. The higher value in emerging economies reflects the greater weighting of food in the inflation indexes compared to that in OECD countries. More significantly, in all ten countries, food prices increased at a faster rate than non-food prices, particularly in Chile, China, Ukraine and Vietnam. However, not all the increase in food prices can be attributed to rising international prices. These four countries experienced severe climatic conditions, causing significant price rises for locally produced fruits and vegetables.

To measure the impact on food consumption, the study estimated the compensating variation (CV) associated with changes in food prices for the periods 2004-06 and 2007-09. CV measures the change in money income or expenditure needed to maintain a constant utility level after a change in relative prices. It takes into account how food prices change compared to non-food prices, the importance of food in consumption and how easily consumers can substitute consumption between food and non-food items. Although Chile and South Africa had the highest increase in food prices, when these other factors are taken into consideration, the impact on consumers was relatively weak. The study found that the impact on consumers was likely to be the greatest in China, India, Indonesia and Vietnam. These four countries took some of the strongest measures to intervene in their domestic markets to limit the extent of price transmission, with varying degrees of success.

Using changes in real GDP per capita as a proxy for changes in household income, it appears that economic growth was strong enough in all countries during the period 2006-08 to more than compensate average consumers for the loss in utility caused by changing relative prices at the national aggregate level. However, those on low incomes would have been seriously affected. Further, the economic slow-down in 2008/09, coupled with the continued rise in food relative to non-food prices, is likely to have placed greater pressure on all households in this most recent year than between mid-2006 and mid-2008 when global commodity prices rose the fastest.

The study found that, in general, there has been an increase in both the area and production of the three cereal crops and soybeans during 2007-09 in the ten countries. The rates of increase have been at least equal to, and in many cases more than, that which has occurred in the United States and the world as a whole. Where prices have not been fully transmitted, such as in China, India and Indonesia, increases in procurement prices and input subsidies have helped drive up production. Favourable climatic conditions contributed to the rise in wheat production in Russia and Ukraine, while unfavourable weather disrupted wheat production in Argentina and Chile. Despite a higher export tax, farmers in Argentina are moving away from wheat and maize to soybeans because of lower production costs, a greater resilience to climatic variations and the policy of successive governments to keep cereal prices low to benefit urban consumers. The opposite is occurring in China, with farmers moving away from oilseeds to cereals because of the increase in support provided for cereal production.

The following table summarises the main policy responses made in each of the ten countries and the notable impacts in terms of trade, prices, etc. It also offers a summary of the main lessons learned from their unique situation.

Table 1. Summary of policy responses and impacts

Country	Main policy responses	Impacts	Outcome
Argentina	Raised export tax rates and maintained quantitative restrictions on exports of cereals and soybeans. The extra revenue generated by the higher export taxes was used to subsidise processors to keep consumer food prices low.	Insulation of domestic market from world price changes for cereals. Trade flows restricted to historical levels but this is likely to be below what they would be in the absence of export taxes/restrictions given the difference between world and domestic prices.	Policies were able to keep domestic prices for cereals relatively low, with very little fiscal cost, thus protecting consumers but increasing the burden on producers. It also came at the cost of decreased production. Subsidies to processors benefit all consumers, not just the most affected.
Brazil	Increased targeted expenditure through the Bolsa Família programme; established new lines of credit for producers, including through the "More Food" programme; some reductions in import tariffs and other taxes.	High level of price transmission onto the domestic market.	Most vulnerable groups of population, both consumers and producers, protected at higher fiscal cost. Producers given an opportunity to increase production in response to rising world prices.
Chile	One-off increase in payments to poor consumers.	High level of price transmission. Severe domestic winter conditions compounded the rise in international prices, leading to a relatively large increase in food prices.	The burden of adjustment fell on consumers, partly eased by targeted assistance to the poorest. Very low fiscal cost. Producers benefited from higher commodity prices
China	Released government stocks; increased consumer transfers; suspended VAT refunds on exports; imposed export taxes; restricted export volumes; increased input subsidies; imposed price constraints on wholesalers and retailers.	Partial insulation of the domestic cereal market from rising prices. Food prices rose due to domestic factors – climatic conditions and disease outbreak. Cereal production expanding due to increased subsidies.	Consumers benefited from relatively low and stable prices, but producers taxed. Producers partly compensated by increased input subsidies. Cost to taxpayers due to an increase in consumer transfers and in producer support.
India	Imposed export bans, minimum export prices, export taxes and other export restrictions; raised minimum purchase prices but kept release prices constant; increased fertiliser subsidy.	Insulation of the domestic cereal market from world price changes. Production encouraged by increasing output and input support. Build up in stock levels.	Consumers benefited from relatively low and fixed prices. Producers taxed by lower prices than on international markets but supported through input subsidies and higher administratively fixed purchase prices. Huge burden on taxpayers due to a substantial increase in government expenditure, equivalent to 19% of fiscal revenue.
Indonesia	Released stocks; reduced import tariffs; increased distribution of subsidised rice and cooking oil; raised base export prices and export tax for crude palm oil; increased reference purchase prices and fertiliser subsidies.	Insulation of the domestic rice and soybean markets from rising world prices. Increase in production stimulated by output and input subsidies.	Trade policies benefited consumers, but taxed producers. Producers partly compensated by increased reference purchase prices and fertiliser subsidies. Cost fell mainly on taxpayers due to increased expenditure on food subsidies and food production.
Russia	Released government stocks; imposed export taxes on wheat and barley; decreased import tariffs on a wide range of food items; imposed price controls on staple foods; increased intervention prices to rebuild stocks.	Affect on the timing of exports rather than on the overall volume of exports. Weak impact on price transmission. Large increase in production in response to higher prices and good weather.	Consumers were not shielded from the rising prices. Producers benefited from developments in the markets.
South Africa	Significantly increased expenditures on social grants; increased support for small-scale producers.	High level of price transmission and a relatively high rate of increase in food prices.	The cost fell on taxpayers and on consumers not eligible for increased social grants. Poor consumers were supported with increased social benefits.
Ukraine	Imposed export quotas on cereals and limits on consumer price increases; increased minimum purchase prices.	Policies limited exports but not insulated the domestic market from world price increases.	Consumers had to deal with rising prices while producers were prohibited from gaining the most from rising world prices. Limited fiscal cost.
Vietnam	Constraints used to control volume and value of rice exports; import tariffs reduced on a wide range of products.	Policies not successful in insulating the domestic rice market from rising world prices; relatively high rate of increase in food prices partly caused by high rice prices.	Cost to consumer of rising prices. Fast GDP growth helped consumers to absorb rising food prices. Producers prohibited from gaining the maximum from rising world prices.

Policy conclusions

The relatively short-run nature of the spike in international commodity prices and the seasonal rise in prices for fruits and vegetables in some countries caused by intense climatic events, coupled with the difficulty experienced by some countries in limiting the extent of food prices rises on the domestic market, reinforce the importance of developing targeted safety nets as a long-term solution to dealing with food price volatility. They allow flexibility to deal with the effects of the price rises on poor households without disrupting the market, and in particular price signals to farmers. Once a safety net mechanism is in place, transfers can be raised when prices increase, and lowered when prices fall. The one-off "bonus" paid to beneficiaries in Chile is a good example of this. By comparison, the governments in Brazil and South Africa, while targeting those most affected, did so by raising the base benefit level. Once raised, base benefit levels are harder to decrease and result in a longer-run cost for the government. The study highlighted the need to watch the long-run costs of such programmes. The decision by successive Indian governments to not raise central issue prices since 2001 has led to a ballooning of the fiscal costs associated with the Targeted Public Distribution System.

The study revealed the policy dilemma associated with the "first best" policy mix often espoused by international agencies, *i.e*. allow food prices to rise so that market signals are transmitted to producers, fight general inflation by raising interest rates, etc., and provide targeted safety nets for the poor who are most affected. The dilemma is created because the first two policies increase the cost of the third. The greater the relative increase in the price of food relative to non-food items, the greater the level of transfer required to compensate consumers. This does not mean that this is an inappropriate policy mix. What it does highlight is that there is an interrelationship between the policy responses, and the more successful the first ones are, the greater the fiscal cost of the third might be.

In addition to safety nets for the poor, the study revealed the importance of income growth within emerging economies as a key for compensating losses in consumers' utility due to relative increase in food prices. Thus policies able to stimulate overall economic growth and ensure that the benefits flow through to households could be part of a relevant policy-mix to prepare for future food price spikes.

Direct government intervention, particularly the imposition of export restrictions, was not always effective in suppressing domestic price pressure. The experience of the Ukraine cereal market and the Vietnam rice market, serve as a warning about the difficulties in using trade measures to control domestic prices. Such actions proved to be more effective in countries that already had a well-developed system of domestic market intervention for the commodity concerned. However, where they were effective, direct intervention was not without cost. In Argentina, the government was able to keep prices to consumers lower than they would have been but its policies have diluted incentives for wheat producers. China, India and Indonesia were able to keep prices low, but to compensate producers and to stimulate production they increased input-linked support to producers.

In the long-term, depressed price signals for farmers might exacerbate the problems that the governments had intended to solve. They may result in lower domestic production, thus leading in some cases to increased imports of commodities used as the staple food at prices higher than those regulated on domestic markets. In addition, frequent and sometimes opaque government interference in the markets may also have the effect of undermining the trust of participants in the proper functioning of markets. Price controls and export restrictions might not contribute to the creation of a competitive market that can stand sudden shocks.

Several countries responded by raising minimum or intervention prices to rebuild public stock levels that had been reduced to stabilise domestic prices. These were often announced and implemented just prior to when international commodity prices started falling in mid-2008. As a result, public stock holdings have

increased considerably. For example, stock levels of wheat in India reached near record levels of 35 million tonnes in June 2010, slightly lower than annual production in France, the world's fifth largest producer. While stocks are intended to reduce the impacts of temporary food shortages and might be a useful alternative especially for large countries with limited handling capacity at the border/harbour, such high stocks involve an important fiscal cost associated with purchasing and storing the product purchases. They also have the potential to destabilise markets. The presence of high stock levels may cause domestic prices to fall in the following season. If excess stocks are exported with the aid of subsidies or by a state trading enterprise at prices below the cost of purchase, they may destabilise world prices.

Some countries responded to the crisis by raising input subsidies provided to agricultural producers. If provided within an adequately tailored package and supported by relevant advice, such subsidies can enhance production of selected commodities. However, experience from OECD countries shows that their positive impact on farmers' income can be low compared to their fiscal cost. Agricultural input subsidies may also be closely linked to environmental damage, in particular water pollution.

1. Examination and classification of short-term policy responses

1.1. Introduction

Over the two-year period from mid-2006 to mid-2008 international commodity prices for cereals, oilseeds and dairy products rose dramatically, with prices more than doubling in many cases. Although they have all fallen from their peaks, prices for many commodities remain well above their mid-2000s level. This has created a number of policy challenges for governments, particularly in developing countries. At the macro-level, many developing countries faced a significant increase in their import bill, leading to a deterioration of their balance of payments position, placing pressure on foreign reserves with implications for growth and development (IMF, 2008a; IMF, 2008b). At the micro-level, poor households in both food importing and exporting countries were especially hard hit given the large share of food in their total expenditure and the constraints they have in terms of low income and capital endowment (WFP, 2009; Zezza *et al*., 2009). The impact is not only in terms of reduced food consumption and consequent malnutrition but also felt through reductions in non-food expenditures and investments such as schooling rates and health expenditures (World Bank, 2008a; Ligon, 2008). On the other hand, higher global food prices present an opportunity for agricultural producers to benefit in terms of increased income (James *et al*., 2008; Thapa *et al*., 2009).

Governments in OECD and non-OECD countries responded to the significant rise in prices with a wide range of policy measures including import tariff reductions, price controls, export restrictions, release of stocks and food programmes. Considerable work has been done to monitor the types of responses. Broad surveys of the policy initiatives in a large number of developing countries have been prepared (Demeke *et al.*, 2008; FAO, 2009a; Viatte *et al.*, 2009). On a smaller scale, the 2009 edition of *Agricultural Policies in Emerging Economies Monitoring and Evaluation* report included, for each of the seven countries, a special box on food price inflation that briefly summarised the policy responses and the transmission of higher international commodity prices to the domestic market (OECD, 2009a). The 2009 OECD Global Forum on Agriculture – "Agricultural Outlook: Preparing for the Future" – included a session on short-term policy responses to higher and volatile food prices, with presentations on China, Brazil, India and South Africa (OECD, 2009b).

In comparison, relatively little work has been done to evaluate the effectiveness of the policy responses. "There is a need to strengthen the monitoring and evaluation of policy measures taken by governments in terms of their cost-effectiveness" (FAO, 2009a). In a similar vein, a consultancy report for the OECD on the development dimensions of high food prices concluded that future "research priorities include developing a better understanding of the impacts on hunger and poverty as a result of actual experience and policy responses invoked, the extent to which those responses achieve domestic and international market stability or instability, and whether the focus of subsequent agricultural development initiatives is appropriate" (Abbott, 2009).

The purpose of this study is to assess the effectiveness of policy responses in meeting policy objectives stated by governments. Such an assessment is valuable because many analysts expect greater price volatility in the future due to the general tendency for lower stocks and the heightened linkages between crop and energy prices (OECD, 2009b; OECD, 2009c). Understanding what responses worked or did not work in the 2006-08 crisis will be helpful in guiding policy responses to any future high-price events. There was a lack of policy coherence in some instances, with the mechanism of some policy responses working against the objectives of others. It is also important because some policy responses had negative impacts on international trade, adding to the upward pressure on prices. These spill-over impacts are investigated in a separate study undertaken as part of a wider OECD project examining structural changes in agricultural commodity markets; a project that this report also contributes to.

Given the limited time that has passed since the policies were introduced and the availability of data, the report focuses on policy responses that were implemented for the purposes of achieving short-term objectives, *i.e.* one or two years at the most. It focuses particularly, but not exclusively, on those trying to reduce the impact of rising international prices on the domestic market. In the very short-term (less than one-year) policy makers can do little to change domestic food production if farmers already made their planting and input use decisions for the upcoming harvest. Assessing the effectiveness of policies implemented with longer-term objectives, such as increasing funding for research and development to boost agricultural productivity or developing new safety-nets programmes to assist the most vulnerable, are beyond the scope of this report.

Only national level policy responses are considered. Some policy actions were taken at the municipal level, *e.g.* provincial based income transfer programmes or subsidies to the local milling industry, but these are not included. Also not included are policy measures introduced in response to the global financial crisis and the resulting economic downturn that began in the second half of 2008. For example, the expansion of concessional credit opportunities for farmers, processors, traders, etc., to offset the reduction in the availability of private sector loan facilities.

The remainder of this section examines the policies responses in ten major emerging economies: the seven covered in the 2009 edition of *Agricultural Policies in Emerging Economies Monitoring and Evaluation* – Brazil, Chile, China, India, Russia, South Africa and Ukraine, along with Argentina, Indonesia and Vietnam. Section 2 assesses the impact of the short-term policy measures on the domestic market in meeting the policy objectives. A range of indicators is used to consider developments in trade flows, price transmission, inflation, consumption and production.

1.2. A framework for classifying responses

For all ten countries, a detailed table containing a description of each policy response, the commodity(s) affected, the date on which the policy started and finished (if applicable), the budgetary implications (if appropriate) and the stated objective(s) is provided in Annex A. These tables are an integral part of the report, containing most of the detail about the policy responses. They are located in an Annex to assist the structure of the report.

In order to reveal differences between countries, a classification system is used to label each policy response into one of 18 different categories. Policy responses are first arranged according these categories, and then listed by commodity in order of starting date within the categories. The classification system identifies policy responses according to both their objectives and the manner in which they work. In terms of objectives, policies are separated into four broad types of responses (Table 1.1). Those intended to: (a) limit rises in the price of food on the domestic market; (b) control the rise in general prices; (c) assist consumers who are facing higher prices for food; and (d) support producers to increase food production. Broad groupings (a), (c) and (d) are similar to that used by studies commissioned for the FAO (Demeke *et al*., 2008; Viatte *et al*., 2009), prepared by the World Bank (World Bank, 2008b) and undertaken in research institutes such as IFPRI (Benson *et al*., 2008). They also reflect the three major components used by the World Bank in its Global Food Crisis Response Program (World Bank, 2008b). Within each of these broad types of response, policies are placed into categories that reveal differences in the way they work or are implemented.

The market-intervention categories reflect the different "points" in the market at which the policy response occurs. A distinction is made between those that specifically focus on the food market (M1-M6) and those initiated at the macro-economic level and which affect the whole economy (I1). The first group looks to change the relative price of food within an economy while the second has an impact on all prices.

Table 1.1. Framework for classifying short-term policy responses

Broad types of response	Categories	Label	Examples
Market intervention to limit the rise in food prices	Directly affect price of commodity – import	M1	Reduce/remove tariffs and customs fees
	Directly affect price of commodity – export	M2	Introduce/increase export taxes
	Directly affect price of commodity – fiscal	M3	Reduce VAT, introduce price subsidies
	Directly affect price of commodity – non-fiscal	M4	Administrative price controls
	Increase/maintain domestic supply of commodity – import	M5	Increase SPS approvals, relax import licensing
	Increase/maintain domestic supply of commodity – export	M6	Increase minimum export prices, introduce export quotas
	Increase/maintain domestic supply of commodity – stocks	M7	Release food reserve stocks, impose penalties for hoarding
	Decrease non-food demand for commodity	M8	Restrictions on private trade, alterations to biofuel policy
	Improve functioning of the market	M9	Improve price transparency, establish/ban futures market
Market intervention to control inflation	Impacts on all prices	I1	Monetary policy increases in official interest rates, intervention to appreciate the value of the exchange rate
Consumer safety nets	Monetary assistance	C1	Increase cash based transfers, food stamp/vouchers
	Food assistance	C2	Food transfer and school-lunch programmes
Production-orientated	Transfers based on commodity output	P1	Increase guaranteed producer prices
	Transfers based on variable inputs	P2	Increase fertiliser subsidies, expand seed distribution programmes
	Transfers based on fixed capital formation	P3	Increase availability of concessional credit
	Transfers based on on-farm services	P4	Establish/expand extension services
	Regulations	P5	Impose restrictions on taking land out of agricultural production

Within the first group, a distinction is made between those that potentially affect food prices fairly directly, such as changes in tariffs, taxes and subsidies or the imposition of price controls (M1-M4), and those that effect prices by altering either the quantity of food available on the market, such as grain reserve policies, or demand for the commodity (M5-M9). This division is made because the first has a more direct impact on prices while others depend on the elasticity of supply and demand. According to economic theory, in a small open economy, changes in domestic supply and demand such as those resulting from the release of stocks, are not likely to have a significant impact on prices. Policies that change supply and demand are likely to have an impact only if other policy measures limit the transmission of international commodity prices to the domestic market. The classification also identifies those at the border using trade measures, whether affecting imports (M1 and M5) or exports (M2 and M6), and those operating on the domestic market (M3, M4, M7, M8, M9).

Reducing tariffs is among the easiest measures to implement from an administrative point of view. This is probably the most widely adopted measure, reported to have occurred in 43 out of 81 countries surveyed for the FAO (Demeke *et al*., 2008). The effectiveness of this measure depends on the initial tariff setting and the extent of the reduction. The higher the pre-existing tariff and the greater the reduction, the more likely it will have an impact on prices. Reducing VAT is generally, both administratively and practically, more difficult to implement than reducing tariffs. Its effectiveness also depends on the initial

level and the reduction made. These tax-based policies are effective in lowering food prices only if the food retail sector is competitive, as retailers may exercise their power over the market and increase their margins, and if consumers actually purchase their product in supermarkets and other formal retail shops.

One important distinction between market-intervention policies that is not clearly identified in the classification is the difference between those policies that affect all market prices and those that just affect consumer prices. This distinction is important because the former set are likely to place downward pressure on producer prices – and therefore by reducing the income received by farmers and disrupting the market signal to producers to increase production – while the later do not. Reviewing the various market-intervention categories it is suggested that all except category M3 – specifically reductions in VAT and general price subsidies – are likely to place downward pressure on producer prices.

The classification makes a distinction between untargeted food subsidies that are provided across the board to all consumers (M3) and those that are targeted at specific populations through safety nets (C1 and C2) – "non-contributory transfer programs targeted in some manner to the poor or vulnerable" (Grosh *et al*., 2008). Universal food subsidies for all is a quicker response to mitigate the first-round impact of price increases but are costly as they do not target effectively those who really need support. Financial safety nets include cash transfers, including conditional based ones, and food stamp/voucher programmes. The food assistance category includes food transfer programmes, work-for-food programmes, school-lunch programmes and targeted food subsidies. The effectiveness of safety nets in general depends on the number of vulnerable people reached and the volumes of assistance provided.

For production-orientated measures, the study uses a system of categories based on the classification of policies in the OECD Producer Support Estimate (OECD, 2008). This separates out responses in terms of those based on outputs, such as minimum prices, and those based on inputs. Transfers based on inputs are divided into three categories on the basis of the type of input. Transfers based on variable inputs include fertiliser and seed subsidies. Reductions in tariffs on agricultural inputs to stimulate production are classified in P2 rather than in M1 because they do not directly affect the price of commodities. Transfers based on fixed capital formation include credit provided at preferential rates to farmers. Transfers based on on-farm services include the value of extension services provided either free or below cost to farmers. The final category captures policy responses that involve regulations. These do not involve the transfer of resources (money, inputs, knowledge, etc.) to producers.

1.3. Estimating the fiscal impact of responses

Having identified the different types of responses, it is useful to consider the relative importance of the responses. One way to do this is to estimate the direct/first-order fiscal implication of each response. Second-order impacts, such as a reduction in VAT or income tax resulting from a fall in prices due to export quotas are not calculated. Of course not all policy responses have a fiscal impact, but it does let us compare the relative importance of those that do.

The budgetary implication takes into account both increases in government expenditure, such as spending on price subsidies, cash transfers and producer support, and reductions in government revenue as occurs when tariffs are reduced or eliminated. There are also occasions when a policy response results in an increase in government revenue, *e.g.* when export taxes are raised. For the purposes of distinguishing between these fiscal impacts, a positive number represents an increase in expenditure/reduction in revenue while a negative sign indicates a decrease in expenditure/increase in revenue. Changes in fiscal positions are calculated for 2007 and 2008.

In order to assess the marginal value of the response, the budgetary implication focuses on the change in government expenditure/revenue. When a policy response involves an increase in payments on an

existing programme, an estimate of the marginal change in expenditure is used to measure the cost of the policy response. When the policy response involves a reduction/elimination in tariffs, the loss in revenue is estimated by multiplying the percentage point change in the tariff rate by the value of imports that enter through the relevant tariff line over the period of time that the change was in place. Care is taken to avoid counting the value of imports that are already entering at a lower tariff rate level because of preferential arrangements. When export taxes are introduced or raised, the increase in revenue is estimated by multiplying the value of exports that occurred during the period of time that the change was in place by the percentage point increase in the tax rate.[1] The reduction/suspension of export refunds, which results in a decrease in fiscal expenditure, is calculated in a similar manner. In this case the value of exports is multiplied by the percentage point decrease in the refund rate. The budgetary figures therefore do not reveal the full cost of a programme or the total revenue generated by an import tariff or export tax.

A number of countries, such as Brazil, China, India, Russia and Ukraine, responded by increasing minimum support or intervention prices paid to farmers. Products purchased by government agencies at these prices are often sold back on the open market to smooth out seasonal or regional price variations. Information regarding the price at which product is re-sold on the market and the costs of storage, transportation, etc., are not readily available. Consequently, the budgetary implication of a rise in minimum prices is calculated at the first point of sale, *i.e.* the quantity purchased from producers times the marginal increase in prices, and is classified in P1. It does not net out the revenue earned from selling the product, but neither does it include other costs associated with the operation of the purchasing programme. A major exemption is India, where rice and wheat are purchased primarily for distribution to poor consumers at subsidised prices through the Targeted Public Distribution System (TPDS). The quantity of product re-distributed and the value of the food subsidy programme are readily available. In this case, the increase in food subsidy expenditure is included in category C2. However, product purchased in excess of that required for the TPDS system is calculated as for other countries and included in P1.

1.4. How did governments respond?

Table 1.2 provides a summary of the short-term policy measures taken in response to higher agricultural prices in the ten countries. Eight of the ten countries, excepting Chile and South Africa, took some measure to directly affect the price or increase the supply of agricultural commodities. Brazil, China, India, Indonesia, Russia and Vietnam all reduced or removed tariffs on specific commodities, some of which are still in place. The most extensive range of reductions in terms of the number of tariff lines occurred in Vietnam. Although not identified in this report as a policy response to rising prices, Ukraine reduced tariffs on a wide range of agricultural commodities on 16 May 2008 as part of its WTO accession commitment. Argentina, China, India, Indonesia, Russia and Vietnam introduced or increased export taxes or reduced export price incentives. Steps to control inflation were introduced by monetary authorities in all ten countries. Consumer safety nets were used by eight of the ten countries. With the exception of Chile, all responded with measures to support production.

1. This method would normally overestimate the increase in revenue resulting from a rise in an export tax because it does not take into account the negative impact on export volumes. However, for the six countries for which changes in fiscal revenue associated with changes in export taxes are calculated, it is considered a satisfactory approach. For four of the countries – China, India, Russia and Vietnam – export taxes were introduced rather than raised so there was no revenue being generated prior to their introduction, *i.e.* even if export volumes would have been higher without the export tax there would have been no revenue. For Indonesia, export taxes increased from a very low level (1.5%) so the revenue gained from a greater quantity of exports at this export tax level is likely to be minimal. In Argentina, the initial export taxes were relatively high, 20% or more for the products concerned, and are an important source of government revenue. However, quotas and registration requirements also restrict exports. It is through these instruments that the government controls the volume of exports. Consequently, it is not likely that traders would have been able to export any more than they did even if the export tariff had remained the same.

In the individual country tables in Annex A, the fiscal cost for each policy measure is provided in local currency units (LCU) where applicable. Table 1.3 brings the total fiscal cost associated with all policy responses for each country together and presents it in three common formats to enable comparisons between countries. The total value is expressed in a common currency (US dollars) to show the magnitude of the overall response. It is shown as a share of fiscal receipts to reveal the cost to the government and on a per-capita basis to indicate the cost to the general population. This is measured in international dollars at PPP so that expenditure per capita can be compared between countries.

In all cases except Argentina, the fiscal cost increased significantly between 2007 and 2008 as the extent of the price rises escalated and countries responded with a wider range of policies. For Argentina, increases in government revenue resulting from higher export tax rates are estimated to be slightly greater than the additional expenditure on market intervention and production support. Among the other nine countries, the value of policy responses are estimated to have ranged from 0.1% of fiscal receipts in the case of Chile through to 19% in the case of India, with the remainder in the region of 0.5%-2.5%. The increase in expenditure on the food subsidy and fertiliser subsidy programmes accounted for 70% of the increase in fiscal costs associated with policy responses in India in 2008. The combined total value of fiscal expenditure on these two programmes, and not just the marginal increase as reported in Table 1.3 and Annex Table A.5, represented 22% of fiscal receipts and 2.2% of GDP in 2008.

Table 1.2. Summary of short-term policy measures taken in response to higher agricultural prices, 2006-08

Broad type of response	Category	Label	Argen-tina	Brazil	Chile	China	India	Indon-esia	Russia	South Africa	Ukraine	Vietnam
Market intervention to limit the rise in food prices	Directly affect price of commodity – import	M1		✓		✓	✓	✓	✓			✓
	Directly affect price of commodity – export	M2	✓			✓	✓	✓	✓			✓
	Directly affect price of commodity – fiscal	M3	✓	✓				✓	✓			
	Directly affect price of commodity – non-fiscal	M4	✓			✓			✓		✓	
	Maintain/increase domestic supply of commodity – import	M5					✓	✓	✓			
	Maintain/increase domestic supply of commodity – export	M6	✓			✓	✓	✓			✓	✓
	Maintain/increase domestic supply of commodity – stocks	M7		✓		✓	✓	✓	✓		✓	
	Decrease non-food demand for commodity	M8				✓	✓			✓		
	Improve functioning of the market	M9			✓	✓	✓	✓	✓		✓	✓
Control inflation	Impacts on all prices	I1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Consumer safety nets	Monetary assistance	C1		✓	✓	✓		✓	✓	✓	✓	
	Food assistance	C2					✓	✓	✓	✓	✓	
Production-orientated	Transfers based on commodity output	P1	✓	✓		✓	✓	✓	✓		✓	
	Transfers based on variable inputs	P2		✓		✓	✓	✓		✓		✓
	Transfers based on fixed capital formation	P3		✓		✓	✓			✓		
	Transfers based on on-farm services	P4		✓			✓			✓		
	Regulations	P5				✓						✓

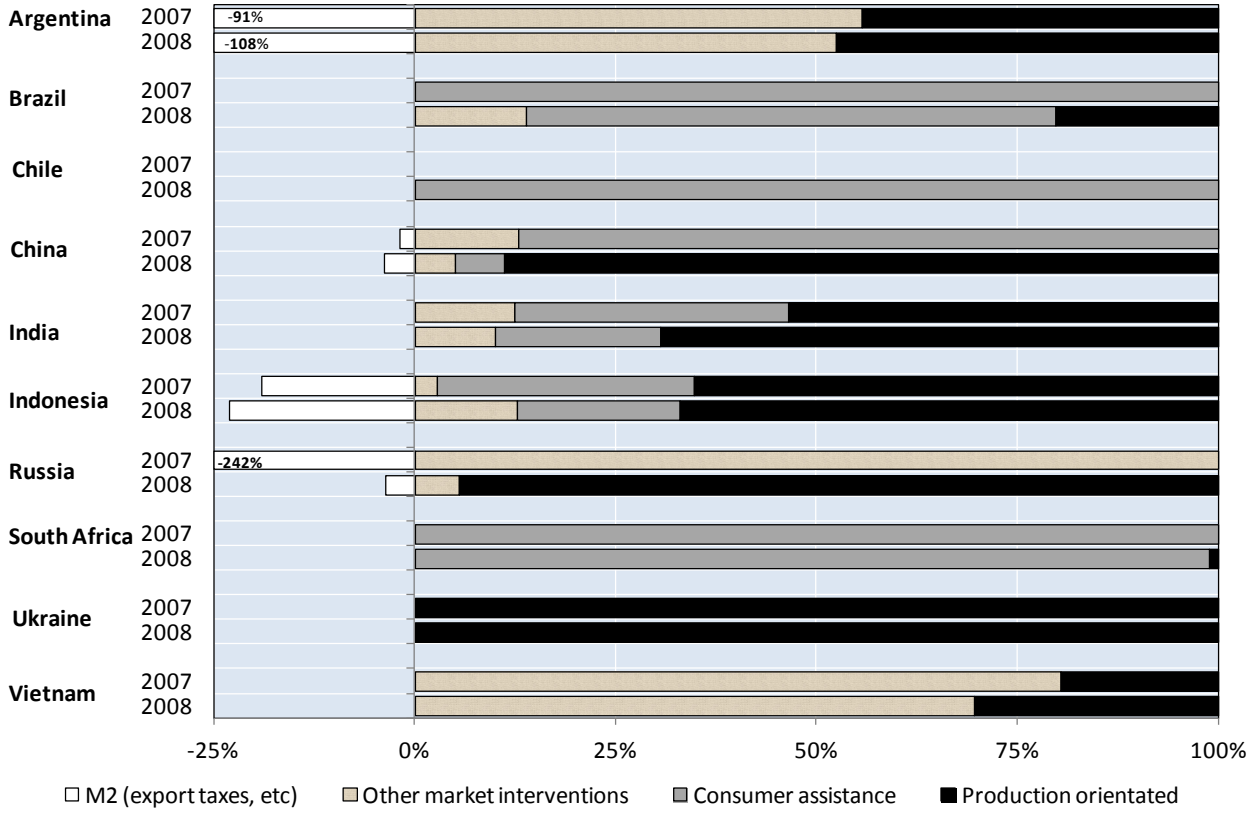
Source: Compiled from the detailed country tables in Annex A.

Table 1.3. Fiscal implication of policy responses to rising food prices, 2007 and 2008

Year	Argentina	Brazil	Chile	China	India	Indonesia	Russia	South Africa	Ukraine	Vietnam
					Fiscal cost (USD million)					
2007	49	743	0	436	5 273	644	-32	786	79	48
2008	-122	2 394	56	7 813	24 000	2 095	2 309	1 849	246	242
					Share of fiscal revenue (%)					
2007	0.1	0.2	0.0	0.1	3.8	0.8	0.0	0.9	0.2	0.3
2008	-0.1	0.6	0.1	1.7	19.1	2.1	0.6	2.4	0.6	1.0
					Fiscal cost per person (International dollar, PPP)					
2007	3	5	0	1	12	6	0	27	4	2
2008	-5	16	5	11	55	16	22	67	10	7

Source: Compiled from the detailed country tables in Annex A and IMF, International Financial Statistics (2010).

Figure 1.1. Composition of fiscal responses to rising food prices, 2007 and 2008



Notes: Increases in government revenue obtained by raising export taxes and decreases in expenditure generated by reducing export rebates, *i.e.* policy measures classified in category M2 and identified with a negative signage, are expressed as a percentage of total expenditure resulting from the other categories to give an indication of the extent to which these offset increases in expenditure. Revenue obtained from the imposition of export taxes on basmati rice in India and rice in Vietnam are not calculated.
Source: Compiled from the detailed country tables in Annex A.

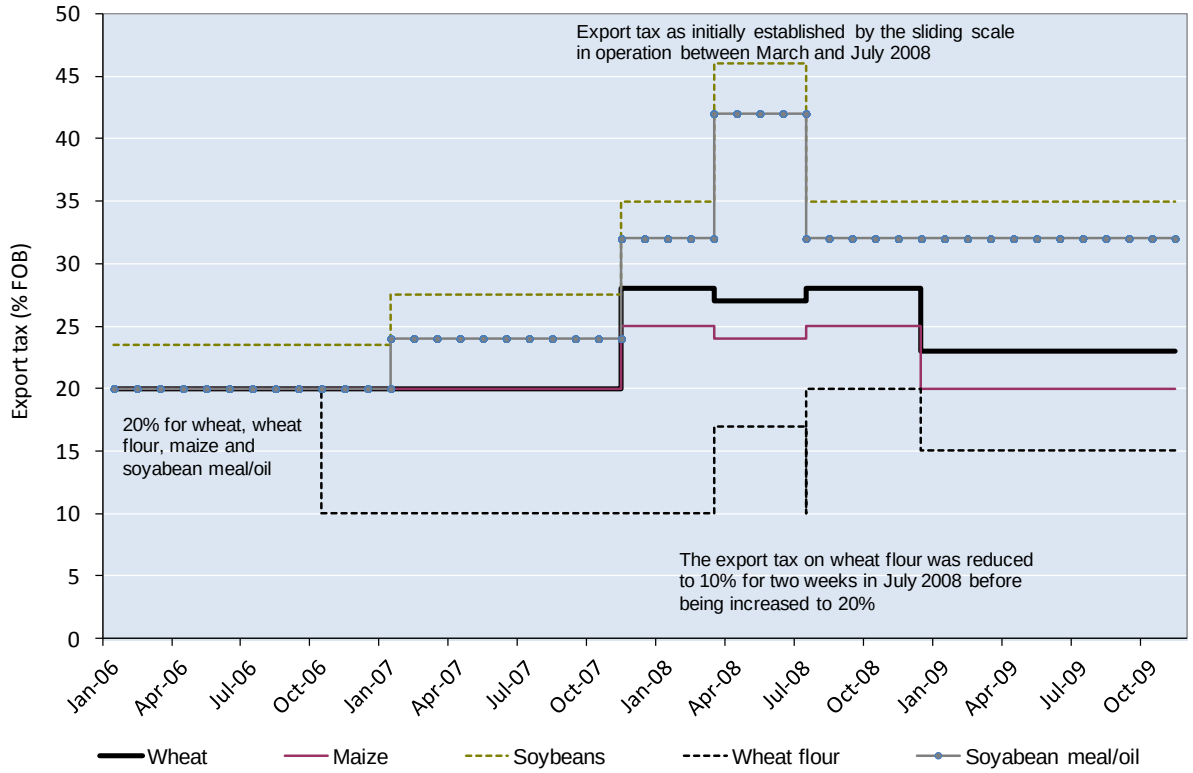
Figure 1.1 shows the composition of fiscal responses in terms of the four categories: category M2, the remaining market intervention, consumer safety nets and production oriented. Category M2 is separated out from the other market intervention categories because policy responses classified here resulted in a fiscal gain (shown by a negative sign) – either an increase in government revenue through, *e.g.* the imposition or raising of export taxes, or a reduction in expenditure through, *e.g.* the reduction or

suspension of export rebates. The fiscal gain from these policies is shown as a percentage share of the fiscal expenditure associated with all the other categories to show the extent to which fiscal gains offset increase in expenditure.

Market interventions, aside from category M2, are relatively important for Argentina, Russia and Vietnam. In Russia and Vietnam these mainly result from a decrease in fiscal revenue due to tariff reductions while in Argentina they represent an increase in expenditure on subsidies to processors. For Brazil, Chile and South Africa, and China in 2007, consumer safety nets were fiscally important policy responses, although they were also represented more than one-quarter of expenditure in India and Indonesia. Policies to support producers dominate the fiscal value of policy responses in China, India, Indonesia, Russia and Ukraine, and to a lesser extent in Argentina and Vietnam. These seven countries imposed greatest controls over exports.

The policy response in Argentina centred on export restrictions, including export taxes, quotas and licensing arrangements (Annex Table A.1). These policies have been in place for some time, and were altered in response to rising world prices. Figure 1.2 shows the changes made to export taxes on wheat, maize, soybeans and derived products. The export taxes on soybeans and derived products have been successively increased to raise government revenue and create a price disincentive to farmers from shifting production from grains to soybeans. Consistent with past policy, the fiscal revenue generated by the increase in export taxes have been used to provide support to processors (to compensate them for keeping their prices low through "price agreements") and producers (for keeping domestic market prices lower than they would be).

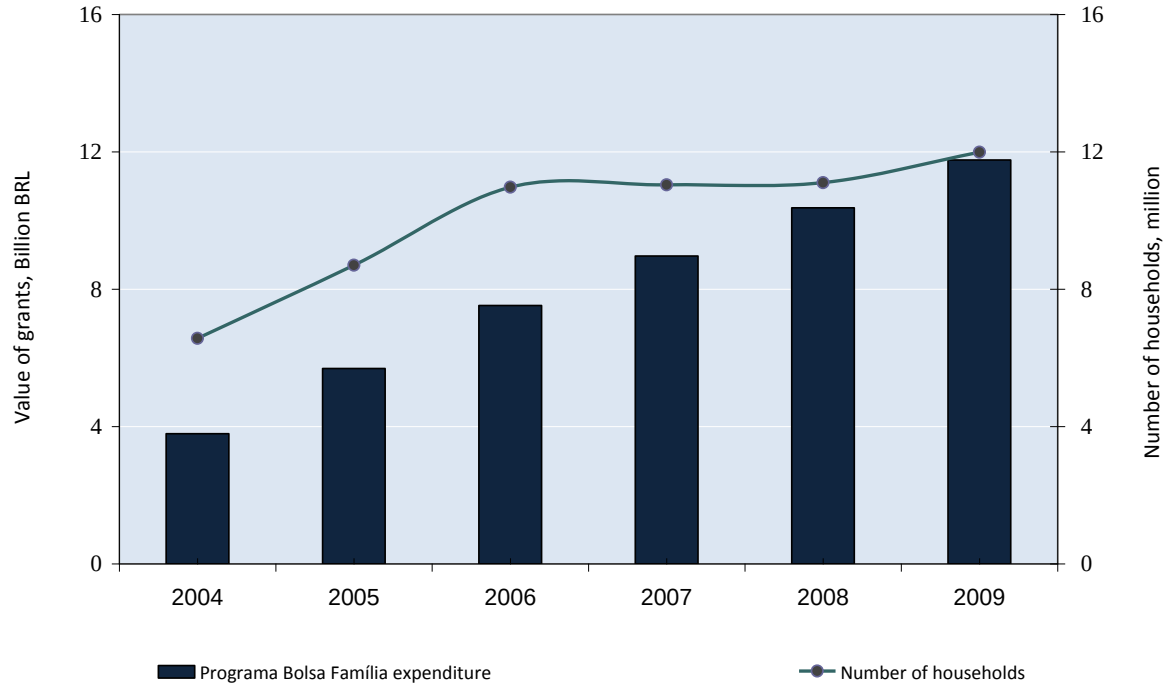
Figure 1.2. Argentinean export taxes on cereals and soybeans, 2006-09



Source: Author's compilation based on information contained in FAS Gain reports.

An important feature of the policy response in Brazil was to increase payments on Bolsa Família (Annex Table A.2 and Figure 1.3). Created in October 2003, Bolsa Família is a conditional cash transfer programme serving over 12 million families (50 million people), one-quarter of the population. Benefits levels were held constant from 2003 until July 2007, despite a 16.7% increase in the cost of living. During the period 2004-06, the increase in expenditure reflected the growing number of persons served by the programme. In July 2007, Decree 6.157 increased benefit amounts by 17% to 20% (depending on the category), thereby restoring their initial value (Grosh *et al*., 2009). Benefit levels were raised again in 2008 and 2009. Around 90% of the benefit is used to purchase food. Other important responses included the establishment of a duty-free tariff quota for wheat, reduction in taxes and changes on wheat and wheat flour, the establishment of new credit lines as part of the "More Food" programme, and raised minimum guarantee prices across a wide range of commodities for the 2008/09 season. The government views Brazil as one of the few countries with the capacity to increase production on a large-scale in response to growing world demand for food.

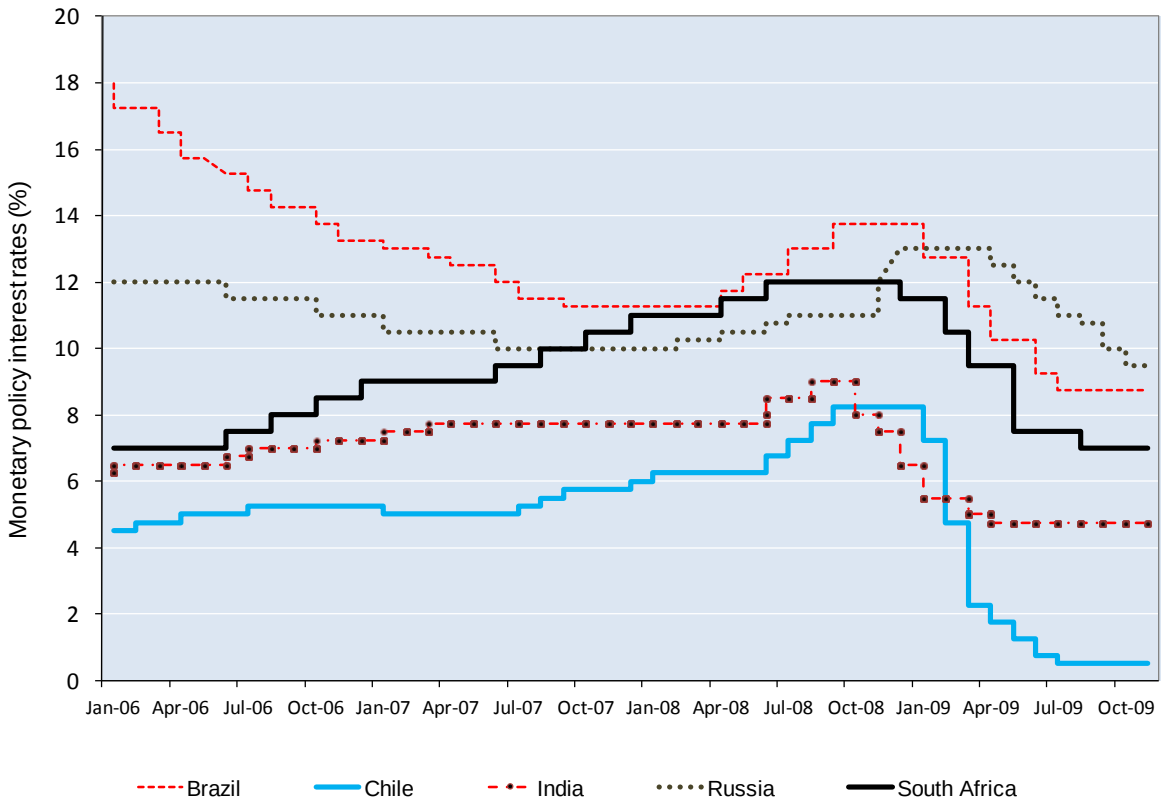
Figure 1.3. Expenditure and recipients of Bolsa Família, 2004-09



Source: Author's calculation based on Programa Bolsa Família web-site, Government of Brazil, *www.mds.gov.br/bolsafamilia/.*

The policy response in Chile focussed on improving price transparency, providing some income support for those most affected and limiting the overall rise in inflation (Annex Table A.3). The central banks of Chile and South Africa were among the first to raise monetary policy interest rates and among those that raised them the most (Figure 1.4).

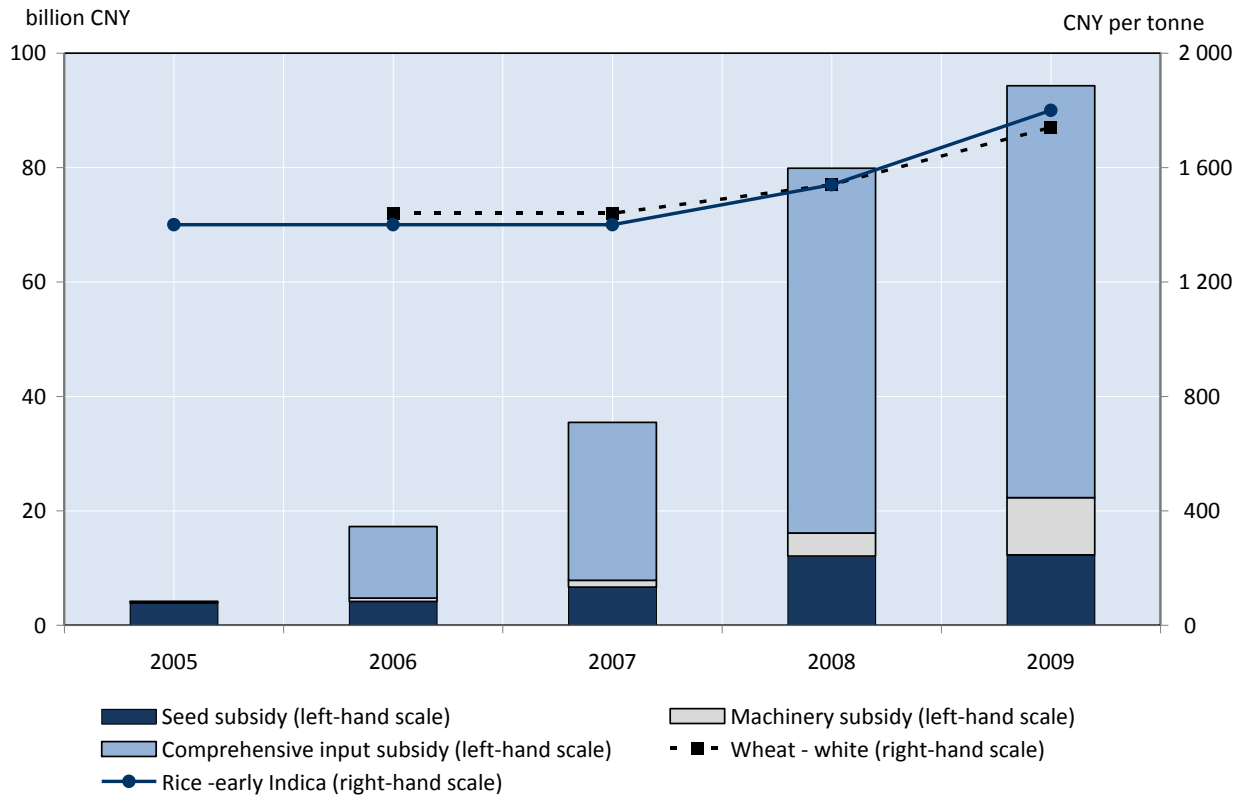
Figure 1.4. Monetary policy interest rates in selected countries, 2006-09



Sources: Compiled from annual reports and official websites of the respective central bank authorities.

Initial policy responses in China were mainly of a domestic nature, including the release of government held stocks, increased support to consumers through targeted programmes and a moratorium on the building of industrial processing plants for grains, *e.g.* for ethanol production (Annex Table A.4). This last policy was supported by the removal of the export rebate for ethanol in January 2007. These responses were soon followed by a range of border measures that completely changed the position of China from encouraging to preventing grain exports. The 13% export rebate on grains, soybeans and products derived from them was removed on 20 December 2007, and replaced by export taxes, ranging from 5%-25%, on these products with effect 1 January 2008. Quantitative restrictions in the form of export quotas were also imposed, particularly after August 2008 when they virtually halted (Yang *et al.*, 2008). Tariff reductions occurred for soybeans, some oils and a few other products, but not for grains. Price controls on food grains, vegetable oils, pork, beef, mutton, dairy products and eggs were imposed between the end of January 2008 and the beginning of December 2008.

Figure 1.5. Input subsidies and minimum floor prices for rice and wheat in China, 2005-09



Source: USDA FAS Grain and Feed Annual 2009, Report number CH9013.

To counteract the measures taken to limit price increases on the domestic market and to simulate a rise in production, the government increased substantially support for grain production (Figure 1.5). Expenditure on the comprehensive input subsidy, which pays farmers on the basis of area in grain production, more than doubled in 2008, rising from CNY 28 billion to CNY 64 billion. Minimum prices for rice and wheat were also raised in 2008, for the first time since they were introduced in 2004 and 2006 respectively. Tariffs were reduced on feed imports to assist livestock producers.

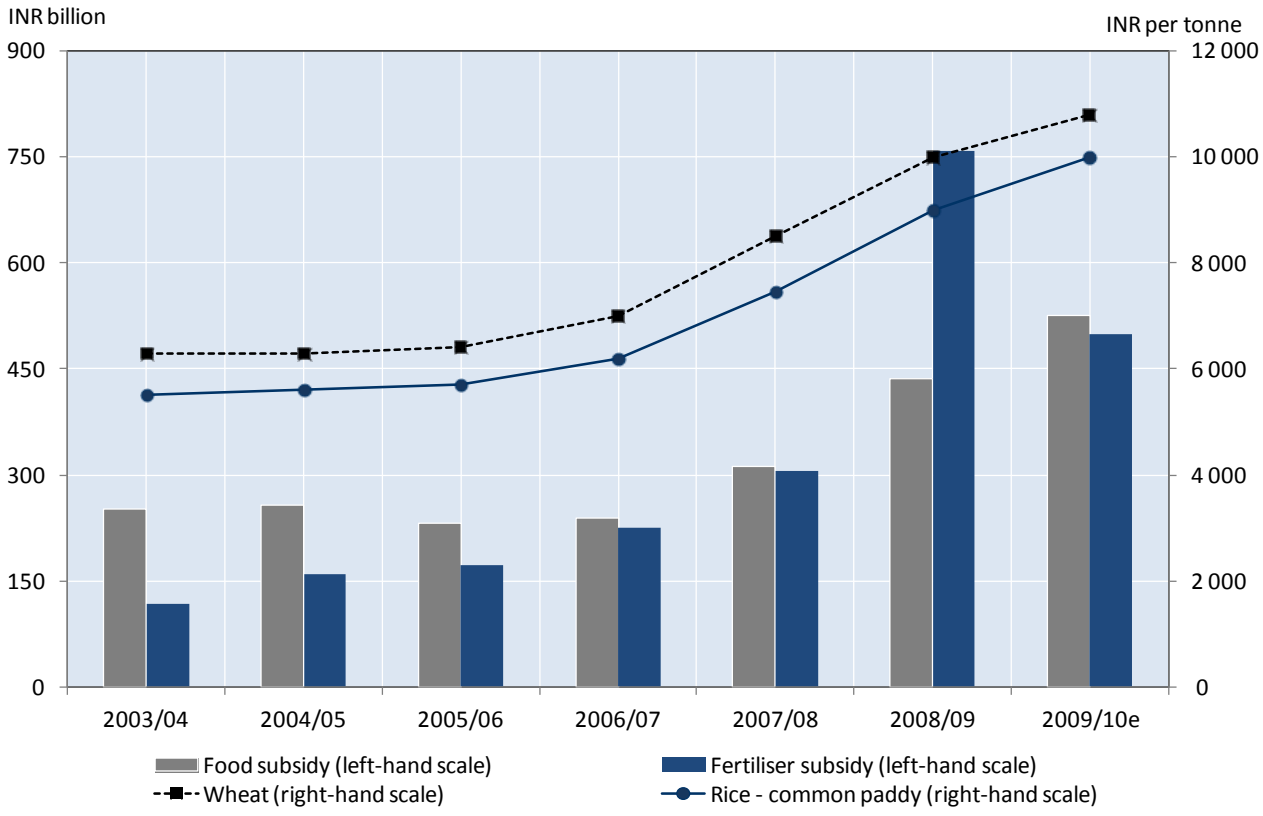
Many of the policy responses made by India were initiated to maintain its longstanding and complex food security system (Annex Table A.5). A major element is the TPDS, which distributes subsidised wheat and rice to the poor (600 million people) through its extensive network of "fair price shops". With buffer stocks at below "norm" levels, relatively low wheat harvests in 2005 and 2006 led the State Trading Corporation of India to change from exporting wheat (which it had been doing in previous years to reduce the large surplus stocks) to importing 6.7 million tonnes to ensure an adequate supply for public distribution. With prices on the world market beginning to rise, the government did not want to import the same quantity in 2007. Export bans were placed on wheat and wheat products in February 2007, and on non-basmati rice in early October 2007.[2] Minimum export prices for basmati rice were then introduced in early March 2008, followed by restrictions on the port of export in mid-March and an export tax at the end

2. The export ban on non-basmati rise was replaced at the end of October with a minimum export price (MEP) of USD 425/tonne, about 25% above then world price levels. The MEP was increased in December and again in March 2008 when it reached USD 650/tonne. On 1 April 2008, the government reverted back to an outright ban on non-basmati rice.

of April 2008 (which was removed on 20 January 2009). Export restrictions were placed on rice to encourage consumers to shift from wheat-based to rice-based foods. Export bans were also been put in place for pulses, milk powders and maize. Significant cuts were made in import tariffs on wheat, maize, rice, and crude and refined palm, soy, sunflower seed oils. However, given that domestic prices for cereals were below world prices, very few imports of these products occurred.

To encourage greater production, minimum support prices for rice and wheat procured by the government were increased (Figure 1.6), along with increased spending on fertiliser subsidies. By raising procurement prices while maintaining stable central issue prices for TPDS sales (these have remained constant since 2001), expenditure on the food subsidy has increased from INR 238 billion in 2006/07 to INR 525 billion in 2009/10. In a similar way, the policy of maintaining stable fertiliser prices for farmers (which have not increased since 2002) in the face of significant increases in international prices and domestic production costs resulted in a sharp rise in the fertiliser subsidy. Expenditure on this programme increased from INR 224 billion in 2006/07 to INR 758 billion in 2008/09. It has fallen to INR 500 billion in 2009/10 because of lower international fertiliser prices. Increases in production during 2007 and 2008, coupled with export restrictions allowed the government to rebuild its grain stocks to comfortable levels and create a strategic reserve of 5 million tonnes of food grain over and above the stock norms established for the TPDS.

Figure 1.6. Food and fertiliser subsidies and minimum support prices for wheat and rice in India, 2003/04-2009/10



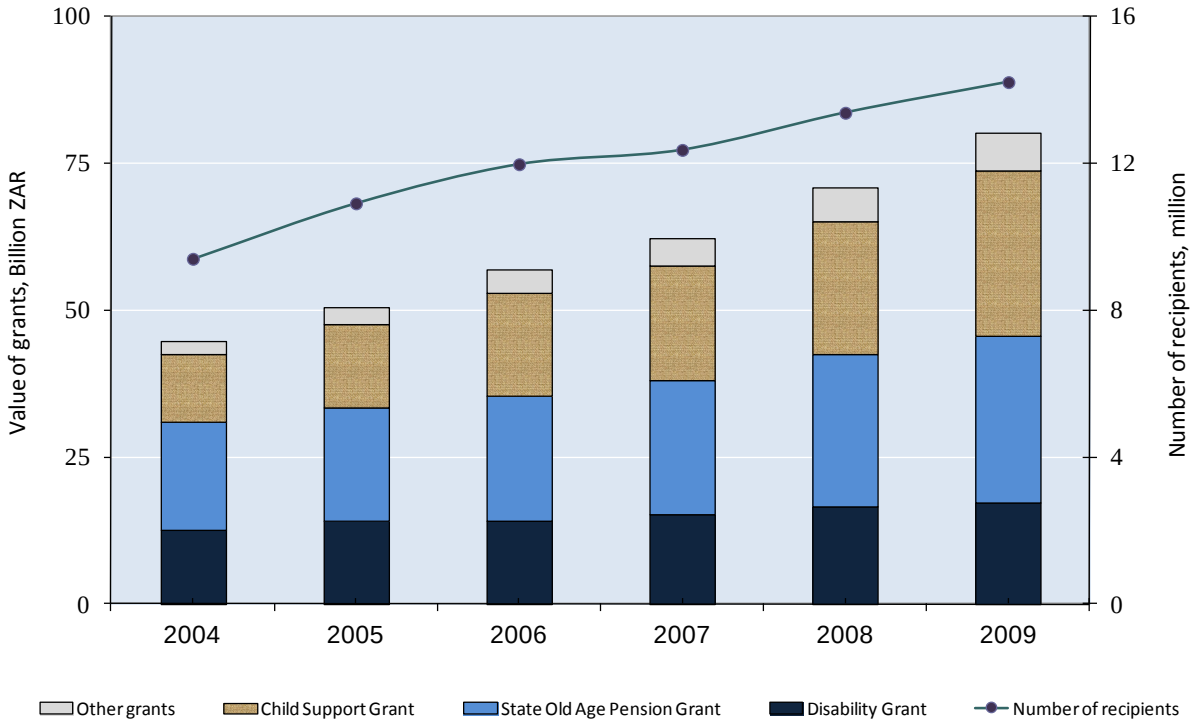
e: estimate.
Note: Minimum support prices include the incentive bonuses announced during the relevant seasons.
Source: Ministry of Finance, Economic Survey and Union Budget, various years.

An extensive range of policies was used in Indonesia across a wide-range of commodities (Annex Table A.6). For rice, tariffs were temporary reduced, stocks were released by the state logistics agency (Bulog) who was given discretionary powers to import, reference purchase prices were raised and fertiliser prices frozen. In an important targeted response, the volume of subsidised rice distributed through Rankin increased by 65% between 2007 and 2008. Although historically, Indonesia has been the world's largest importer, surpassed only recently by the Philippines, controls on the export of rice were put in place when world prices rose above domestic prices. Various measures were taken with respect to tropical oil products. Base export prices and taxes on crude palm oil were raised, subsidised cooking oil was distributed to the market and to 19.1 million poor households, and the VAT removed.

The government of Russia responded with a variety of border measures (Annex Table A.7). Tariffs were reduced for soybean, rapeseed and sunflower seed oils, and milk and milk products, and eliminated for tropical oils. Export taxes were introduced for wheat and barley from mid-November 2007 to 30 June 2008. Between 24 October 2007 and 30 April 2008, prices for staple food products (including wheat bread, rye bread, milk, kefir, bottled sunflower seed oil and poultry eggs) were "frozen" at their 15 October level in an agreement between the government and major processors and retailers. In exchange, the government provided subsidised interest rates on working capital loans for processors to acquire raw materials. To rebuild government intervention stocks that had been released on to the market during 2007/08, grain procurement prices were increased by 60% for 2008/09. Subsidies were provided to pig and poultry producers in 2008 to offset the rise in feed costs.

A major focus of the policy response in South Africa was to increase social grant payments (Annex Table A.8 and Figure 1.7). The grants are part of a safety net provided to protect people during vulnerable stages of life, such as old age and childhood, or if they are disabled and cannot work. In 2007 and 2008, maximum monthly grants were raised by 5%-6% and 5%-8% respectively. These programmes have been further adjusted in response to the global economic downturn. The minimum income threshold levels were raised to allow people with slightly higher incomes to apply for grants. For example, in August 2008, the income threshold for the child support grant, which had not changed since introduced in 1988, was increased – effectively doubled to adjust for inflation. Rather than setting a static threshold again, a formula was introduced whereby the income threshold is calculated at 10 times the amount of the grant. The age limit for receiving the child support grant was raised from 14 to 15 as from 1 January 2009, making a further 220 000 children eligible for the grant. At the other end, the age of eligibility for men to receive the old age pension is being reduced from 65 to 60 years – which is the same for women – over the period 2008-10.

Figure 1.7. Expenditure and recipients of social grants in South Africa, 2004-09



Source: Author's calculation based on National Treasury of South Africa (2010), Estimates of National Expenditure, Vote Social Development, various years, *www.info.gov.za*.

The primary response of the Ukrainian government to rising food prices has been to implement grain export quotas (Annex Table A.9 and Table 1.4). Export quotas were first introduced in late September 2006, not long after the formation of a new coalition government in August 2006.[3] While they were briefly abolished in the first half of 2007, export quotas were re-implemented as from 1 July when it became evident that the 2007 harvest would be low due to drought and temperature conditions. Only when it became clear that the 2008 harvest would be a bumper crop were the quotas removed. This was despite a commitment, through the protocol for Ukraine's accession to the WTO, to lift its grain export restrictions on the day of Ukraine's entry into the WTO (16 May 2008). The government justified restricting exports in order: to ensure food security; to ensure bread prices remain low – the government was determined to not allow bread prices to increase before the upcoming Parliamentary election as they are used by some as a measure of the government's performance; to benefit meat processors with lower price barley and maize feed; and to fill up state grain reserves.

3. The rapid introduction took many producers and traders by surprise. A draft resolution had not been published by the Ministry of Economy in the timeframe required under Ukraine's legislation on regulatory policy. The measure effectively undermined the execution of export contracts that had already been signed. As a result grain traders were unable to meet their contractual obligations, incurred heavy financial losses and were unable to clear stocks (UkrAgroConsult, 2009).

Table 1.4. Cereal export restrictions in Ukraine, 2006-08

<table>
<tr><th rowspan="2">CY</th><th rowspan="2">Month</th><th colspan="4">Tonnes</th><th rowspan="2">MY</th></tr>
<tr><th>Wheat</th><th>Maize</th><th>Barley</th><th>Rye</th></tr>
<tr><td rowspan="4">2006</td><td>Sept</td><td colspan="4">No export quotas in place but licensing of export and import of wheat and wheat-rye (meslin) was introduced on 22 September</td><td rowspan="9">2006/07</td></tr>
<tr><td>Oct</td><td rowspan="3">400 000[1]</td><td rowspan="3">500 000[1]</td><td rowspan="3">600 000[1]</td><td rowspan="3">3 000[1]</td></tr>
<tr><td>Nov</td></tr>
<tr><td>Dec</td></tr>
<tr><td rowspan="8">2007</td><td>Jan</td><td rowspan="5">3 000[3]</td><td>500 000[2]</td><td>600 000[2]</td><td rowspan="5">3 000[4]</td></tr>
<tr><td>Feb</td></tr>
<tr><td>Mar</td><td rowspan="4">No quota</td><td rowspan="4">No quota</td></tr>
<tr><td>Apr</td></tr>
<tr><td>May</td></tr>
<tr><td>Jun</td><td>No quota</td></tr>
<tr><td>Jul</td><td rowspan="6">3 000[5]</td><td rowspan="6">3 000[5]</td><td rowspan="6">3 000[5]</td><td rowspan="6">3 000[5]</td><td rowspan="8">2007/08</td></tr>
<tr><td>Aug</td></tr>
<tr><td>Sept</td></tr>
<tr><td>Oct</td></tr>
<tr><td>Nov</td></tr>
<tr><td>Dec</td></tr>
<tr><td rowspan="6">2008</td><td>Jan</td><td rowspan="3">200 000[8]</td><td rowspan="2">600 000[6]</td><td rowspan="3">400 000[8]</td><td rowspan="4">3 000[10]</td></tr>
<tr><td>Feb</td></tr>
<tr><td>Mar</td><td rowspan="3">No quota[7]</td></tr>
<tr><td>Apr</td><td rowspan="2">1 000 000[9]</td></tr>
<tr><td>May</td><td>500 000[9]</td></tr>
<tr><td>Jun</td><td colspan="4">Export quotas no longer in place</td></tr>
</table>

1. Quotas from 17 October 2006 to 31 December 2006 – announced on 11 October.
2. Quotas from 1 January 2007 to 30 June 2007 – announced on 8 December – but were cancelled on 22 February 2007.
3. Quota from 1 January 2007 to 30 June 2007 – announced on 8 December – but was cancelled on 16 May 2007.
4. Quota from 1 January 2007 to 30 June 2007 – announced on 8 December.
5. Quotas from 1 July 2007 to 30 September 2007 – announced on 20 June – but were twice extended, first to 1 November 2007 – announced 26 September – and then to 31 December 2007 – announced 31 October.
6. Quota from 1 January 2008 until 31 March 2008 – announced 26 September.
7. While export quotas were eliminated for maize, exports were to take place under an automatic licensing system between 1 April and 30 June 2008 but this requirement stopped on 23 May 2008 when export quotas were cancelled.
8. Quotas from 1 January 2008 until 31 March 2008 – announced 26 September – and then extended until 30 April 2008 – announced 28 March.
9. Additional quota volumes made available for export until 30 June 2008 – announced 23 April – but export quotas were cancelled on 23 May 2008 – announced 21 May.
10. Quota from 1 January 2008 until 31 March 2008 – announced 26 September – and twice extended, first to 30 April 2008 – announced 28 March – and then to 30 June 2008 – announced 23 April – and then finally cancelled on 23 May 2008 – announced 21 May.

Source: Adapted from *Competitive Agriculture or State Control – Ukraine's Response to the Global Food Crisis*, Policy Note, Report No. 44984-UA, World Bank, www.worldbank.org.ua, with additional information from USDA GAIN Report UP8012 of 19 June 2008.

In Vietnam, the policy response focused on the rice market, using pre-existing measures to control both the volume and value of exports (Annex Table A.10). The Vietnam Food Administration (VFA – sometimes referred to as Vietfood) administers the export rice regime, operating on instructions from the Rice Export Administration Committee. The Deputy Minister of Trade is chair of the Committee, whose membership includes the VFA, the Office of the Prime Minister, the Ministries of Finance (MOF), Agriculture and Rural Development (MARD), Planning and Investment (MPI), and the State Bank of Vietnam. Export targets are established annually and are revised during the year depending on harvest developments. The targets in effect operate as an export quota. Private traders must register export contracts with VFA for approval. Minimum export prices are also set, although the VFA sometimes approves contracts at lower prices. In response to rising world prices export targets were reduced, registration of new contracts was periodically closed, conditions for registration tightened and minimum

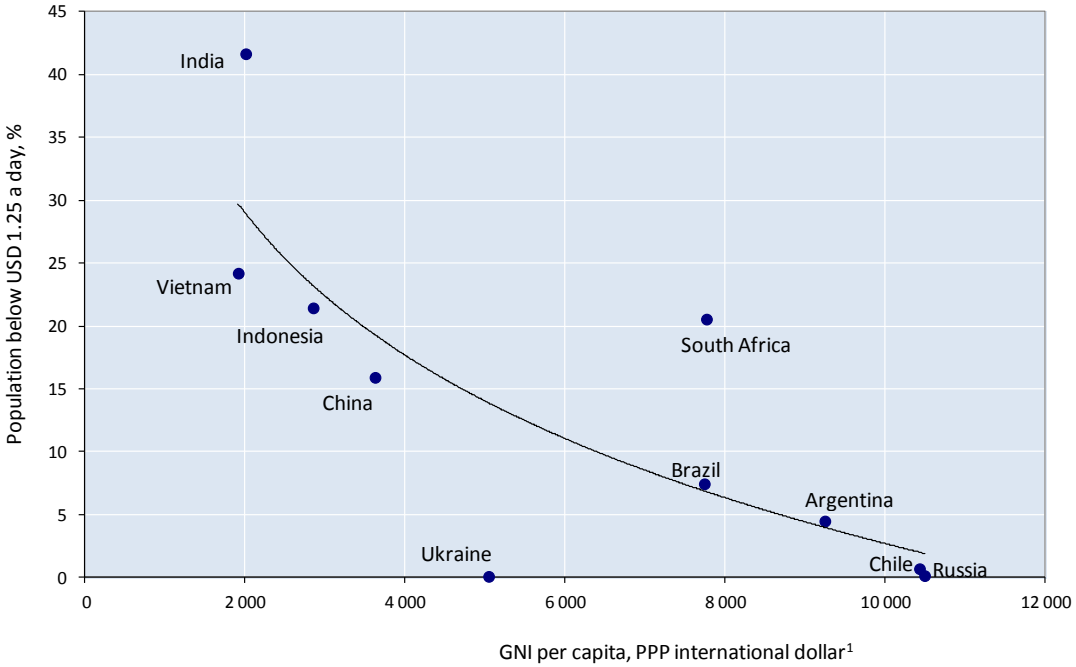
export prices raised. The government also introduced an export tax regime for rice, which operated between 21 July 2008 and 19 December 2009. However, the tax was only levied when the export price exceeded a minimum threshold price, and these threshold prices were set at levels above falling export prices. At a broader level, Vietnam reduced import tariffs on a wide range of products including poultry, milk powders, maize and palm oil.

1.5. Why do governments respond differently?

The motivation for a government to respond to the rise in international prices for food commodities depends to a large extent on the way and manner in which it impacts on the country at both the national and household level. These are determined by a variety of factors including national income, the distribution of poverty, the share of expenditure on food, the relative importance of the commodity in consumption, and the contribution that agriculture makes to GDP and employment (Benson *et al*., 2008). There is considerable diversity among the ten countries with respect to these factors. However, the countries differ also in terms of such factors as existing political systems, institutional capacity, historical experiences, prevailing system of values and overall policy culture. While these and other factors may have had an impact on the way governments responded, they are hardly measurable and not taken into account in the analysis below.

The four Asian countries have the lowest level of per capita national income and generally the highest proportion of people in poverty (Figure 1.8). National income per capita in South Africa is very similar to that in Brazil. However, the proportion of the population living on less than USD 1.25 a day is three times as high. Less than 1% of the population live on less than USD 1.25 a day in Chile, Russia and Ukraine, although national income per capita in Ukraine is less than half what it is in the other two.

Figure 1.8. National income and poverty, 2005



1. An international dollar has the same purchasing power over GNI as a USD has in the United States. The World Bank favours this measure for accurate measurement of poverty and well-being; in effect, it substitutes global prices for local measured prices, thereby more accurately reflecting the real value of the good or service in question.
2. The international poverty line is converted to local currency using the PPP conversion factors.
Source: World Bank, PovcalNet, 2010.

Food typically accounts for 40%-50% of household expenditure in the four Asian countries (Table 1.5). Although Ukraine is wealthier on a per capita basis, food accounts for the largest share of household expenditure among the ten countries. The other five countries spend a smaller proportion of household expenditure on food. But there remains a great degree of diversity among this group. Although Chile and Russia have a similar level of per capita national income, food accounts for one-third of household expenditure in Russia but less than one-quarter in Chile. Similarly, the average household in Argentina spends considerably more on food than in Brazil and South Africa who are poorer on a per capita basis.

Wheat is the principal source of dietary energy for households in Argentina, Chile, Russia and Ukraine. Among the ten countries, South Africa is unique in terms of maize being the number one source of food energy. While rice is the most important source in all four Asian countries, it is far more essential in Indonesia and Vietnam as compared to China and India where households consume higher quantities of wheat. Brazil is different from the other nine in that no one food item contributes more than 13% of dietary energy, with a wide range of commodities making a similar contribution.

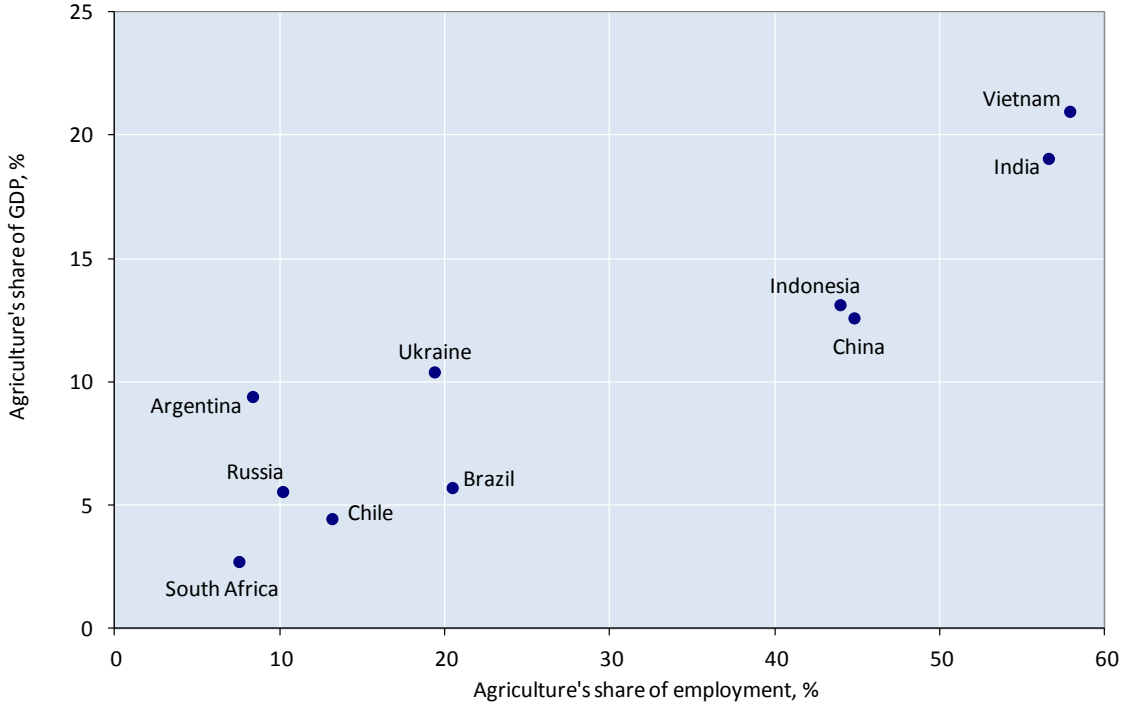
Table 1.5. Household food consumption patterns, 2003-05

	Share of household expenditure on food (%)	Share of selected food items in dietary energy consumption[1] (%)							
		Wheat	Maize	Rice	Soybean oil	Other plant based oils[2]	Sugar	Meat	Dairy
Argentina	33	30	3	2	2	7	13	16	8
Brazil	21	13	7	13	11	<0.5	13	12	6
Chile	23	30	5	3	6	5	14	13	5
China	40	16	4	27	3	3	2	15	1
India	50	21	2	30	2	7	7	<0.5	6
Indonesia	48	6	7	51	1	6	6	<0.5	<0.5
Russia	33	33	<0.5	2	<0.5	7	12	7	11
South Africa	25	16	31	5	3	7	11	7	2
Ukraine	61	31	2	1	<0.5	8	13	5	10
Vietnam	51	3	3	62	1	1	5	10	<0.5

1. The dietary energy consumption per person is the amount of food available for each individual in the total population, expressed in kcal per person per day: one kcal equals 1 000 calories. Food consumption refers to the amount of food available for direct human consumption as estimated by the FAO Food Balance Sheets. It does not include supply used as animal feed.
2. Includes sunflower oil, rape and mustard oil, palm oil, groundnut oil, rice bran oil, coconut oil, maize germ oil.
Source: FAO, *Food Security Statistics*, 2010.

Agriculture plays a much larger role in the economy of four Asian countries, contributing on average around 15% to GDP and employing around 50% of the labour force (Figure 1.9). In contrast, less than 10% of persons are engaged in agricultural activities in Argentina and South Africa. Agriculture's share of GDP is below 5% in Chile and South Africa; a level very similar to many OECD countries. While all countries faced a common policy dilemma in response to rising international prices – that intervening in the market to reduce prices for consumers disadvantages agricultural producers – the high importance of food in household consumption and large contribution of agriculture to the economy, makes this dilemma even greater for the Asian countries. This explains their twin response of attempting to both protect consumers from rising prices and support producers through raising input subsidies.

Figure 1.9. Contribution of agriculture to GDP and employment, 2005



Source: World Bank, Key Development Data and Statistics, 2010; International Labour Organisation, LABORSTA Internet, 2010; Argentinean National Institute of Statistics and Censuses (INDEC), 2010; and OECD (2009a).

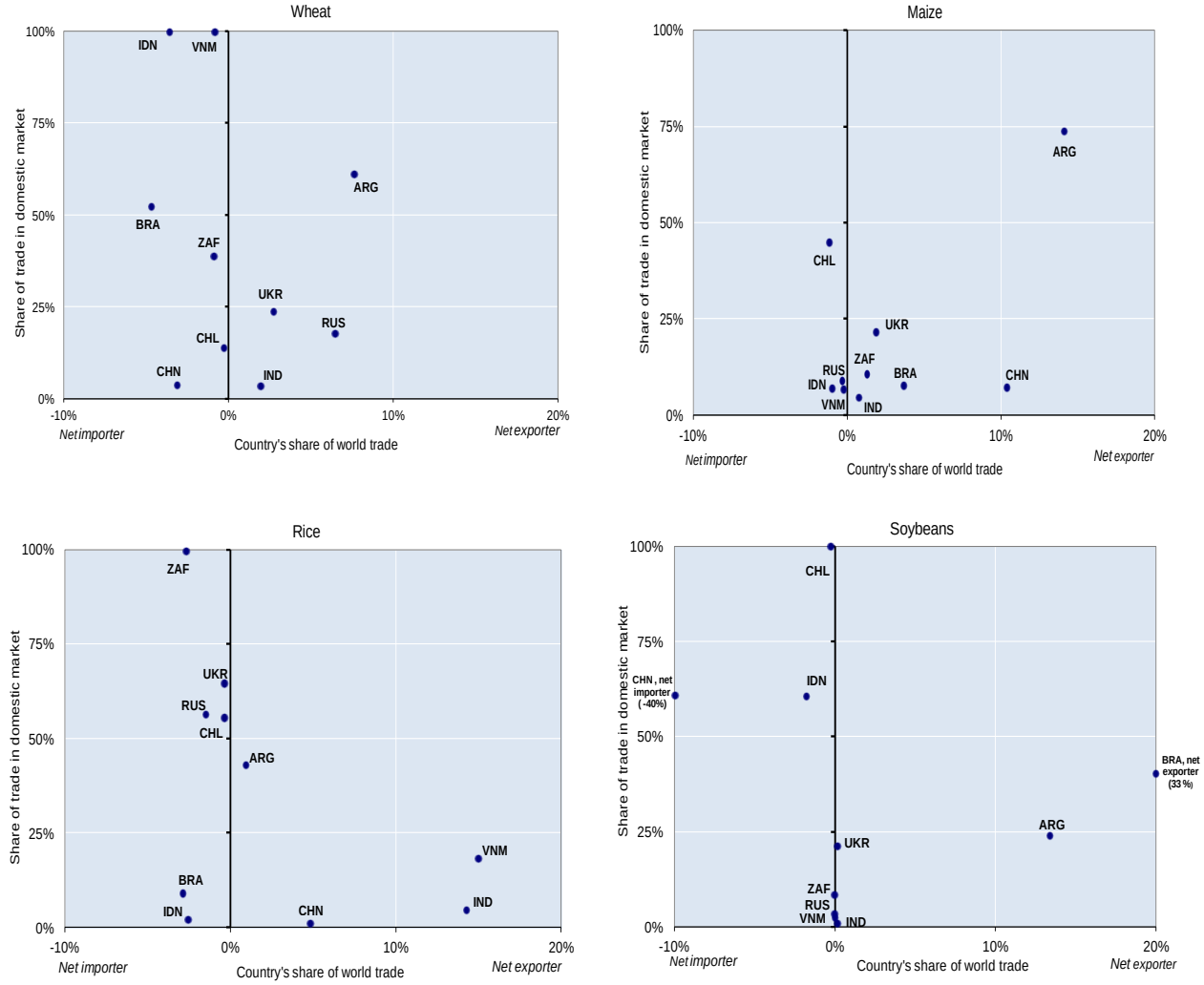
Governments also respond to, or seek to gain, public sentiment and media attention. There is certainly evidence of strong political pressure to be seen to be doing something, particularly in those countries facing upcoming elections such as India and Ukraine. In India, "the country's politicians have continued to recklessly pursue domestic electoral expediency instead of sound food policies…India's governments – both at the state and national levels – jockey for the votes of the poor by providing grain at increasingly subsidised prices" (Slayton, 2009). This seems to have led to the worse types of interventions.

The country's net trade position, both overall and with respect to individual commodities, plays an important role in understanding a government's motivation to respond to rising international prices and the type of policy response it may choose to use. There are differences between the ten countries with respect to the role of trade in the selected commodities (Figure 1.10). These relate to both the domestic market, *i.e.* the share of imports in domestic consumption or the proportion of domestic production exported – measured on the vertical axis, and international markets, *i.e.* imports or exports as a share of world trade – horizontal axis. Countries located in the right-hand quadrant of a particular commodity graph are net exporters of that commodity; those in the left-hand quadrant are net importers. Whether a country is considered as a net exporter or net importer of a particular commodity is determined by comparing the three-year average of exports and import volumes of that commodity. If the three-year average of exports is greater than the three-year average of imports, then the country is considered a net exporter: if not, then as a net importer.

When the country is a net exporter of a commodity, the trade volume used in calculating its share of world trade is the quantity of exports and the share of trade in the domestic market is the proportion of production exported. When the country is a net importer, the quantity of imports is used in calculating its share of world trade and the share of trade in the domestic market is the proportion of imports in domestic consumption (calculated by adding together imports and production less exports). The further a country is located towards the top of a commodity graph, the greater the role of trade in the domestic market for that

specific commodity – either as a source of consumption in the case of a net importer or as a market for production in the case of a net exporter. The further a country is located to the left or the right of the vertical line at 0% on the horizontal axis, the greater the share of that country's trade in the international market for that commodity – either as an importer of the good or as an exporter.

Figure 1.10. Trade volume as a share of domestic and international markets by commodity, 2003-05

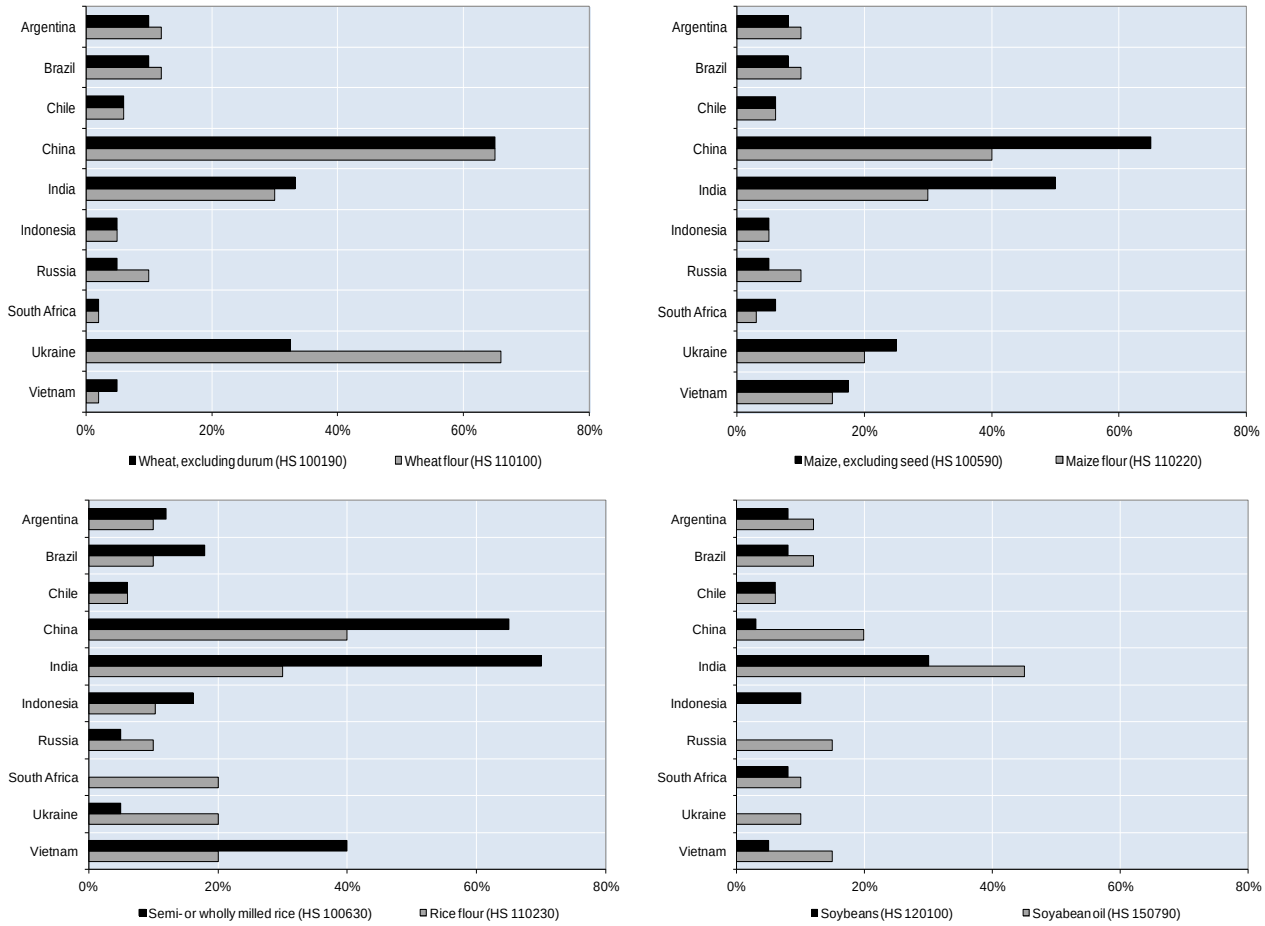


Note: ARG: Argentina, BRA: Brazil, CHL: Chile, CHN: China, IDN: Indonesia, IND: India, RUS: Russia, UKR: Ukraine, VNM: Vietnam, ZAF: South Africa.
Source: FAO, *FAOSTAT database*, 2009.

For example, Argentina, India, Russia and Ukraine were all net exporters of wheat during 2003-05 with the other six countries all net importers of wheat. While Argentina and Russia exported relatively similar quantities of wheat, 8.8 million and 7.5 million tonnes or 7.6% and 6.5% of world trade respectively, this volume accounted for just over 60% of production in Argentina but less than 20% of production in Russia. Similarly, Indonesia and China imported comparable quantities of wheat during 2003-05, 4.2 and 3.6 million tonnes or 3.6% and 3.1% of world trade respectively. While this constituted all of the wheat consumed in Indonesia it represented only 4% in China.

The type of response is also determined by the existing policy situation. For example, tariffs and VAT can only be reduced if they are in place, and will only have an impact if the reduction is significant. Tariff reductions played a more prominent role in the policy response in China, India and Vietnam, but these were among the few countries providing a relatively high level of tariff protection for selected commodities (Figure 1.11).

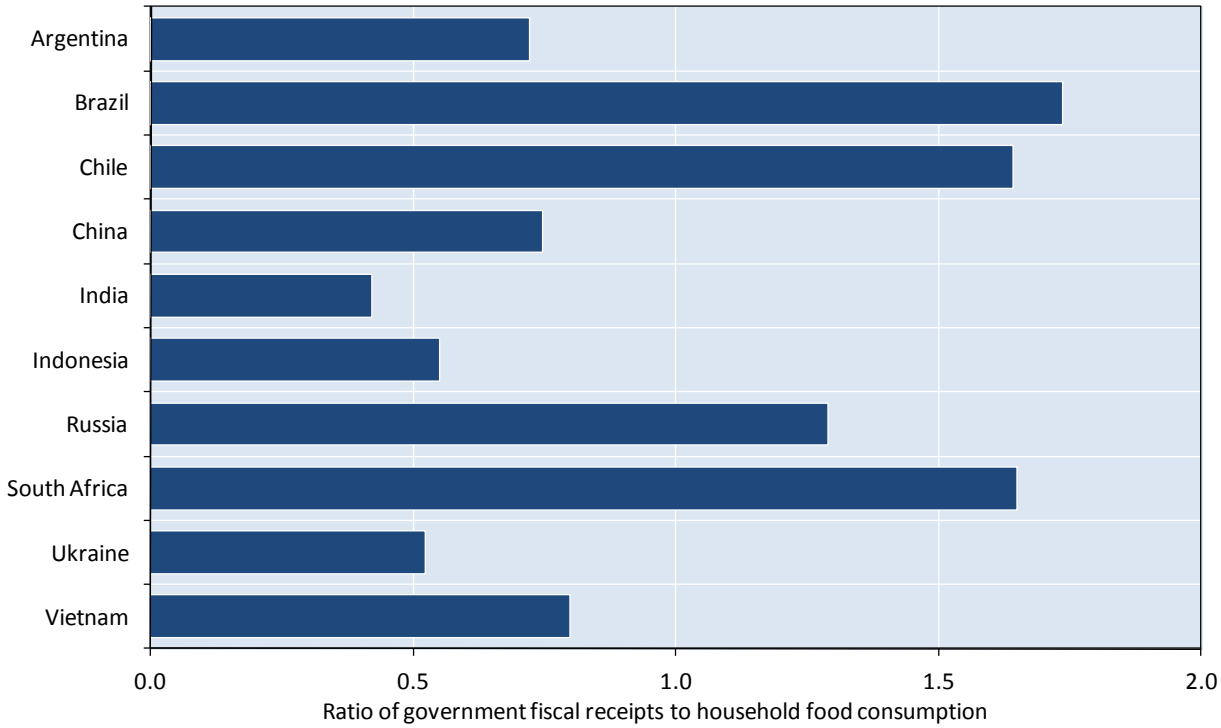
Figure 1.11. Tariff profile for selected commodities, 2005



Notes: Tariff profiles represent maximum MFN applied tariff rates with the exception of Vietnam when bound tariffs are used. More favourable tariff treatment than the MFN applied tariffs may be accorded due to Regional Trade Agreements (RTAs) or the granting of non-reciprocal preferences.
Specific tariffs applied in Indonesia to rice and rice flour; in South Africa to wheat, wheat flour, maize and maize flour; and in Ukraine to wheat and wheat flour are converted to ad valorem equivalents based on annual trade data from UN Comtrade.
Source: WTO, Tariff Download Facility, 2010, UN, UN Comtrade database, 2010.

Safety nets are extolled as most appropriate form of response to protect the most vulnerable consumers as opposed to broader interventions such as tariffs and export restrictions. These support the purchasing power of the poor without distorting domestic incentives to produce more food, and without reducing the incomes of poor food sellers. However this obviously requires increased government spending. The ability of the government to offset the rising consumer cost of food depends on both budgetary income and the level of household consumption on food. Figure 1.12 shows the relationship between government fiscal cash receipts and household food consumption expenditure.

Figure 1.12. Fiscal ability to offset losses in household food consumption, 2003-05



Notes: National food consumption expenditure is estimated by multiplying national household consumption expenditure as measured in GDP calculations by the share of food in household consumption expenditure as reported in national surveys.
For Argentina: 2002-04.
Source: IMF, International Financial Statistics, 2010 and FAO, Food Security Statistics, 2010.

The higher the ratio, the greater the proportion of household consumption that can be covered by a similar proportional increase in fiscal cash receipts. For example, a ratio of 1.5 indicates that transferring 1% of fiscal receipts to consumers will provide them with the equivalent of 1.5% of household food consumption. Alternatively, a ratio of 0.5 means that transferring 1% of fiscal receipts to consumers will only provide them with the equivalent of 0.5% of household food consumption. For more than half the countries the ratio is less than one. Those that have the highest ratio – Brazil, Chile and South Africa – all responded with consumer safety net policy measures. Not only had they policies in place, it costs them less fiscally to respond.

2. Assessing the impact of short-term policy responses on the domestic market

The purpose of this section is to assess the effectiveness of the short-term policy measures initiated in response to rising world prices in meeting their domestic market objectives. A range of indicators is used to examine developments in trade flows, price transmission, inflation, consumption and production at the national level.[4] Data requirements, such as information on the nutritional status of vulnerable populations and their consumption patterns, prevent the evaluation of household impacts. The wide range of policy responses used by the ten countries means that the challenge of assessing the impacts of such responses is considerable. Another difficulty is that more than one policy response can be in operation at any one time, making it impossible to separate out the different effects. The assessment is further complicated by the global financial crisis that emerged in mid-2008 and the resulting economic downturn. This changed the market situation completely. International commodity prices dropped sharply and value of the United States dollar appreciated against most currencies.

To fully assess the impact of policy interventions, a counterfactual (baseline) situation is required (Benson *et al*., 2008). Conceptually, this should be the situation that would have occurred without the intervention. The difficulty is that this counterfactual is not observed. To address this problem, the study uses three common methodologies. First, it compares the situation when the policy is in place with that observed prior to the introduction of the policy (before-after comparison). The focus of the study is on the three-year period mid-2006 to mid-2009. Comparisons are therefore made with the situation in the preceding three-year period mid-2003 to mid-2006. To deal with the impact of the global economic downturn, the study separates out developments from mid-2006 to mid-2008 from those that occurred from mid-2008 to mid-2009.

The study also compares developments between countries, a form of with-without comparison. As discussed in previous section, policy responses varied widely between the ten countries, with Chile and South Africa intervening far less in the agricultural market than the other eight. However, care needs to be taken in comparing these small, relatively open economies with large countries such as China and India where the state maintains a significant role in the agricultural sector. As a further contrast, the study makes comparisons with developments in a "third" country, such as the United States (trade and production), an international price index (inflation), the OECD (inflation and consumption) and the world (production).

Finally, it compares developments between commodities, another form of with-without comparison. It focuses on four crops – wheat, maize, rice and soybeans. The three cereal crops all witnessed a significant increase in international prices; are relatively important in consumption patterns, particularly for the poorest sections of the population; and were most often the direct subject of policy responses. Soybeans was chosen for comparative purposes because international prices for soybeans increased as rapidly as for the other three but was not subject to the same degree of policy responses because it is not so important in consumption. Further, in many places around the world, soybeans directly compete with cereals in terms of farmers' decision-making process about what crop to plant.

An understanding of the timing and extent of the price rises and falls for these commodities are important when evaluating the policy responses made by governments (Table 2.1). While it is relatively easy to observe the month in which prices peaked, it can be difficult to indicate the precise month in which prices began to rise. Importance differences in the timing and the extent of the increase are observed.

4. Although trade flows are influenced by prices, production and consumption, the assessment is done in this order because a number of countries tried to limit the transmission of international prices to the domestic market by using trade policy measures such as export restrictions. In these cases trade flows are perhaps better considered as a factor bearing on domestic prices rather than as the residual arbitrage outcome between domestic and world prices in a perfectly competitive market.

Table 2.1. Timing and extent of international commodity price changes for wheat, maize, rice and soybeans

	Wheat	Maize	Rice	Soybeans
Month in which prices began to rise	June 2007	October 2006	November 2007	October 2006
Month of price peak	March 2008	June 2008	May 2008	July 2008
% increase in average monthly price[1]	137%	137%	185%	163%
Month of price trough	December 2008	December 2008	December 2008	December 2008
% decrease in average monthly price[2]	51%	44%	40%	41%
% increase in average monthly price between mid-2006 and mid-2009[3]	40%	62%	84%	90%

Wheat: USA No. 2 Hard Red Winter, f.o.b. Gulf
Maize: USA No. 2 Yellow, f.o.b. Gulf
Rice: Thai white rice 100% B second grade, f.o.b. Bangkok
Soybean: USA No. 1, Yellow, f.o.b. Gulf
1. As measured from the month proceeding the month in which prices began to rise to the month in which prices peaked.
2. As measured from the month in which the prices peaked to the month in which prices troughed.
3. Based on average monthly prices for the Q2 three-month period April-June except for wheat, which compares the Q1 three-month period January-March. These quarters are used to make this table directly comparable with the price transmission analysis in section 2.2.
Source: FAO, *International Commodity Prices Database*, 2010, www.fao.org/es/esc/prices/PricesServlet.jsp?lang=en.

International prices for maize and soybeans began rising earlier than for wheat and rice, but rose the most and quickest for rice. The timing and the extent of the subsequent decrease in prices also varied among the four commodities. For all four commodities international prices reached their lowest level in December 2008. In mid-2009, prices remained more than 40% above, and in some cases almost double, those recorded three years earlier. Annex B contains more detail about the movement in international prices for these and other selected commodities during this period.

2.1. Trade flows

As discussed in section 1, many countries responded to the rise in international commodity prices by altering or introducing trade measures. A common response was to reduce import tariffs, with some countries also expanding import quotas or reducing import requirements. Alternatively, export restrictions such as taxes, minimum export prices, quotas, licensing requirements and outright prohibitions, were imposed by a fewer number of countries. Examining changes in trading patterns can be used to assess how effective these measures were in terms of their first-round, initial impact on trade.

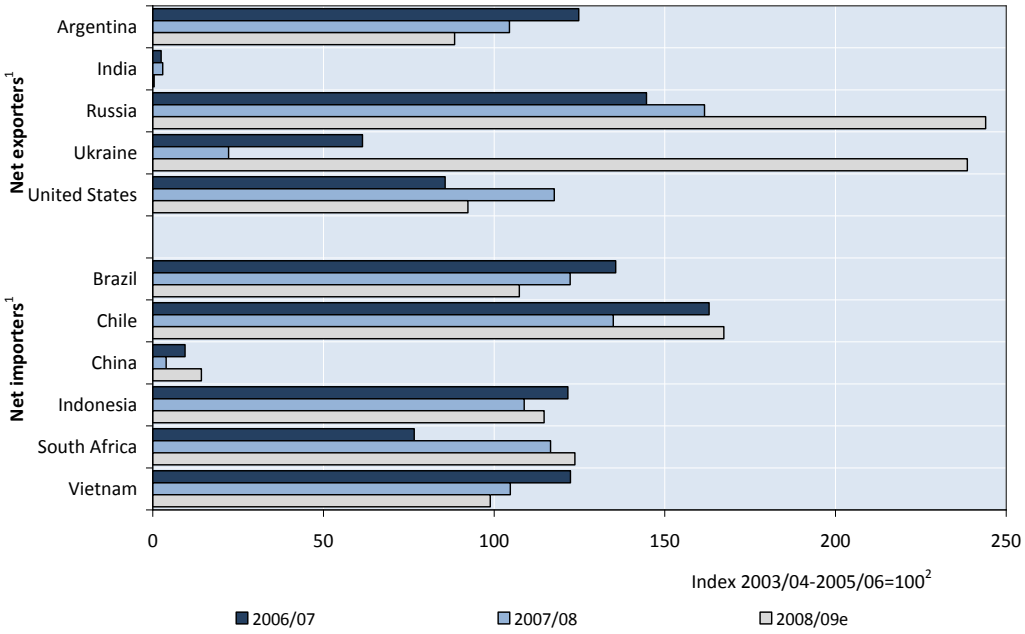
Figures 2.1, 2.4, 2.6 and 2.8 show annual changes in traded volumes for the four commodities being considered. Countries are separated out according to whether they were a net exporter or a net importer of the commodity during the three-year base period (marketing year ending 2004 to marketing year ending 2006). For net importers, changes in import volumes are presented. Changes in export volumes are shown for net exporters. Figures 2.2, 2.5, 2.7 and 2.9 focus more closely on trade developments for some of the exporters who imposed export restrictions during the period under review. They show quarterly changes in the quantity exported from these countries. To account for seasonal variations in marketing patterns, each quarter is indexed to the average level of exports over the relevant quarter in the three-year base period.

Net importers of wheat were able to import similar or greater volumes of product compared to those they had historically imported (Figure 2.1). This is particularly important for Indonesia and Vietnam where there is no local wheat production. For net exporters, annual export volumes fell away significantly in the case of India and Ukraine (2006/07 and 2007/08), and to a lesser extent in Argentina. Due to restrictions, wheat exports from Argentina, China, Russia and Ukraine were lowest in the second quarter 2008, just after international prices peaked in March 2008.

The export quotas imposed by Ukraine severely limited exports of wheat between October 2006 and May 2008. When the quota was briefly lifted between mid-May and the end of June 2007, there was a large rush to sell product, with exports in June equivalent to 20% of the total 2006/07 annual volume. The

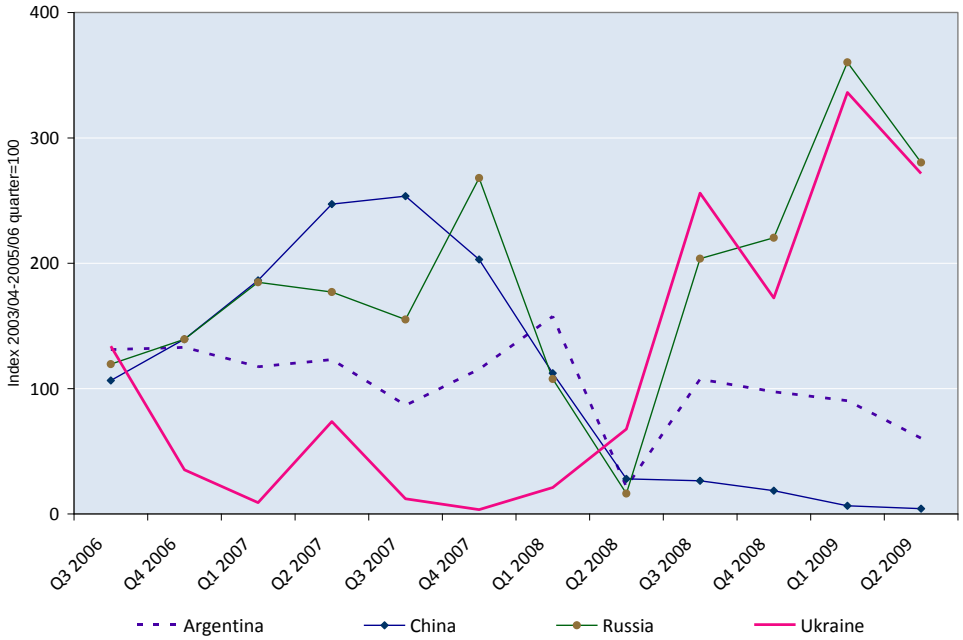
tax imposed on wheat exports from Russia did not have a noticeable effect on quarterly export volumes until international prices for wheat started declining in early 2008. In expectation of the imposition of the export tax on 12 November 2008 (which was formally announced one month earlier), exporters shipped as much in wheat as they could before the implementation date. While the annual volume did not fall, the timing of wheat shipments from Russia was affected by the export tax. Export volumes from both Russia and Ukraine have increased significantly with the lifting of export restrictions in June 2008, in conjunction with bumper harvests in 2008.

Figure 2.1. Annual trade in wheat, 2006/07-2008/09 (July/June)



e: estimate.
1. Whether a country is considered as a net exporter or net importer of wheat is determined by comparing the three-year average of exports and import volumes in the three-year index period 2003/04-2005/06. The trade volumes refer to exports in the case of net exporters and imports in the case of net importers. Trade volumes include wheat flour and durum (grain and semolina).
2. The index for Ukraine is based on the two-year average 2004/05-2005/06 rather than the three-year average used for the other nine countries because of the severe weather conditions that resulted in the worst wheat harvest on record in 2003/04.
Source: International Grain Council (2010).

Figure 2.2. Quarterly exports of wheat from Argentina, China, Russia and Ukraine, 2006/07-2008/09

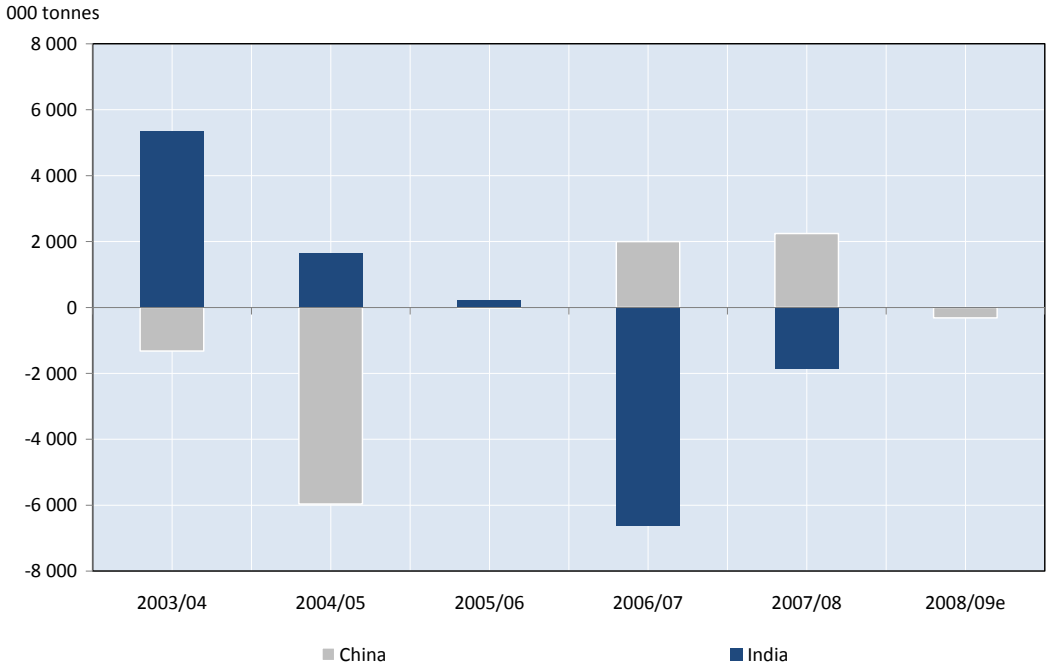


1. The index for Ukraine is based on the quarterly average over the two years 2004/05-2005/06 rather than the three-year average used for Argentina and Russia because of the severe weather conditions that resulted in the worst grain harvest on record in 2003/04.
2. Q1 and Q2 2009 quarterly data for China is estimated based on total 2008/09 volume and Q3 and Q4 2008 quantities.
Source: International Grain Council (2010).

Wheat exports from Argentina, which have been subject to restrictions for a number of years leading up to the period under review, have been declining in response to falling production. The increase in the export tax from 20% to 28% between November 2007 and December 2008 did not appear to cause a significant change in export volumes, although it lowered returns to wheat producers below what they would have been, contributing to a fall in the area planted for the 2008 harvest. Export patterns are strongly influenced by decisions to open and close export registration, and the volumes permitted for registration. In particular, the decision to close export registration from November 2007 to May 2008 resulted in a large fall in export volumes in the second quarter of 2008. This decision was initially taken because of initial concerns about the potential impact of severe frosts that occurred in the major wheat producing regions at harvest time, but was maintained despite a limited actual effect on 2007 production levels. The extremely poor, drought-affected, wheat harvest in 2008 was the major factor behind the fall in exports in 2008/09.

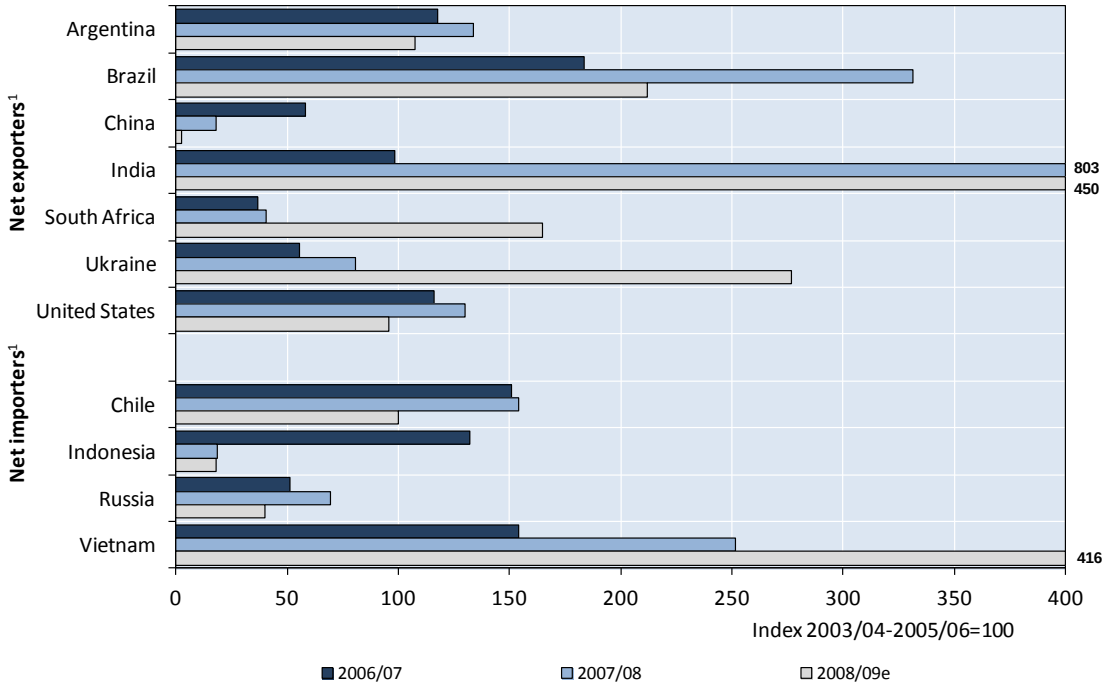
In the 2004-06 base period, India was a net exporter or wheat while China was a net importer. This situation has reversed during the period 2007-09 (Figure 2.3). In 2003/04, India exported 5.4 million tonnes of wheat. In 2006/07, it had to import 6.7 million tonnes due to poor harvests in 2005 and 2006. Despite bumper harvests in 2007-09, the ban imposed on wheat exports has meant there has been little commercial trade out of India. In 2004/05, China imported 6.6 million tonnes of wheat: in 2006/07 and 2007/08, it exported 2.4 million tonnes. However, the elimination of the export rebate in December 2007, the imposition of export taxes in January 2008, as well as the limited issue of export quotas resulted in a sharp halt to this trend of increasing exports from China (Figure 2.2).

Figure 2.3. Net exports of wheat from India and China, 2003/04-2008/09 (July/June)



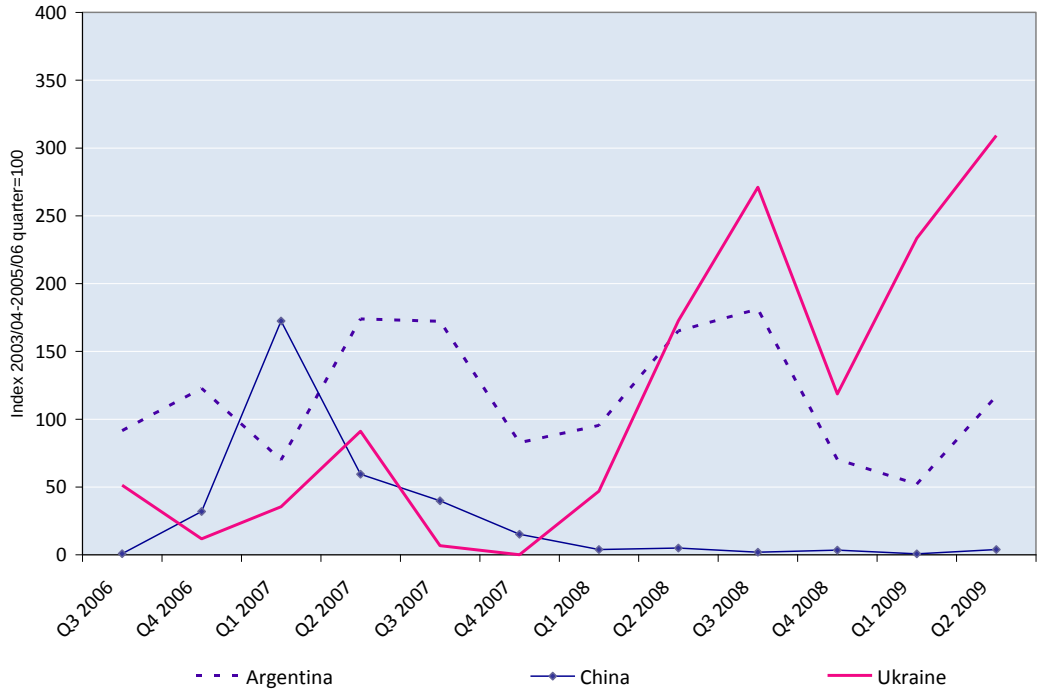
Source: International Grain Council (2010).

Figure 2.4. Annual trade in maize, 2006/07-2008/09 (July/June)



e: estimate.
1. Whether a country is considered as a net exporter or net importer of wheat is determined by comparing the three-year average of exports and import volumes in the three-year index 2003/04-2005/06. The trade volumes refer to exports in the case of net exporters and imports in the case of net importers.
Source: International Grain Council (2010).

Figure 2.5. Quarterly exports of maize from Argentina, China and Ukraine, 2006/07-2008/09



Source: International Grain Council (2010).

Of the net maize importers (Figure 2.4), Chile is the most dependent on imports and has managed to maintain a relatively stable level of imports, despite higher international prices. The large increase in maize imports in Vietnam can be attributed to demand from the expanding livestock sector. Maize imports into Russia and Indonesia fell. Higher prices led to production growth in both countries, and a search for cheaper, alternative sources of animal feed, such as meat and bone meal by Indonesia.

Observing the annual and quarterly movements in exports by countries imposing export restrictions on maize, similar conclusions can be drawn as for wheat. The export restrictions imposed by Argentina did not change the annual volumes exported, but the opening and closing of export registrations had an impact on the timing of those exports. A similar conclusion is reached by observing annual and quarterly changes in soybean exports from Argentina (Figures 2.8 and 2.9). The export quotas imposed by Ukraine during 2006/07 and 2007/08 severely limited exports of maize. Like wheat, it was only when the quota on maize exports was temporarily lifted between late February and the end of June 2007 did any historically significant level of exports occur. Maize exports from China fell away in 2007 and were almost non-existence in 2008 and 2009 in response to various export restrictions.

Most net importers of rice reduced their imports in response to the rise in world price (Figure 2.6). The large increase in rice imports by Indonesia in 2006 was required because of the lower than expected harvest which forced the government to import rice to stop a run up in domestic prices (Figure 2.6). The decline in rice imports into Russia in 2007-09 compared to 2004-06 has been heavily influenced by an increase in the seasonal tariff and a tightening of certification requirements. These have been implemented to stimulate an increase in domestic rice production.

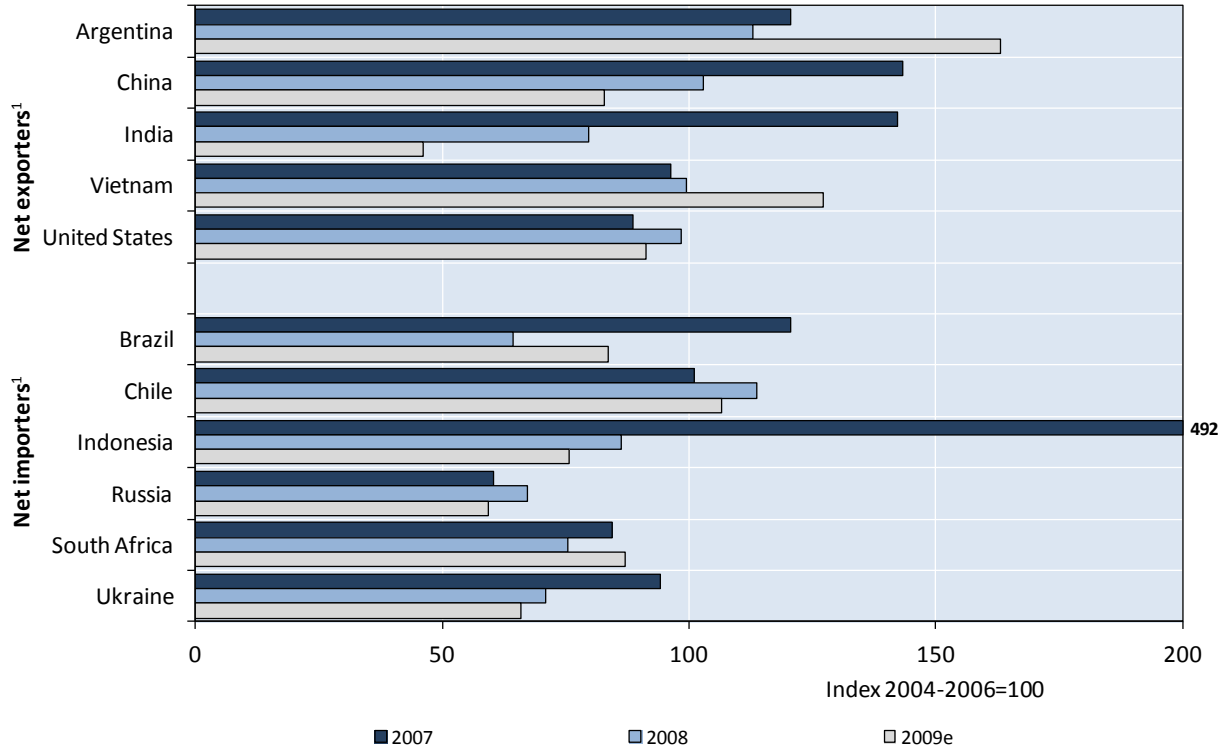
Despite adjusting export targets, opening and closing of export registration, and tightening requirements, the annual volume of rice shipped from Vietnam during 2008 did not fall below historical

levels. Although quarterly data is not available, it seems likely that the timing of those shipments was severely disrupted by these actions.

Prior to the imposition of export restrictions, exports of rice from India were increasing during 2007. The ban on private exports of non-basmati in October 2007, and the introduction of minimum export prices (MEP) and export taxes on basmati rice in March-April 2008 led to a decrease in rice exports. The delay in removing the MEP on basmati rice has seen Indian exporters lose market share to their Pakistani competitors who had their MEP removed in late 2008 and have benefited from a dramatic depreciation of the Pakistani currency *vis-à-vis* the Indian rupee (Slayton, 2009). India's share of world rice exports fell from 19% in 2007 (averaging 15% during 2004-06) to just 7% in 2009.

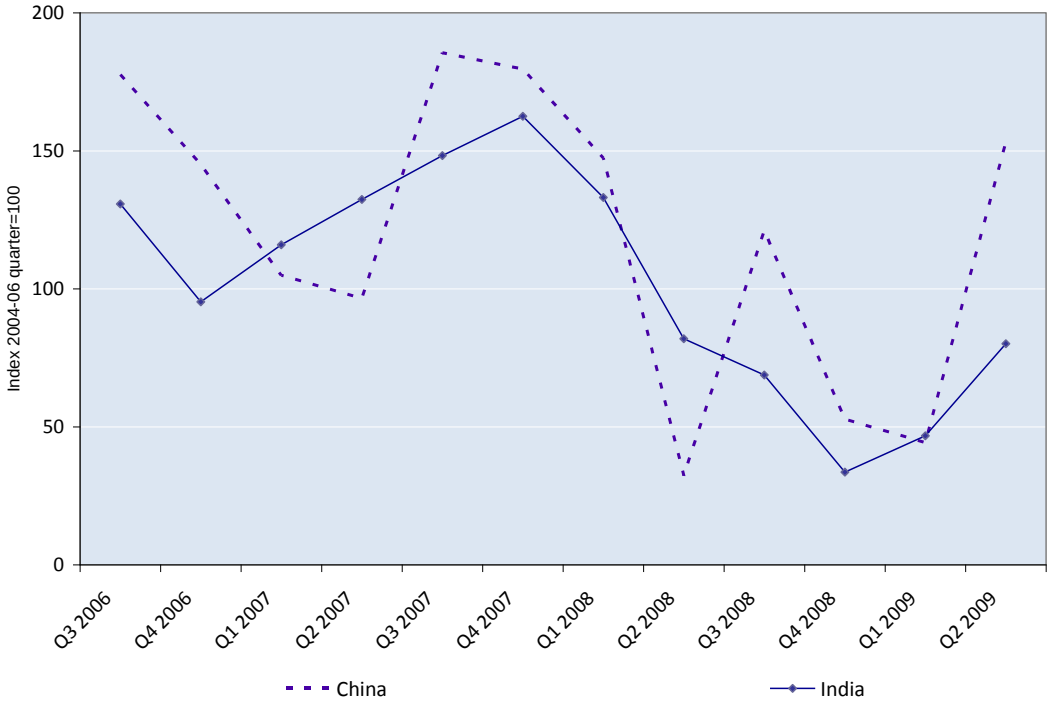
In contrast to India, China continued to export rice and make new sales despite the imposition of an export tax and the removal of the VAT refund although at relatively lower levels than in 2006 and 2007. However, during the rice price crisis in early 2008 China did not respond to the public and private appeals that it use its growing rice surpluses to partially fill the gap created by the exit of India and Vietnam from the market (Slayton, 2009). China delayed issuing export quotas and shipped out only 56 000 tonnes at the peak of the market during April-June 2008, down from 167 000 tonnes during the same period a year earlier.

Figure 2.6. Annual trade in rice, 2006-09



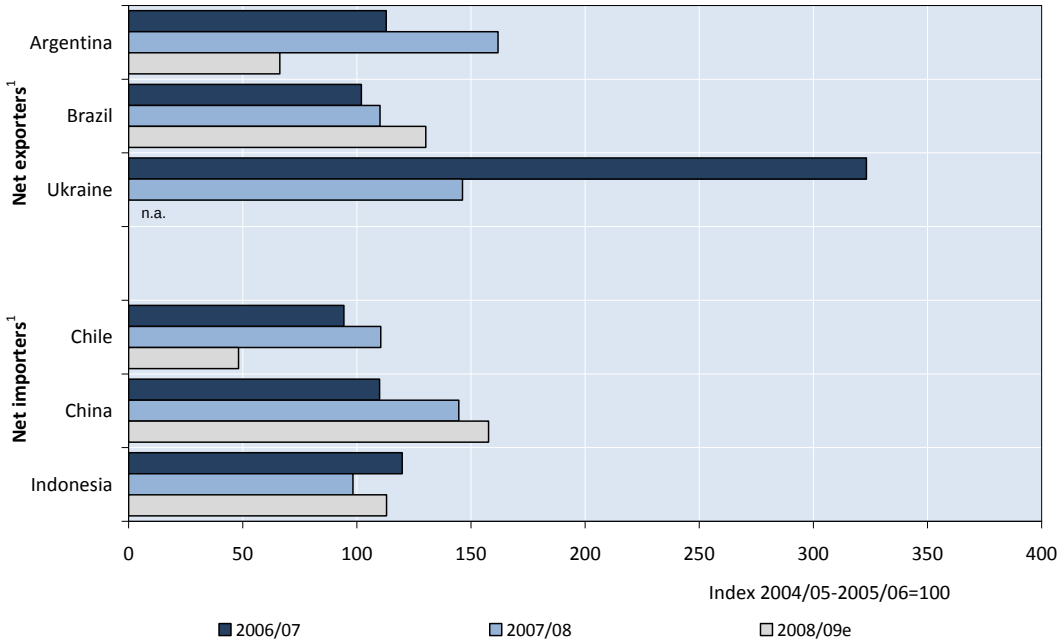
e: estimate.
1. Whether a country is considered as a net exporter or net importer of wheat is determined by comparing the three-year average of exports and import volumes in the three-year index period 2003/04-2005/06. The trade volumes refer to exports in the case of net exporters and imports in the case of net importers.
Source: International Grain Council (2010).

Figure 2.7. Quarterly exports of rice from China and India, 2006/07-2008/09



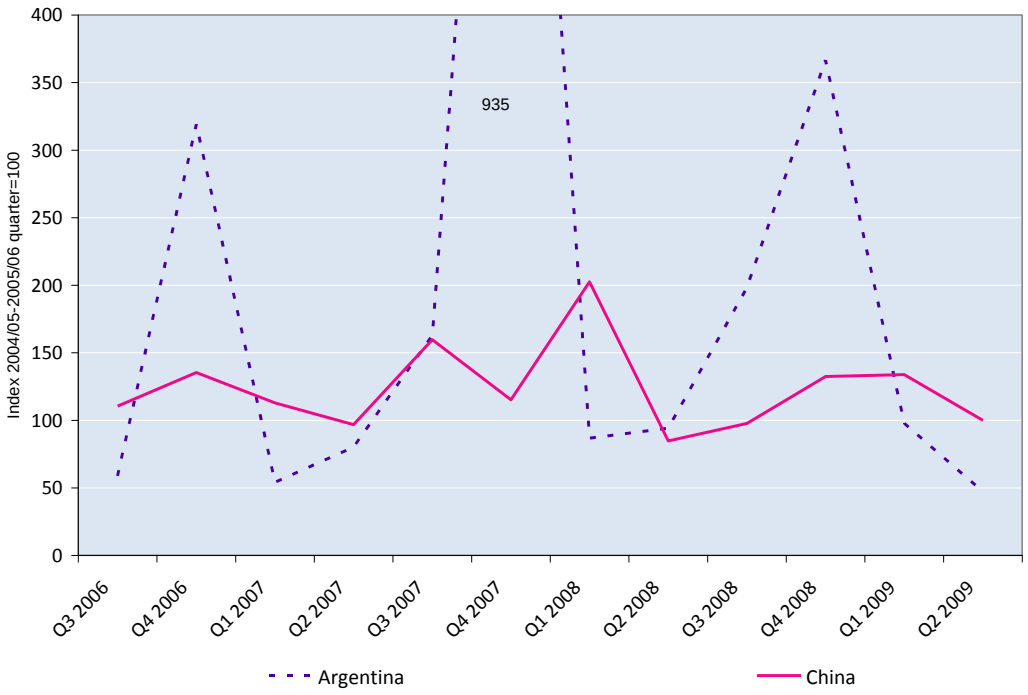
Source: International Grain Council (2010).

Figure 2.8. Annual trade in soybeans, 2006/07-2008/09 (Oct/Sept)



e: estimate; n.a.: not available.
1. Whether a country is considered as a net exporter or net importer of wheat is determined by comparing the three-year average of exports and import volumes in the two-year index period 2004/05-2005/06. The trade volumes refer to exports in the case of net exporters and imports in the case of net importers.
Source: International Grain Council (2010).

Figure 2.9. Quarterly exports of soybeans from Argentina and China, 2006/07-2008/09



Source: International Grain Council (2010).

2.2. International price transmission[5]

The impact of higher world prices on domestic markets depends, *inter alia*, on the extent to which changes in world market prices have been transmitted to domestic economies. Price transmission across borders is influenced by a multitude of variables. As most commodities are traded in US dollars, exchange rates are a major factor affecting the transmission of world prices expressed in USD to those at the border when expressed in local currency. Appreciating exchange rates make imports less expensive, reducing the pass-through, while depreciating exchanges rates increase the cost of imports. Internally, price transmission is affected by structural factors such as transport costs, market competiveness and the degree of substitution between the imported and domestic product, and policy measures like trade barriers, domestic food taxes and subsidies, and interventions to/from food reserves. Historical evidence suggests that price transmission will probably vary considerably across commodities, between countries and over time, and are generally lower than one might expect *a priori* (Baffes and Gardner, 2003).

The core of the analysis is to perform a calculation of changes in international and domestic prices for commodities in real (inflation-adjusted) terms between the relevant quarter in the first half of 2006 and the same quarter in 2008 and 2009 (Table 2.2). A quarterly average is used to smooth out monthly volatility. The relevant quarter is the one in which international prices peaked during 2008: the first quarter in the case of wheat, and the second quarter in the case of maize, rice and soybeans. The same period in 2006 is used to control for seasonal factors. The change between the 2006 and 2009 is included to see what changes have occurred since the fall in international commodity prices. For comparison, Table 2.3 shows similar calculations for the period from 2003 to 2006 and from 2003 to 2009. This is useful in interpreting some of the changes seen during this period.

5. This section follows the procedure used by Dawe (2008) to examine international price transmission. For a more complete treatment of the issues of price transmission and detailed analysis refer to Rapsomanikis *et al*. 2004.

Between 2006 and 2008 world market prices for wheat, maize, rice and soybeans increased substantially, more than doubling in real US dollar terms (column 1 of Tables 2.2 and 2.3).[6] While international prices decreased between 2008 and 2009, they have not fallen by as much and so remain considerably higher in real terms. It is interesting to observe that between 2003 and 2006, world market prices also increased in real terms for wheat and rice by 7% and 40% respectively. In contrast, real prices for corn and soybeans had decreased.

Column 2 shows the increase in world prices expressed in real local currency terms for each of the ten countries during the same time periods.[7] The increases in column 2 are lower than column 1 for most countries with the exception of South Africa (in all cases) and Argentina (when comparing second quarters between 2006 and 2009) where the increase was higher. The smaller increase in column 2 reflects the fact that over these periods many countries experienced an appreciation of their currency in real terms *vis-à-vis* the US dollar, neutralising some of the impact of increased prices in dollar terms (Figure 2.10). In comparison to the other eight, the South African rand and the Argentinean peso are worth less in real terms in US dollars in 2009 than in 2006, strengthening the pressure of rising world prices on the domestic markets.

6. Expressed in real terms by deflating the international price which is expressed in USD by the US CPI all items. As set out in Table 2.1, the representative world prices are for wheat: USA No. 2 Hard Red Winter, f.o.b. Gulf; maize: USA No. 2 Yellow, f.o.b. Gulf; rice: Thai white rice 100% B second grade, f.o.b. Bangkok; soybean: USA No. 1, Yellow, f.o.b. Gulf.

7. A real exchange rate between two countries is calculated as the product of the nominal exchange rate and relative price levels in each country. In this study the real exchange rate between the United States and the home country at time t is defined as: $reri,j = ei,j * (pt/pUSA,t)$ where p is the price level of the home country, $pUSA$ is the price level in the United States, and ei,j is the nominal exchange rate between the United States dollar and the home country currency, expressed as the number of USDs per home currency unit so that ei rises with an appreciation of the home country currency.

Table 2.2. Transmission of world commodity prices to the domestic market, 2006-08 and 2006-09

Commodity and country	(1) World Price Real USD, % change		(2) World Price Real LCU, % change		(3) Domestic Price Real LCU, % change		(4) Elasticity of price transmission (3)/(2)	
Wheat	Q1 2006 – Q1 2008	Q1 2006 – Q1 2009	Q1 2006 – Q1 2008	Q1 2006 – Q1 2009	Q1 2006– Q1 2008	Q1 2006– Q1 2009	Q1 2006– Q1 2008	Q1 2006 – Q1 2009
Argentina	129	31	112	28	56	0	0.50	0.01
Brazil	129	31	79	29	56	16	0.71	0.55
Chile	129	31	93	39	62	15	0.66	0.38
China	129	31	96	8	0	13	0.00	1.64
India	129	31	93	26	-2	-5	-0.02	-0.20
Indonesia	129	31	114	42	74	53	0.64	1.24
Russia	129	31	73	22	82	-11	1.12	-0.50
South Africa	129	31	165	86	132	58	0.80	0.68
Ukraine	129	31	81	31	50	7	0.62	0.21
Vietnam	129	31	98	5	n.a.	n.a.	n.a.	n.a.
Maize	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009
Argentina	120	53	102	57	66	19	0.65	0.33
Brazil	120	53	63	34	67	25	1.05	0.74
Chile	120	53	88	51	68	40	0.77	0.78
China	120	53	83	25	14	10	0.17	0.39
India	120	53	88	39	3	8	0.04	0.19
Indonesia	120	53	105	52	12	20	0.12	0.38
Russia	120	53	65	37	116	8	1.78	0.22
South Africa	120	53	143	69	37	7	0.26	0.10
Ukraine	120	53	59	47	48	9	0.81	0.19
Vietnam	120	53	78	21	n.a.	n.a.	n.a.	n.a.
Rice	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009
Argentina	166	74	144	79	n.a.	n.a.	n.a.	n.a.
Brazil	166	74	98	53	52	18	0.53	0.34
Chile	166	74	127	72	51	38	0.40	0.53
China	166	74	122	43	-6	4	-0.05	0.10
India	166	74	128	59	0	6	0.00	0.11
Indonesia	166	74	148	74	9	8	0.06	0.11
Russia	166	74	100	57	n.a.	n.a.	n.a.	n.a.
South Africa	166	74	194	93	n.a.	n.a.	n.a.	n.a.
Ukraine	166	74	93	68	n.a.	n.a.	n.a.	n.a.
Vietnam	166	74	115	38	155	27	1.34	0.71
Soybeans	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009	Q2 2006 – Q2 2008	Q2 2006 – Q2 2009
Argentina	116	80	98	85	45	54	0.45	0.64
Brazil	116	80	61	57	69	69	1.14	1.20
Chile	116	80	85	77	n.a.	n.a.	n.a.	n.a.
China	116	80	80	48	74	27	0.93	0.56
India	116	80	86	63	44	59	0.51	0.93
Indonesia	116	80	102	79	6	25	0.06	0.31
Russia	116	80	62	61	n.a.	n.a.	n.a.	n.a.
South Africa	116	80	140	98	135	74	0.97	0.76
Ukraine	116	80	57	73	84	67	1.48	0.92
Vietnam	116	80	75	42	n.a.	n.a.	n.a.	n.a.

n.a.: not available.

Source: Author's calculations based on data sourced from IMF, International Financial Statistics Database (2010); FAO GIEWS, National basic food price – data and analysis tool (2010); USDA FAS GAIN reports; and national statistical agencies.

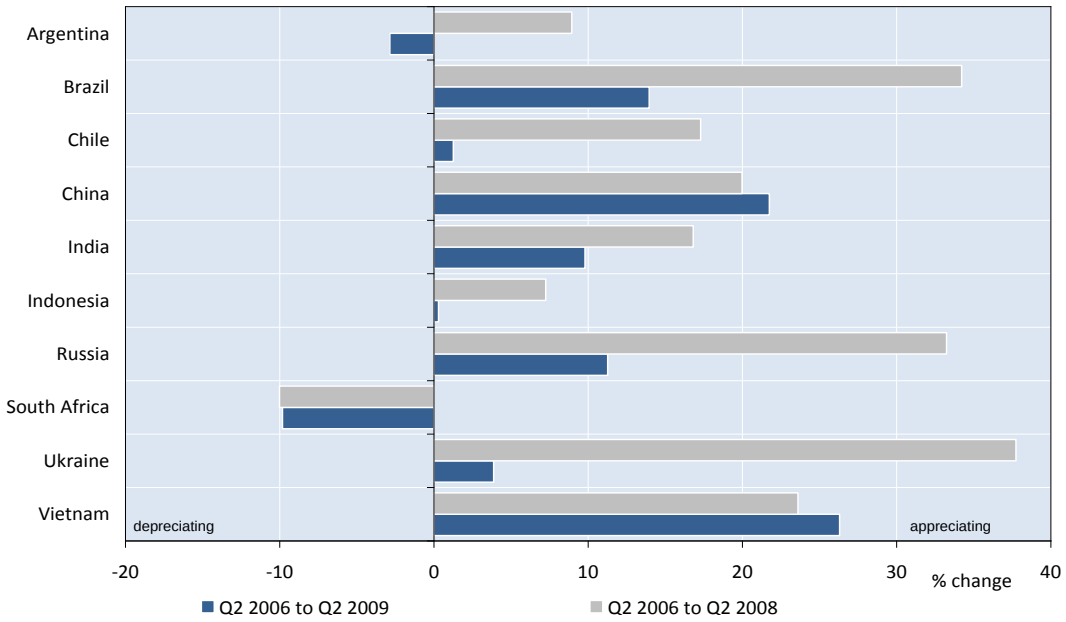
Table 2.3. Transmission of world commodity prices to the domestic market, 2003-06 and 2003-09

Commodity and country	(1) World Price Real USD, % change		(2) World Price Real LCU, % change		(3) Domestic Price Real LCU, % change		(4) Elasticity of price transmission (3)/(2)	
Wheat	Q1 2003 – Q1 2006	Q1 2003 – Q1 2009	Q1 2003 – Q1 2006	Q1 2003 – Q1 2009	Q1 2003– Q1 2006	Q1 2003– Q1 2009	Q1 2003– Q1 2006	Q1 2003 – Q1 2009
Argentina	7	41	-8	18	-26	-26	3.22	-1.46
Brazil	7	41	-40	-22	-46	-38	1.17	1.72
Chile	7	41	-22	9	-19	-7	0.86	-0.79
China	7	41	6	14	22	38	3.82	2.71
India	7	41	-4	20	2	-4	-0.40	-0.18
Indonesia	7	41	-8	31	-25	14	3.05	0.46
Russia	7	41	-25	-9	n.a.	n.a.	n.a.	n.a.
South Africa	7	41	-16	56	-6	49	0.38	0.87
Ukraine	7	41	-18	8	-21	-15	1.17	-1.85
Vietnam	7	41	-2	3	n.a.	n.a.	n.a.	n.a.
Maize	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009
Argentina	-7	42	-12	39	-8	9	0.73	0.23
Brazil	-7	42	-37	-15	-38	-22	1.02	1.42
Chile	-7	42	-29	7	-21	10	0.73	1.50
China	-7	42	-8	15	20	32	-2.48	2.09
India	-7	42	-13	21	-5	3	0.36	0.12
Indonesia	-7	42	-17	26	-7	11	0.42	0.43
Russia	-7	42	-34	-10	n.a.	n.a.	n.a.	n.a.
South Africa	-7	42	-17	40	35	44	-2.06	1.10
Ukraine	-7	42	-27	8	-46	-41	1.71	-5.17
Vietnam	-7	42	-15	3	n.a.	n.a.	n.a.	n.a.
Rice	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009
Argentina	40	145	34	140	n.a.	n.a.	n.a.	n.a.
Brazil	40	145	-4	46	-39	-28	8.73	-0.60
Chile	40	145	7	84	-18	13	-2.52	0.16
China	40	145	39	99	42	49	1.08	0.49
India	40	145	32	110	-8	-2	-0.26	-0.02
Indonesia	40	145	25	118	27	37	1.05	0.31
Russia	40	145	-1	56	n.a.	n.a.	n.a.	n.a.
South Africa	40	145	26	142	n.a.	n.a.	n.a.	n.a.
Ukraine	40	145	11	86	n.a.	n.a.	n.a.	n.a.
Vietnam	40	145	28	77	16	47	0.56	0.61
Soybeans	Q2 2003 – Q2 2006	Q2 2003 – Q2 2006	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009	Q2 2003 – Q2 2006	Q2 2003 – Q2 2009
Argentina	-13	57	-17	54	-13	34	0.78	0.63
Brazil	-13	57	-41	-7	-43	-3	1.05	0.47
Chile	-13	57	-33	18	n.a	n.a.	n.a.	n.a.
China	-13	57	-14	28	-13	10	0.95	0.38
India	-13	57	-18	34	-25	19	1.40	0.56
Indonesia	-13	57	-22	39	19	48	-0.84	1.22
Russia	-13	57	-38	0	n.a.	n.a.	n.a.	n.a.
South Africa	-13	57	-22	55	-19	41	0.87	0.75
Ukraine	-13	57	-31	19	-28	20	0.91	1.04
Vietnam	-13	57	-20	14	n.a.	n.a.	n.a.	n.a.

n.a.: not available.

Source: Author's calculations based on data sourced from IMF, International Financial Statistics Database (2010); FAO GIEWS, National basic food price – data and analysis tool (2010); USDA FAS GAIN reports; and national statistical agencies.

Figure 2.10. Change in the real LCU-USD exchange rates between 2006-08 and 2006-09



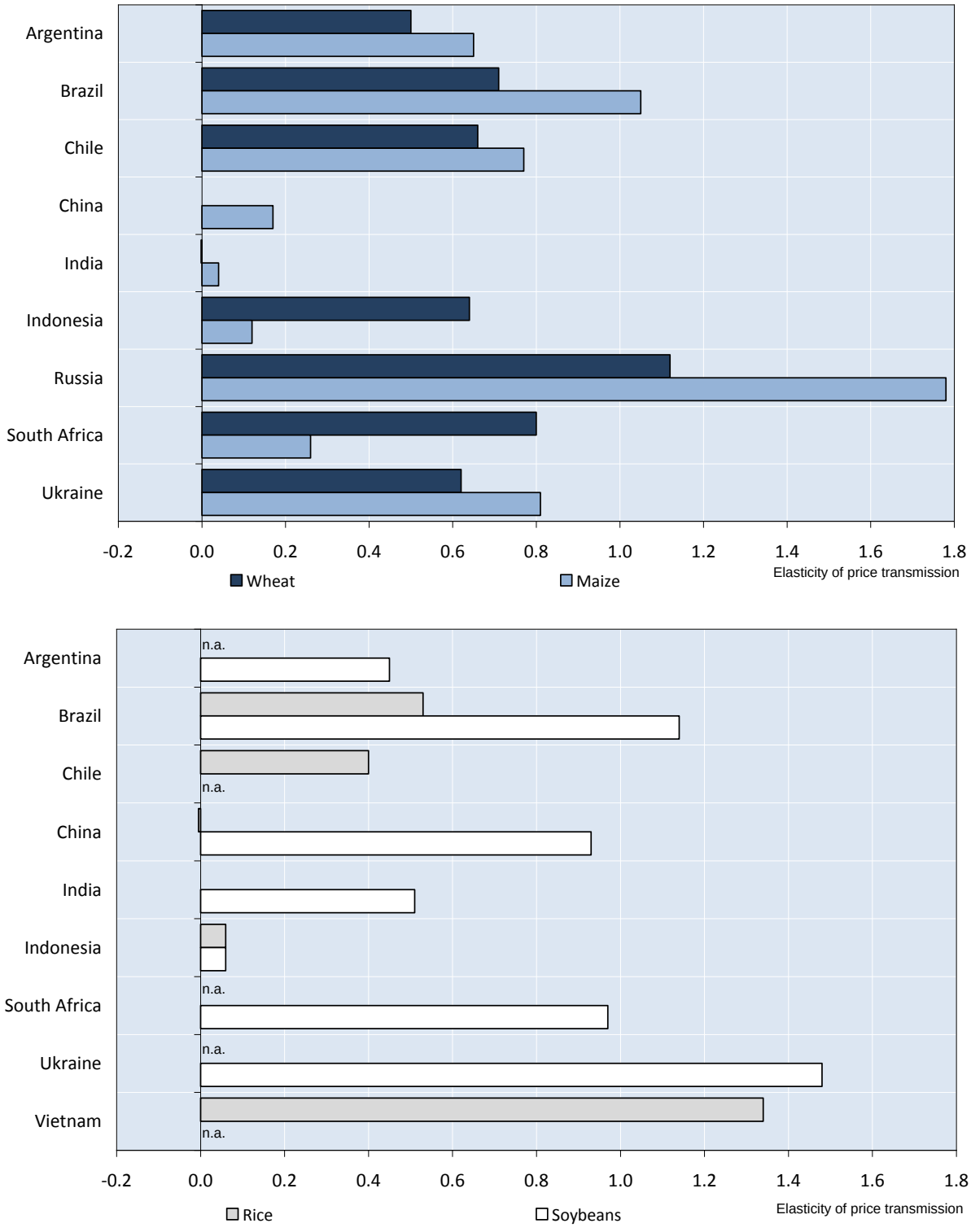
Source: IMF, International Financial Statistics Database (2010).

The general appreciating value of currencies *vis-à-vis* the US dollar was strongest between the first half of 2006 and the first half of 2008. Changing macroeconomic conditions and monetary policy were behind this general trend. In August 2007, the US Federal Reserve began to lower interest rates in an effort to stimulate a weakening US economy. This action encouraged investors to move into other currencies with higher interest rates, causing the US dollar to lose value against most currencies. In July 2008, when it was recognised that the rest of the world was also moving towards recession, many currencies began depreciating in value *vis-à-vis* the US dollar as investors moved back into US government securities. This can be seen by a fall in the rate of appreciation in the three-year period 2006-09 as compared to 2006-08. In absolute terms the fall in the value of the currency was most significant for Brazil, Chile, Russia and Ukraine. China and Vietnam stand out as two countries where the real exchange rate has continued to appreciate against the US dollar during the economic downturn, with the South African rand remaining relatively steady in real terms.

Column 3 of Tables 2.2 and 2.3 shows changes in real domestic prices at the wholesale level. For most countries/commodities, domestic price changes are lower than the world price changes when measured in local currency. An elasticity of price transmission is found by dividing the percentage change in domestic price by the percentage change in world price measured in local currency units. This results in most cases with an elasticity of transmission of less than one (column 4). In general, the closer the value is to one, the greater the degree to which changes in world prices have been transmitted into domestic prices. However, an elasticity value of one does not indicate perfect or complete price transmission (Sharma, 2003). If the initial domestic price is below the initial border price, as it could be in the case of an exporter, then the same absolute change in prices will result in an elasticity value greater than one.[8] Alternatively, if the initial domestic price is above the initial border price, say in the case of an importer with tariff protection in place, then the same absolute change in prices will result in an elasticity value greater than one. In addition, the greater the transport and marketing costs, and the tariff placed on imports or exports, the further from unity will be the resulting elasticity.

8. Similarly, if there is a price difference at the starting date, *e.g.* due to quality differences, then a price change of 50% for both prices leads to a price transmission of one, but the difference between the two prices in absolute terms would be larger than at the starting date.

Figure 2.11. Transmission of world prices to domestic market, 2006-08



n.a.: not available.
Source: Author's calculations based on data sourced from IMF, International Financial Statistics Database (2010); FAO GIEWS, National basic food price – data and analysis tool (2010); USDA FAS GAIN reports; and national statistical agencies.

Figure 2.8 presents the elasticity of price transmission for the period from 2006 to 2008 for the four commodities. In terms of country comparisons, the elasticity of price transmission for the three cereals in China and India, and rice and soybeans in Indonesia is substantially lower than for the other countries. From 2006 to 2008, the real price of wheat remained constant in China and declined by 2% in India, while the real price of rice was constant in India and fell 6% in China, despite real world prices for wheat and rice more than doubling in local currency terms. The policies introduced by these three countries, coupled with a series of good harvests, had a much stronger impact on insulating the domestic market from changes on the international market. The higher level of price transmission that occurred in the case of soybeans in China and India over the same time period reinforces this observation. Indonesia took several steps to reduce the price impact of rising soybean prices on the domestic market (removal of tariffs and VAT, and subsidies to processors), and they appear to have worked. Comparing the current situation with the period 2003-06 also provides evidence about the impact of more recent policy changes (Table 2.3). During this earlier period, rice prices in China and Indonesia increased in line with the rise in world prices, with elasticity of transmission rates of 1.08 and 1.05 respectively. In India, the real price of rice fell 8% during 2003-06 while the real world rice price in local currency rose 32%.

In comparison to the other three Asian countries, the interventions made in Vietnam to control rice prices did not insulate the domestic market from world price developments. The absolute change in world prices was fully transmitted into the domestic economy during 2006-08. This was in part caused by local speculators who jumped into the domestic rice market causing prices in Ho Chi Minh City to double within the course of a weekend in late April 2008. By the time that local prices cooled, international demand for Vietnamese rice had largely disappeared, resulting in huge unsold stocks of expensive high quality rice for which the provincial exporting companies could not find a home. Facing interest rates of 19% and prohibitively high minimum export prices, the provincial food exporters largely refrained from further purchases of high-moisture summer-autumn rice, contributing to a crash in domestic values during August-November 2008 that resulted in large losses to farmers and lost export earnings (Slayton, 2009).

Despite Ukraine's success in limiting the volume of cereal exported from the country, the effect of this measure on reducing the flow-through of rising international prices onto the domestic market was relatively weaker than in China or India during the period 2006-08. This was because the increase in domestic grain supply was overall too small to drastically reduce prices (UkrAgroConsult, 2009). One reason for this was that grain exporters switched to flour production (which did not face export quotas) in order to circumvent the grain export quotas. This resulted in wheat flour exports being at a record high in 2007/08. Another was the willingness among many grain producers and traders to store grains until prices arrived at desired levels. The strong performance of rapeseed, soybean and sunflower sales allowed many producers to hold stocks. High stock levels combined with a subsequent bumper harvest in 2008 led to a large fall in prices for all major grains in 2008/09, with trading companies slowing down their purchases due to expectations that prices could continue to go down.

In contrast to Ukraine, Argentina remained relatively more successful in insulating the domestic market from rising price. While trade data suggest that policy measures constraining grain exports did not significantly reduce the volumes exported compared to the preceding period, they more than likely reduced exports much below the quantities that would have been exported given the rise in world prices and low domestic prices. Further, the increase in export taxes also meant that the transmission of international prices to the domestic market remained weak.

In general, price transmission rates are much higher in Brazil, Chile, Russia and South Africa. The low level of price transmission between 2006-08 for maize in South Africa is a consequence of the poor maize harvest in 2006. Consequently, when the world price started to rise from 2006, the domestic price was already high and simply stayed there. This is borne out by the price transmission ratios in Table 2.3, which show a transmission of -2.06 between 2003-06 due to the rise in domestic prices while world prices

fell, and a price transmission ratio of 1.10 for 2003-09. In Chile, there has been a significant reduction in the price of wheat in the domestic market between 2008-09. At the same time flour and bread prices remained relatively constant. This led to protest by hundreds of farmers demanding a government investigation into the "wheat-flour-bread" chain". The National Economic Prosecutors Office (FNE) was subsequently charged with investigating price irregularities.

2.3. Consumer food prices and inflation

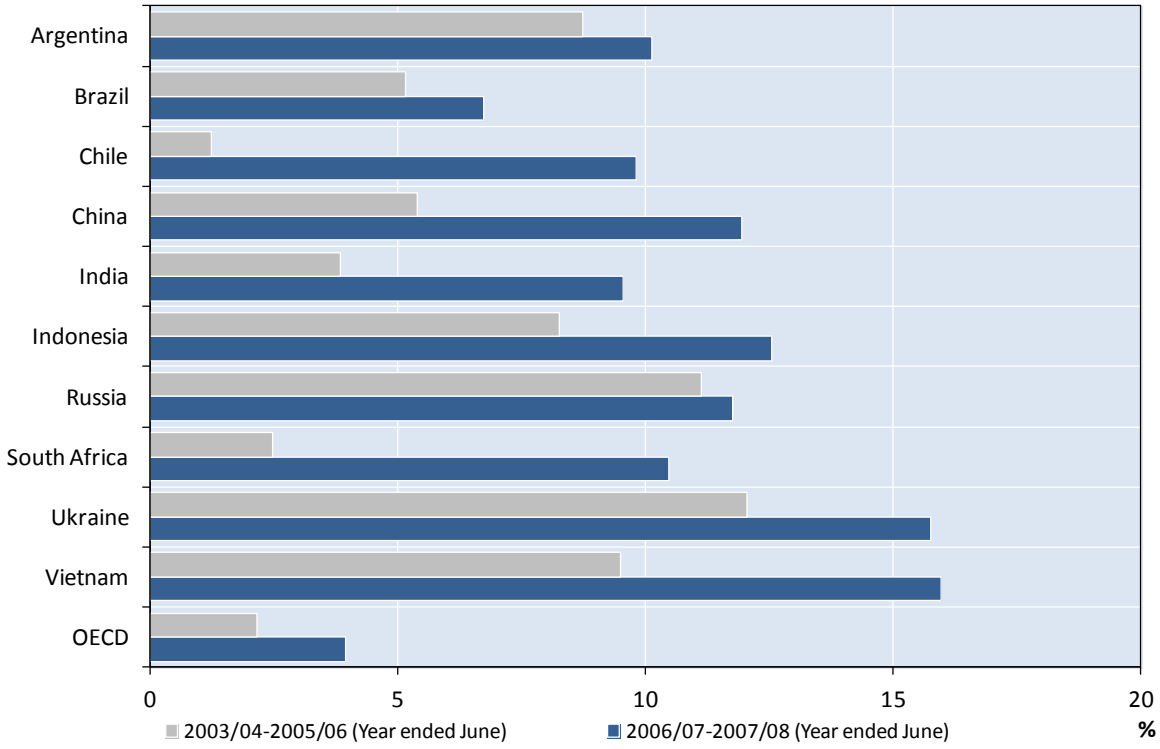
While previous sections focused on the extent to which international commodity prices were transmitted into the domestic wholesale markets, this section analyses how much consumer prices of food actually increased. In order to put food price developments in the ten countries in a broader perspective, they are compared with the weighted average change in food prices in the OECD-total.[9] The examination uses year ended June periods rather than calendar years to maintain consistency with the price transmission analysis, which in turn reflects the turning points for international commodity prices of cereals and oilseeds. There was also a major change in the policy stance of monetary authorities in many countries during the second half of 2008, shifting from a relatively tight position, to limit the inflationary effects of rising food and fuel prices, to an expansionary position to counteract the effects of the credit crisis and the global economic slowdown.

All ten countries experienced a rise in annual average consumer food prices between the periods 2003/04-05/06 and 2006/07-07/08 (Figure 2.12). Chile and South Africa, which had the lowest increases in food prices during earlier period, experienced the biggest leap in food prices. Average annual food prices in Chile rose from 1.2% in 2003/04-05/06 to 9.8% in 2006/07-07/08 and in South Africa from 2.5% to 10.5%, respectively. Chile and South Africa are two relatively small, open economies, with good price transmission, and which did nothing to interfere with market price signals in terms of their policy response. The rate of increase in consumer food prices more than doubled between the two periods in China and India despite the success that these countries had in reducing the transmission of cereal commodity prices.

The rate of increase in consumer food prices almost doubled in the OECD, rising from 2.1% in 2003/04-05/06 to 3.9% in 2006/07-07/08, but remained lower than in any emerging economy covered in the study. The smaller increase in food prices in the OECD reflects both the higher proportion of processed food consumed in these countries relative to that in emerging/developing countries and the smaller share that commodity prices have in total processing costs due to other factors such as higher wages. Consequently, an increase in the price of commodities contributes relatively less to price increases for consumer food products in OECD countries.

9. Like the other six area totals calculated by the OECD, this is an annual chain-linked Laspeyres index where the country weights for each individual link are based on the previous year's household private final consumption expenditure.

Figure 2.12. Average annual rate of change in consumer food prices – 2003/04-05/06 and 2006/07-07/08



Source: OECD STAT and national statistical agencies.

For half the ten countries, the increase in consumer food prices peaked during the year ended June 2008, with food prices increasing at a slower rate in 2008/09 (Table 2.4). Significant drops in the rate of increase in consumer food prices occurred in Argentina and China, with lesser falls in Brazil, Chile and Ukraine. In contrast, and despite the fall in international prices, food prices rose at a faster rate in 2008/09 in India, Indonesia, Russia, South Africa and Vietnam, as they have in the OECD as a whole.

Table 2.4. Average annual rate of change in consumer food prices – 2003/04-2008/09

	Year ended June, %					
Country	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Argentina	5.0	7.5	13.6	10.9	9.3	3.8
Brazil	9.7	4.4	0.6	2.4	11.1	10.6
Chile	-0.3	-0.4	4.4	2.6	17.0	12.5
China	7.2	7.2	1.7	5.2	18.7	4.1
India	2.9	2.2	6.4	10.4	8.7	12.5
Indonesia	2.4	7.0	15.3	11.6	13.5	14.0
Russia	10.0	12.5	10.9	7.7	15.9	16.4
South Africa	2.8	1.0	3.6	7.7	13.3	15.0
Ukraine	9.4	15.8	10.7	2.4	29.0	21.9
Vietnam	4.9	14.2	9.3	8.3	24.0	25.9
OECD	3.0	2.1	1.3	3.1	4.9	5.2

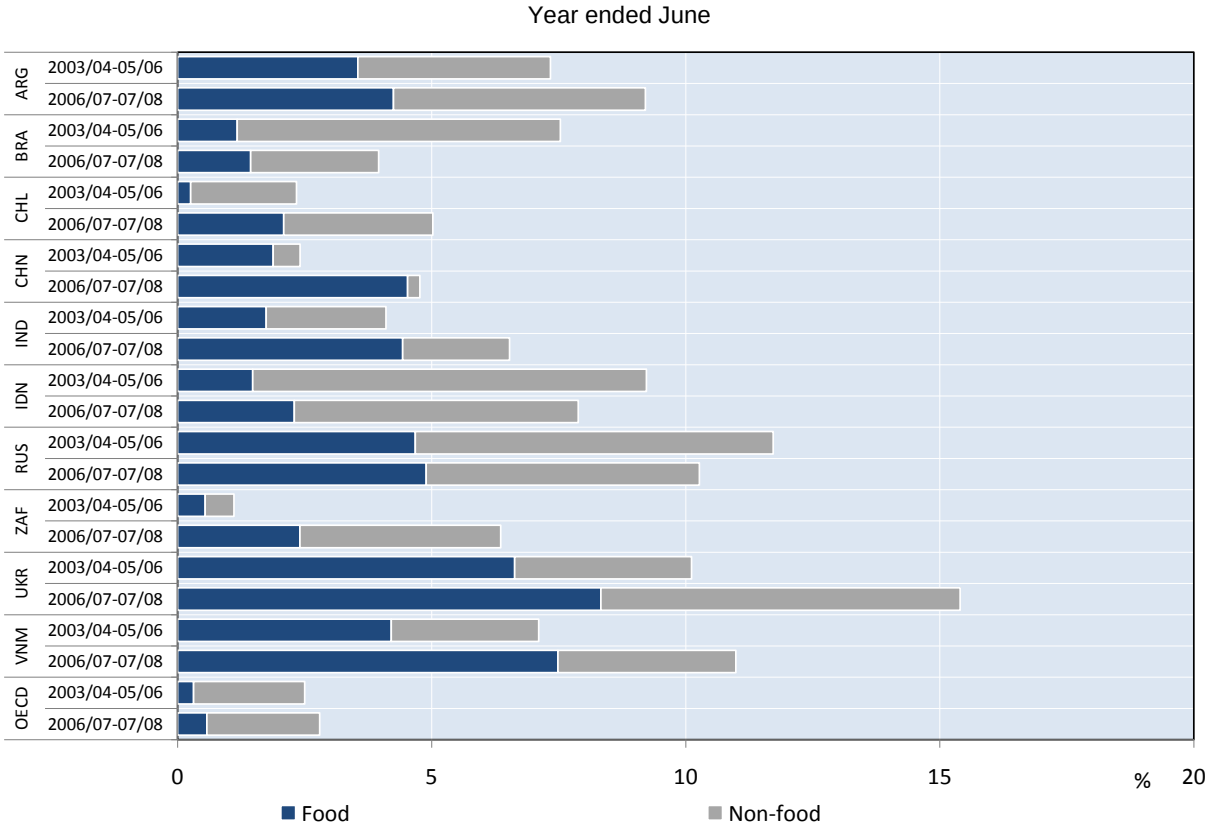
Source: OECD STAT and national statistical agencies.

Increases in consumer food prices has put upward pressure on inflation around the globe, particularly in developing economies where food accounts for a large share of the consumption basket. The larger the

share of food in the household budget, the greater will be the impact of rising food prices on inflation. For most developed countries, food expenditure shares range between 10%-20%.[10] Among the ten emerging countries, the share of food expenditure in household budgets is generally much higher. This is reflected in food having a higher weighting in the composition of inflation, ranging from around 20% in Brazil, Chile, Indonesia and South Africa, to 55% in Ukraine (Table 2.5).

As expected from the preceding analysis, there was a considerable increase in inflation due to rising food prices in all countries in the period 2006/07-07/08 compared to 2003/04-05/06 (Figure 2.13 and Table 2.5). Largely due to strong price transmission effects, Chile and South Africa had the largest relative increases in the contribution of higher consumer food prices to inflation between the two periods. However, the level of this contribution remained lower than in most other countries partly due to the relatively smaller weight given to food in the inflation indexes, reflecting the relatively lower share of food in households' expenditures (Table 1.5). In contrast, the highest levels of this contribution can be observed in Argentina, China, India, Russia, Ukraine and Vietnam. In these countries the share of food in consumption expenditure and the weight given to food in inflation indexes are relatively high.

Figure 2.13. Average annual increase in inflation due to higher food prices, 2003/04-05/06 and 2006/07-07/08



Note: The increase in inflation attributed to higher food prices is found by multiplying the rate of increase in food prices by the weight of food in the inflation index. The non-food contribution is the difference between the overall inflation rate and that attributed to food. The sum of the stacked bars equals the overall inflation rate for that period.
Source: OECD STAT and national statistical agencies.

10. This is why it is assumed that the OECD food index represents 15% of the OECD CPI.

Table 2.5. Average annual increase in inflation due to higher food prices, 2003/04-2008/09

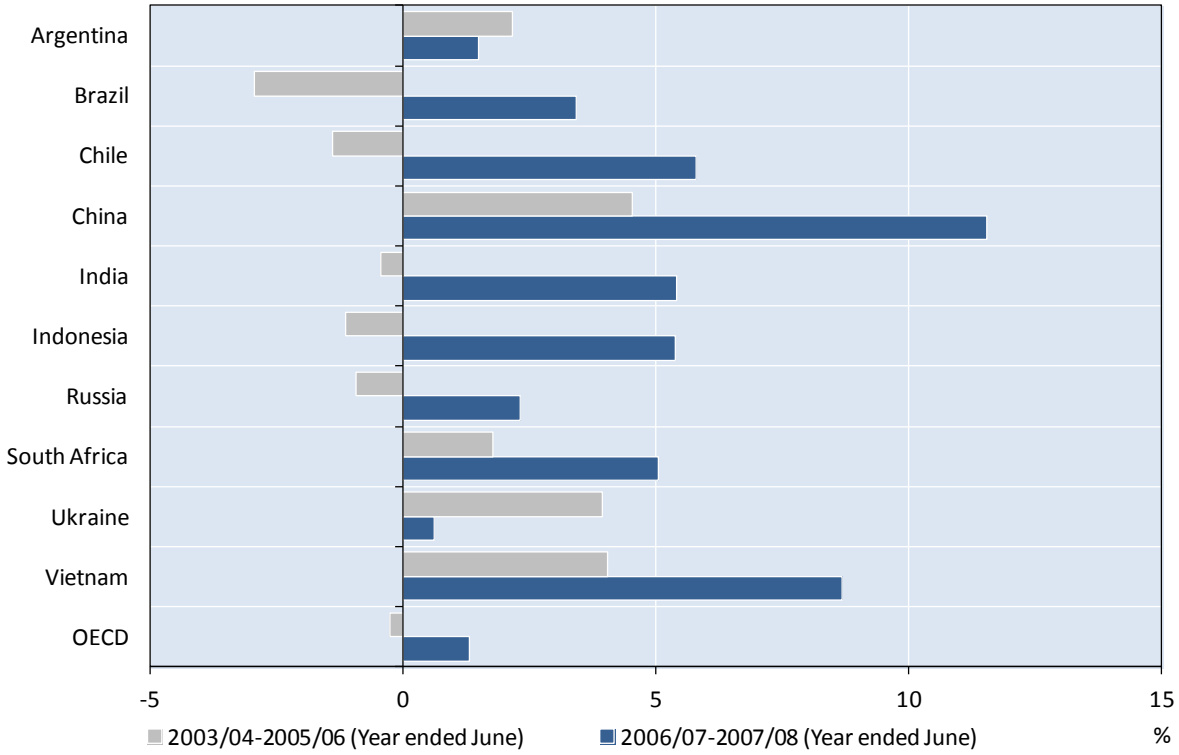
Country	Weight in CPI, %	Year ended June, %					
		2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Argentina	36	2.0	3.1	5.6	4.5	4.0	1.6
Brazil	22	2.4	1.0	0.2	0.5	2.4	2.4
Chile	22	-0.1	-0.1	0.9	0.6	3.6	2.9
China	33	2.4	2.6	0.6	1.9	7.1	1.8
India	46	1.3	1.0	2.9	4.7	4.1	6.1
Indonesia	20	0.4	1.3	2.7	2.1	2.5	2.8
Russia	44	4.3	5.2	4.6	3.2	6.5	7.1
South Africa	21	0.6	0.2	0.8	1.7	3.1	3.7
Ukraine	55	5.1	8.6	6.2	1.5	15.2	12.8
Vietnam	43	2.1	6.3	4.3	3.8	11.1	13.6
OECD	15	0.4	0.3	0.2	0.4	0.7	0.8

Source: OECD STAT and national statistical agencies.

A further indicator that can help show the extent to which consumers have been affected by rising food prices is to consider relative changes in food versus non-food prices This can be examined by measuring the change in the ratio between the food and non-food prices (derived by excluding the food component from the inflation index). Negative rates indicate a relative fall in food prices compared to non-food prices in a given period in a given country; positive rates indicate a relative increase. When food prices rise, a negative rate shows they have risen slower than non-food prices while a positive rate shows they have risen faster.

During the three-year period 2003/04-05/06, in five of the emerging economies (Brazil, Chile, India, Indonesia and Russia), along with the OECD as a whole, food prices were increasing at a slower rate than non-food prices (Figure 2.14 and Table 2.6). In the other five countries (Argentina, China, South Africa, Ukraine and Vietnam) food prices were increasing at a faster rate than non-food prices.

Figure 2.14. Average annual rate of change in food prices compared to non-food prices – 2003/04-05/06 and 2006/07-07/08



Source: OECD STAT and national statistical agencies.

In contrast, over the two-year period 2006/07-07/08, food prices increased faster than non-food prices in all ten countries. In all cases, with the exceptions of Argentina and Ukraine, the rate of increase in food prices compared to non-food prices rose significantly. Although food prices increased faster than non-food prices in Ukraine and Argentina, they were more closely aligned in 2006/07-07/08 than in 2003/04-05/06. In Argentina, this can be partly explained by the subsidies provided to processors of grains and milk, funded by increases in export taxes. In Ukraine, the fall in food prices compared to non-food prices in 2006/07 was the result of a significant increase in administrative gas prices. Most countries experienced a fall in the rate of increase in food prices compared to non-food prices in 2008/09, with the exception of India, South Africa and Vietnam where it increased. Food prices also continued to rise faster than non-food prices in OECD countries as a whole.

Table 2.6. Average annual rate of change in food prices compared to non-food prices – 2003/04-2008/09

Country	Year ended June					
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Argentina	1.9	0.8	3.8	1.8	1.1	-5.3
Brazil	0.4	-3.6	-5.9	-1.2	8.0	5.9
Chile	-1.7	-3.3	0.8	-0.2	11.8	7.4
China	6.8	6.2	0.5	4.4	18.7	4.8
India	-0.8	-3.3	2.7	6.9	3.9	5.8
Indonesia	-4.0	-0.2	0.6	3.8	7.0	5.7
Russia	-2.6	0.1	-0.2	-1.3	5.8	4.4
South Africa	3.8	-0.2	1.7	3.6	6.5	6.9
Ukraine	4.4	6.9	0.4	-14.6	15.5	3.1
Vietnam	1.1	8.6	2.3	2.3	15.2	16.3
OECD	0.9	-0.5	-1.7	0.8	1.9	3.6

Source: OECD STAT and national statistical agencies.

In addition to rising world prices, domestic factors such as adverse weather conditions contributed to the sharp rise in food prices in 2007/08, particularly in Chile, China, Ukraine and Vietnam. The winter of 2007 (June-August) was one of the harshest experienced in Chile and was followed by a drought during the summer 2007/08. This had a significantly negative impact on food and vegetable production. The worse winter snowstorms in 40 years struck China in early 2008. Many crops were destroyed, particularly fruits and vegetables. Transport delays lead to food shortages and large increases in prices. This followed an outbreak of Porcine Reproductive and Respiratory Syndrome (Blue Ear Disease) in May 2007. Forty million pigs were lost, and pork prices rose 45%. This explains the significant rise in food prices compared to non-food prices in China during 2007/08 despite policies insulating the domestic market from rises in international prices for cereals.

Adverse weather conditions in Ukraine caused a poor harvest of cereal crops, fruits and vegetables between mid-2007 and mid-2008. A sharp increase in public expenditure on social security (*e.g.* pension and subsistence wages) and a rise in the minimum wage escalated the increase in food prices in 2007/08 because of the large share that foodstuffs, clothes and footwear represent in the consumption basket of low-income population. In Vietnam, crop and horticultural production in 2007 and 2008 was affected by adverse weather conditions, including droughts and floods, and pest and disease outbreaks, particularly brown rice hopper infestations and leaf stint disease in the Mekong Delta. Disease outbreaks, specifically bird flu and blue ear disease, disrupted livestock production.

2.4. Consumption

While it would be useful to analyse trends in per capita consumption patterns of food products, recent consumption survey data is not readily available. Estimates can be based on supply-disposition methods but there are major sources of uncertainty associated with this data. An alternative is to estimate the monetary impact on consumers of rising food prices. The impact on consumers depends on how food prices change compared to non-food prices, the importance of food in consumption and how easily they can substitute consumption between food and non-food items.

Compensating variation (CV) measures the change in money income or expenditure needed to maintain a constant utility level after a change in prices. It has been applied in several recent empirical studies to measure the effect of changes in food prices on consumers (Ackah and Appleton, 2007; Dessus *et al*., 2008; and Leyaro, 2009). It can be shown that the estimation of CV can be formulated in terms of proportional changes and household budget shares, expressed in the following form:

$$\ln \Delta c \approx w\Delta \ln p + \frac{1}{2} w\Delta \ln p\varepsilon$$

where:

$\ln \Delta c$ is the proportional change in consumption expenditure;

w represents the share of food in consumption expenditure;

$\Delta \ln p$ is the proportion change in the price of food compared to other prices; and

ε is the price elasticity of food relative to non-food.

The second element in the equation allows for substitution effects, *i.e*. the change in the quantity demanded given a change in relative prices. The crucial elements needed to estimate CV are: (a) the change in relative prices, (b) the share of food consumption in total household budget and (c) the elasticity of substitution between food and non-food items. The first is obtained from the work done in the previous section on estimating real food inflation. The second element can be sourced from the FAO food security statistics. Price elasticises can be obtained from work done by the USDA (Seale *et al*., 2003). Maintaining consistency with the previous analysis, Table 2.7 presents the results for the price changes that have taken place in the three years since 2002/03 and the three years since 2005/06. The table shows the importance of considered factors other than simply food inflation in determining the impact on consumers.

Table 2.7. Estimation of compensating variation between 2002/03-05/06 and 2005/06-08/09

Country	Share of food in household consumption expenditure	Price elasticity of food relative to non-food	Year ended June: Relative change in price of food compared to non-food, %			Compensating variation, %		
			2002/03 – 2005/06	2005/06 – 2007/08	2005/06/ – 2008/09	2002/03 – 2005/06	2005/06 – 2007/08	2005/06 – 2008/09
Argentina	33	-0.357	6.6	2.9	-2.6	1.8	0.8	-0.7
Brazil	21	-0.391	-8.8	6.7	13.0	-1.5	1.1	2.2
Chile	23	-0.383	-4.2	11.5	19.8	-0.8	2.1	3.6
China	40	-0.390	13.9	23.9	29.8	4.5	7.7	9.6
India	50	-0.390	-1.5	11.0	17.4	-0.6	4.4	7.0
Indonesia	48	-0.391	-3.5	11.0	17.3	-1.4	4.3	6.7
Russia	33	-0.390	-2.8	4.5	9.1	-0.7	1.2	2.4
South Africa	25	-0.390	5.3	10.3	18.0	1.1	2.1	3.6
Ukraine	61	-0.393	12.0	-1.4	1.7	5.9	-0.7	0.8
Vietnam	51	-0.372	12.3	17.9	37.0	5.1	7.4	15.3
OECD	15	-0.270	-1.2	2.6	6.3	-0.2	0.3	0.8

Source: Share of food in consumption expenditure from FAO – *www.fao.org/economic/ess/food-security-statistics/en/*; price-elasticity's from USDA, International Food Consumption Patterns – *www.ers.usda.gov/data/InternationalFoodDemand/*; and changes in relative prices based on information sourced from OECD STAT and national statistical agencies.

For all countries (including the OECD), except Ukraine, the relative price of food compared to non-food rose between the year ended June 2006 and the year ended June 2008. This upward trend continued between 2008 and 2009 for all countries except Argentina, where the relative price of food fell to such an extent that it was lower in 2009 than 2006. Consequently, the estimated CV increased between the two periods for all countries but Argentina. Countries with a high share of food in consumption expenditure are hardest hit, such as in Asia. For example, consumers in India and South Africa have experienced a very similar change in relative food prices between 2005/06 and 2007/08. Both are estimated to have a similar price elasticity of substitution between food and non-food. However, food comprises 50% of household consumption in India compared to just 25% in South Africa. Consequently, the increase in consumption expenditure required to maintain utility in India is double that required in South Africa.

Having calculated the proportional change in consumption expenditure required to maintain utility between two periods as a result of changing relative prices between food and non-food, an interesting question would be to compare the estimated CV with changes in incomes driven by the overall growth of the economy. Rising food prices disadvantaged consumers, but to what extent the parallel growth in incomes eased the cost of higher food prices? Unfortunately data regarding changes in household income levels are not readily available. Thus, an alternative approach of changes in average per capita GDP measured in constant terms has been applied.

Table 2.8. Compensating variation and changes in real GDP per capita, 2005/06-2007/08 and 2005/06-2008/09

Country	Change between 2005/06 and 2007/08		Change between 2005/06 and 2008/09	
	Compensating variation	GDP per capita, constant terms	Compensating variation	GDP per capita, constant terms
Argentina	0.8	13.7	-0.7	9.8
Brazil	1.1	8.7	2.2	6.9
Chile	2.1	5.8	3.6	2.6
China	7.7	22.0	9.6	31.7
India	4.4	14.0	7.0	18.4
Indonesia	4.3	9.8	6.7	12.8
Russia	1.2	14.8	2.4	6.6
South Africa	2.1	5.4	3.6	2.0
Ukraine	-0.7	11.4	0.8	-3.4
Vietnam	7.4	12.5	15.3	16.2

Source: Table 2.7 and IMF, International Financial Statistics Database (2010).

For all ten countries, the increase in real GDP per capita between 2005/06 and 2007/08 was greater than the increase in consumption expenditure estimated to be required to maintain utility (Table 2.8). This was true even for China and Vietnam, which required the largest increase in expenditure. However, this is not the case when the period under study is extended to include 2008/09. Changes in real GDP per capita between 2005/06 and 2008/09 were less than the increase in consumption expenditure required to maintain consumer utility in Chile, South Africa and Ukraine. In all cases, with the exception of China and India, did the difference between the two rates of change decrease between 2005/06-07/08 and 2005/06/08/09. Thus, while strong economic growth until 2007/08 eased pressures on consumers resulting from higher food prices, the slow-down in GDP growth due to the global economic recession coupled with the continued rise in food prices compared to non-food prices placed strong pressure on consumers.

2.5. Production

Another factor to consider is the production response of farmers. Recent analysis shows that higher prices have encouraged an expansion in global cereal production but that this response has been concentrated mostly in the developed countries, with the majority of poor farmers in developing countries not seizing on the opportunity (FAO, 2009c). Figures 2.15-2.18 show the production and area response in the ten emerging economies for the four commodities under consideration. Changes in production and area harvested for the United States and for the world are also included for comparative purposes. Given the significant differences in production levels and areas in crop between the countries, these are indexed to the average level over the three-year period 2004-06.

In general there has been an increase in both the area and production of the three cereal crops and soybeans during 2007-09. The rates of increase have been at least equal to, and in many cases more than, that which has occurred in the United States and the world as a whole. The increase has been particularly noticeable in the case of maize where there has been a steady increase in planting and production over the three years in almost every the country.

There has been a significant increase in cereal production in Russia and wheat production in Ukraine, due to increasing prices, favourable weather conditions and government policies. For example, the mild winter conditions during early 2008, followed by the early onset of spring and very good soil moisture content resulted in an extremely good wheat harvest in 2008. Higher prices also encouraged farmers to plant more area in grains and large grain trading companies to increase investment in agricultural land, contributing to an improvement in yields. In addition, Russian cereal farmers were supported in 2008 by increased fertiliser subsidies and subsidised credit facilities as part of the State Program for Development

of Agriculture for 2008-12. The subsequent fall in prices during 2008/09 has resulted in a fall in area planted. Although coming off a very small base, rice production in Russia has increased significantly as a result of government policies that have caused domestic rice prices to rise.

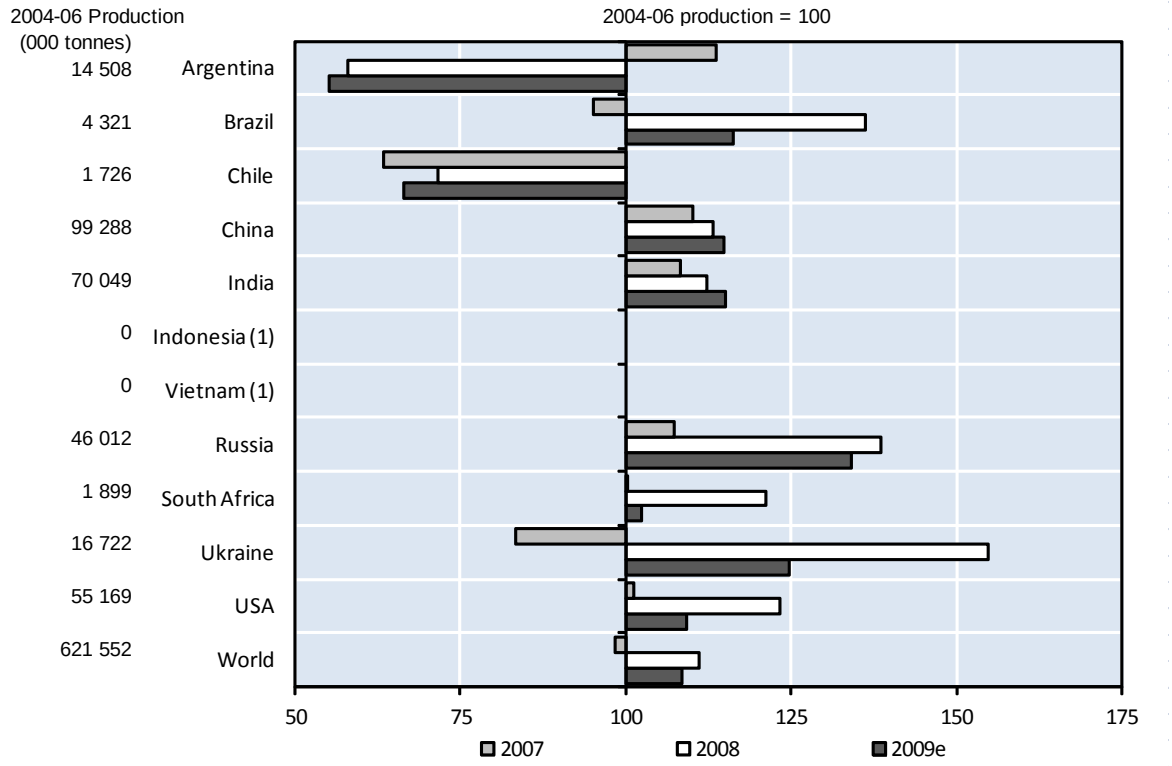
Argentina, Chile and South Africa go against this trend in terms of wheat. In Argentina, the large drop in wheat production in 2008 was mainly the result of a severe drought – with virtually no rain falling between October and December 2008 and very hot temperatures – although the area in crop had fallen by 25% from the previous year. In 2009, there was a further decrease in the area sown in wheat, falling from 4.3 million hectares in 2008 to 2.8 million hectares. This is the smallest area sown in wheat since records started more than a century ago. The incentive to produce wheat in Argentina was eroded by the 2008 drought, difficulties in raising capital to buy fertiliser and seed, and continuous government intervention in wheat trading, in particular through high export taxes. Farmers have switched to oilseed crops such as soybean and rapeseed because production costs are lower and prices have fared better. For example, around 90% of the soybean crop is exported, either as soybeans or derived products, so the export market rather than the domestic market drives farmer returns. Even with a higher export tax, farmers are choosing to produce soybeans rather than wheat and maize because successive governments have worked to keep domestic cereal prices low for urban consumers. Lower production costs and greater resilience to climatic variations are also influencing farmers to move towards soybean production over cereals.

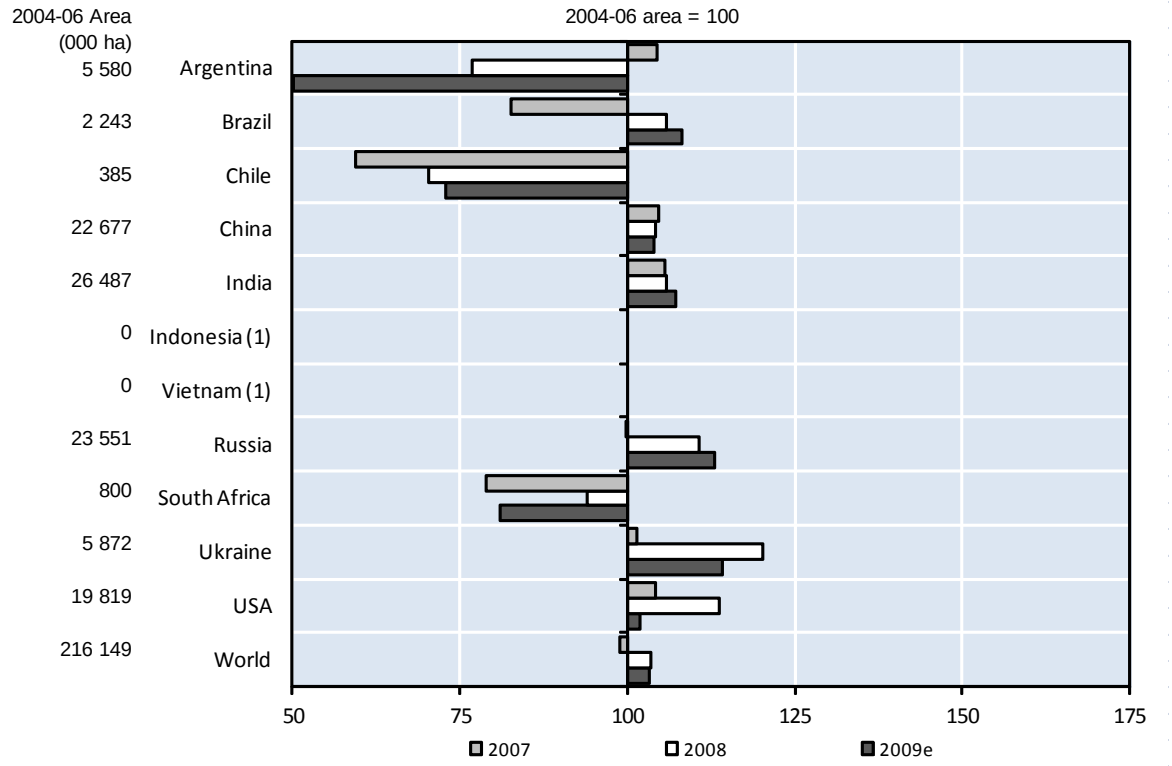
There has also been a similar, but less significant, shift from wheat to oilseed production in South Africa. In Chile, excessive rain at planting and harvest time, coupled with a fall in wheat prices during 2006, caused a significant decrease in the area and production of wheat in 2007. While the area in wheat increased in 2008 and 2009, it remains below 2004-06 levels. Increases in fuel and fertiliser prices have led farmers in some of the main wheat producing areas to switch to lower cost and less risky crops like oats.

In general there has been a steady increase in the area and volume of cereal production in the Asian countries. The 2009 rice crop in India is estimated to fall due to the late arrive of the monsoon season. In addition to small increases in the area under rice cultivation, there have been noticeable improvements in yields. For example, the 2009 harvest of rice in Indonesia, in paddy terms is at a record level of 63.84 million tonnes (40.22 million tonnes of milled rice). This represents an increase of 6% over the previous year's bumper harvest. Yields have been helped since 2007 by greater use of high quality seeds through distribution programme, rising from 4.6 tonnes/ha in 2004-06 to almost 5 tonnes/ha in 2009. There has been less of an increase in the area planted in rice in Vietnam than might have been expected from a major exporting country that may reflect the marketing uncertainties created by government policy. In contrast to most other countries, there has been a shift away from soybean production in China. Given that soybean prices in China are more closely aligned with world price movements than cereals, and increased in line with world prices during 2006-08, the reduction is a consequence of the government support policies focused on boosting grain production.

The other country with a drop in soybean area is Brazil, which has also seen a fall in rice area. This is not linked with the policy reactions by the Brazilian government but it can be explained in part by the growth in production yields for both crops over the period. A major factor behind the rise in the rice yield is the wide spread adoption of the Clearfield system for weed control. Soybean yields have risen due to a reduction in outbreaks of soybean rust, resulting in turn from the introduction of state laws prohibiting farmers from planting soybeans for a 90-day fallow period to keep soybean rust from spreading in the off-season. Improved yields have allowed farmers to increase the area of land in maize production.

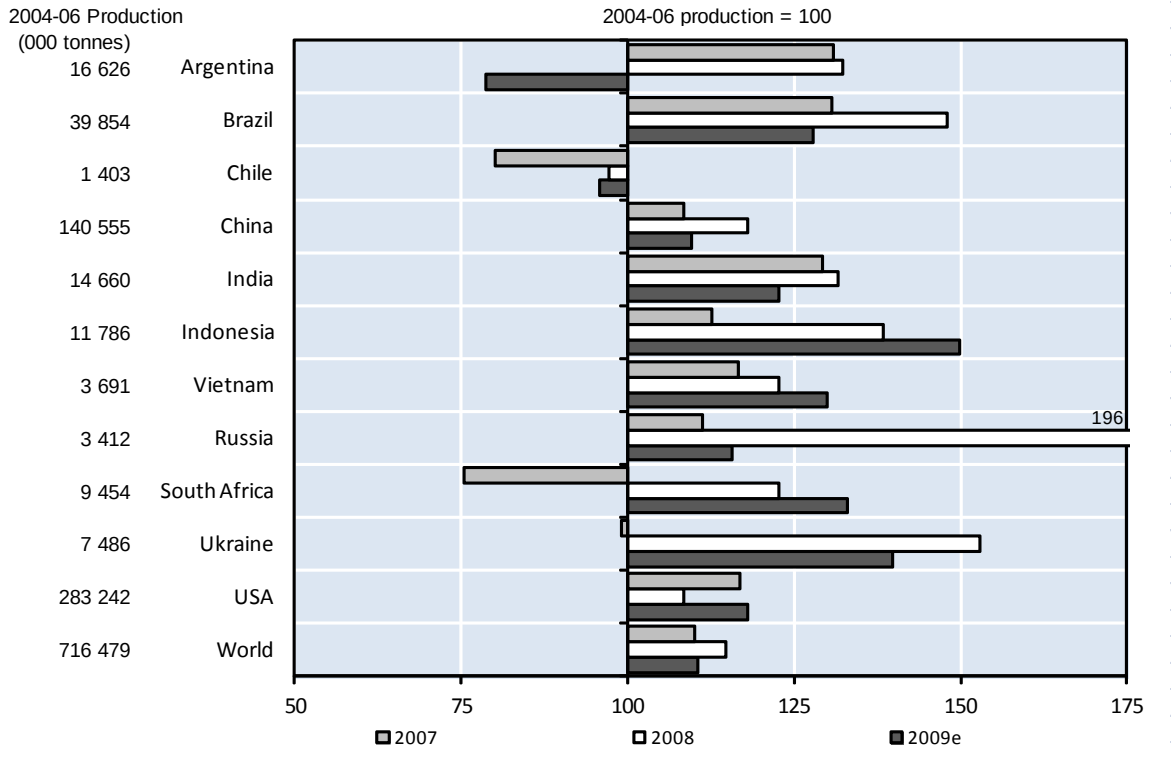
Figure 2.15. Change in wheat production and area harvested since 2004-06

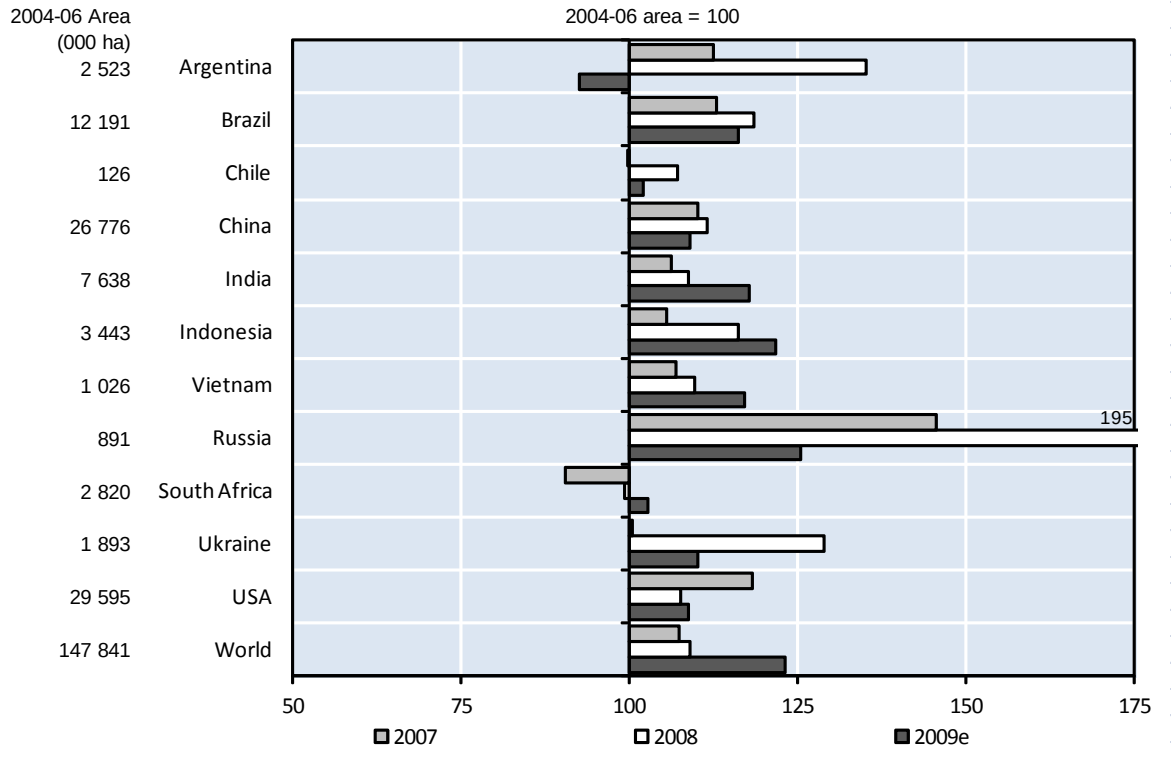




e: estimate.
1. Negligible commercial production. The area in wheat production in Russia in 2007 was very close to the 2004-06 average.
Source: FAO STAT (2010), International Grain Council (2010) and information from country sources and USDA GAIN reports.

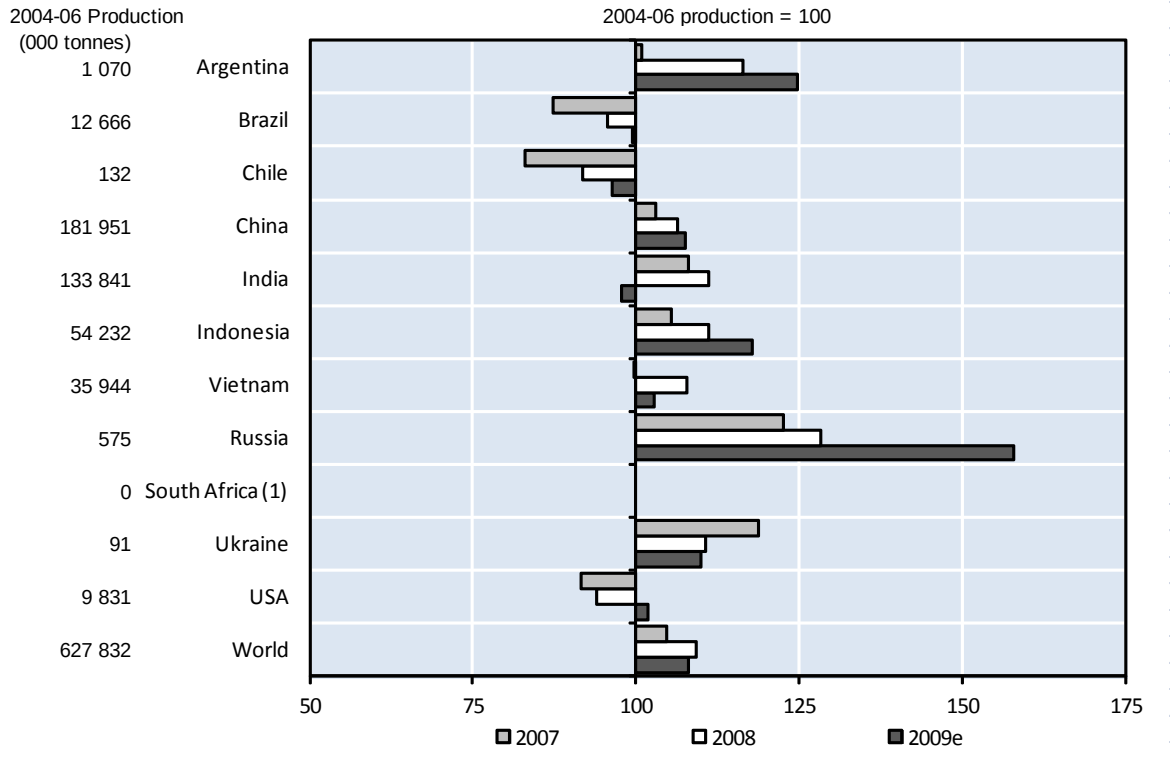
Figure 2.16. Change in maize production and area harvested since 2004-06

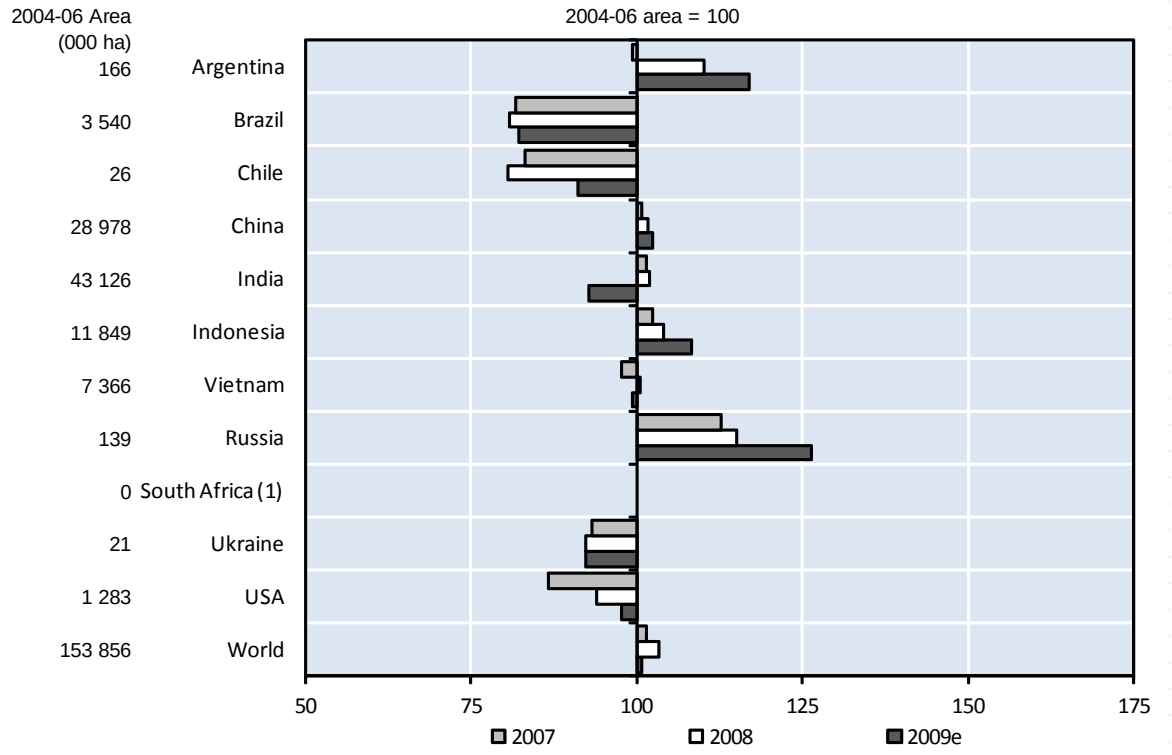




e: estimate.
Note: The area in maize production in Chile and Ukraine in 2007 was very close to the 2004-06 average.
Source: FAO STAT (2010), International Grain Council (2010) and information from country sources and USDA GAIN reports.

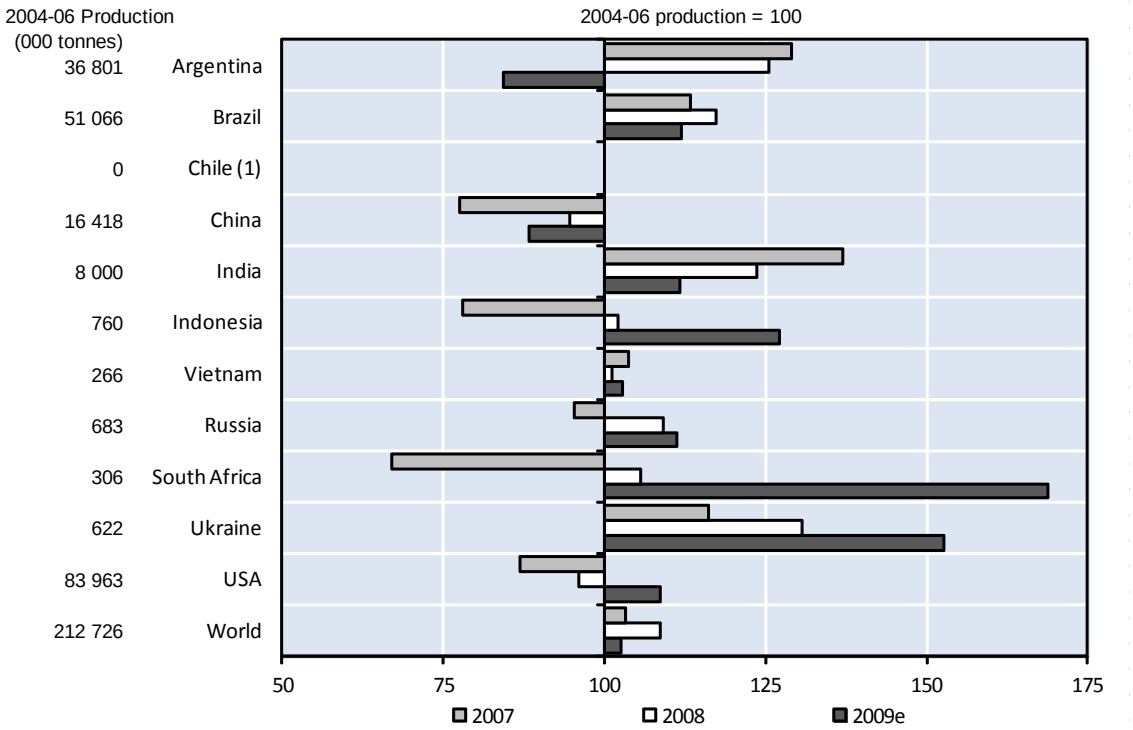
Figure 2.17. Change in rice production and area harvested since 2004-06

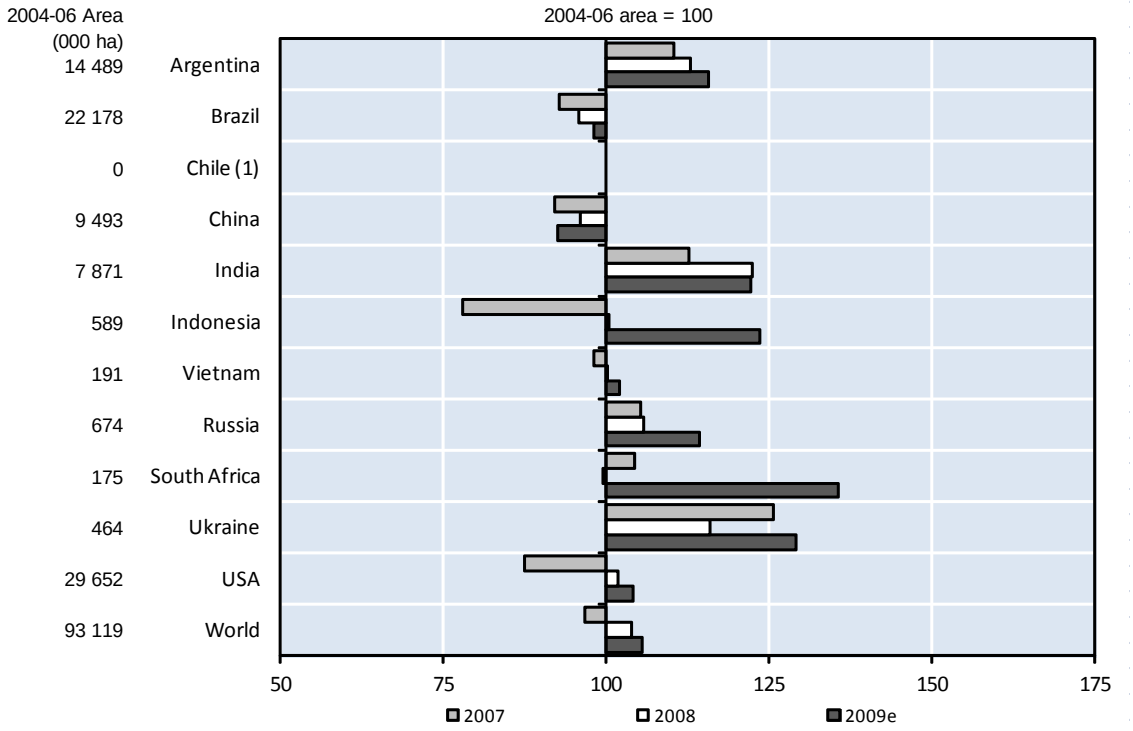




e: estimate.
1. Negligible commercial production.
Source: FAO STAT (2010), International Grain Council (2010) and information from country sources and USDA GAIN reports.

Figure 2.18. Change in soybean production and area harvested since 2004-06





e: estimate.
1. Negligible commercial production.
Source: FAO STAT (2010), International Grain Council (2010) and information from country sources and USDA GAIN reports.

ANNEX A. DETAILED TABLES OF SHORT-TERM POLICY RESPONSES (INCLUDING THE REINFORCEMENT OF ALREADY EXISTING POLICY MEASURES)

Annex Table A.1. Short-term policy responses: Argentina

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (ARS million)	
						2007	2008
M2	Increased export taxes[1] on soybeans from 23.5% to 27.5% and from 20% to 24% for derived products.[2] On 12 November 2007 these were increased further to 35% and 32% respectively.	Raise revenue and shield the market from rising international prices	Soybeans and products derived from	15 Jan 2007	Continuing	-1 238	-3 504
M2	Introduced maximum export price for dairy products, with the government retaining the difference between the export price and the maximum price. For example, the maximum price for whole milk powder was USD 2 470 in 2007 and USD 3 116 in 2008.	Raise revenue to support processors who limit price increases	Milk and milk products	Feb 2007	March 2009	-194	-226
M2	Increased export tax on wheat from 20% to 28%. On 23 December 2008 this was lowered to 23% at which time the government announced that the export tax will be lowered by one percentage point for each 1 million tonnes produced over 13 million.	Raise revenue and shield the market from rising international prices	Wheat	12 Nov 2007	Continuing	-135	-641
M2	Increased export tax on maize from 20% to 25%. On 23 December it was reduced back to 20% with the incentive that it will be reduced by 1 percentage point for each 1 million tonnes produced over 15 million tonnes.	Raise revenue and shield the market from rising international prices	Maize	12 Nov 2007	Continuing	-21	-537
M2	New export tax structure introduced, replacing the fixed percentage duties with a sliding scale of tax rate, taxing higher prices at a higher rate. The change significantly increased the export tax rates for soybeans and sunflowers but was slightly reduced for maize and wheat. However, this new method was rejected by the Senate, with export taxes reverting to their pre-March 2008 fixed levels.[3]	Curb the expansion of soybeans at the expense of food production for domestic consumption	Wheat, flour, maize, soybeans and products derived from	13 March 2008	17 July 2008	--	--
M2	Increased export tax on wheat flour from 10% to 20%. On 23 December 2008 this was lowered to 15%.	To reduce the advantage of exporting wheat flour as compared to wheat	Wheat flour	28 July 2008	Continuing	--	-49
M3	Introduced subsidies to wheat and maize mills that supply the domestic market for the country's internal consumption[4]	Compensate millers for price controls placed on consumer products	Wheat and maize	Jan 2007	Continuing	774	2 190
M3	Introduced subsidies to dairy processors that supply the domestic market for the country's internal consumption	Compensate processors for price controls placed on consumer products	Milk and milk products	Feb 2007	Continuing	194	226
M4	Since 2005, the government has signed many "price agreements" with processors and/or retailers. These agreements vary in terms of the length of time of operation, number of and type of product covered, degree to which prices can rise, etc. During the period 2007-09, price agreements with processors of milk, maize and wheat were supported by subsidies financed through the imposition of export taxes and maximum export prices.	Control retail prices	Milk, maize and wheat	2005	Continuing	--	--

Annex Table A.1. Short-term policy responses: Argentina *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (ARS million) 2007	2008
M6	Closed export registration of maize when registrations for the yet to be harvested crop in April-May 2007 reached 10.5 million tonnes[5]	To prevent domestic shortages and control increases in consumer prices	Maize	17 Nov 2006	9 May 2007	--	--
M6	Reopened export registration for an additional 3 million tonnes of maize			10 May 2007	31 May 2007	--	--
M6	Closed export registration of maize			1 June 2007	30 Jan 2008	--	--
M6	Reopened export registration of maize but the time limit between registration and shipment was reduced from one year to 45 days. On 14 August 2008 the time limit was extended to 120 days provided the exporter paid the licence fee within two days of being granted.			31 Jan 2008	16 Sept 2008	--	--
M6	Closed export registration of maize, although an additional 227 500 tonnes of maize was made available on 17 October 2008			17 Sept 2008	11 Jan 2009	--	--
M6	Reopened export registration of maize for a total of 3.5 million tonnes, with an additional 6 million made available on 11 February 2009			12 Jan 2009	Continuing	--	--
M6	Closed export registration of wheat[6]	To prevent domestic shortages and control increases in consumer prices	Wheat	8 March 2007	13 Nov 2007	--	--
M6	Reopened export registration of wheat but the time limit between registration and shipment was reduced from one year to 90 days. During the 13 days that wheat registrations were open more than 7 million tonnes of wheat was registered for export.			14 Nov 2007	27 Nov 2007	--	--
M6	Closed export registration of wheat due to severe frost in the major wheat growing regions.			28 Nov 2007	21 May 2008	--	--
M6	Reopened export registration of wheat exports but the time limit between registration and shipment was reduced from 90 days to 30 days.[7] Registration was initially limited to 100 000 tonnes for export to Brazil. On 11 June 2008 opened registration for 1 million tonnes - half to Brazil and half to other traditional markets such as Bolivia. Registration was opened for a further 0.6 million tonnes on 31 July, 1.44 million tonnes on 21 August, 1.5 million tonnes on 3 October and 1 million on 24 November. On 14 August 2008 the time limit was extended to 90 days provided the exporter paid the licence fee within two days of being granted.			22 May 2008	Nov 2008	--	--
M6	Reopened export registration of wheat with an initial limit of 1 million tonnes. Additional authorisations gave a total of 7.4 million tonnes.			6 Dec 2008	Continuing	--	--
M6	Closed export registration of soybean and derived products	To prevent domestic shortages and control increases in consumer prices	Soybeans and products derived from	8 Nov 2007	13 Nov 2007	--	--
M6	Reopened export registration but the time limit between registration and shipment was reduced from one year to 150 days. On 14 August 2008 the time limit was extended to 180 days provided the exporter paid the licence fee within two days of being granted.			14 Nov 2007	Continuing	--	--
I1	The Central Bank of Argentina expanded market operations by increasing the issue of Central Bank bills and notes	Reduce increases in money supply generated by the CBI purchase of foreign exchange in order to maintain a stable currency	All	Previously	Q3 2008	--	--

Annex Table A.1. Short-term policy responses: Argentina *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (ARS million)	
						2007	2008
I1	The CBA raised its lending (repo) and deposit (reverse repo) rates on a continual basis since these operations began in mid-2004.	Restrain demand and inflation	All	mid-2004	7 July 2009	--	--
P2	Subsidies to wheat and maize producers[4]	Compensate producers for setting fixed price set on sales to mills[8]	Wheat and maize	Jan 2007	Continuing	774	2 190

" -- ": no fiscal implication; "n.a.": not available.

1. Export duties (retenciones) of either 10% or 5% were introduced on all goods in March 2002 to cushion the domestic price effect of the major nominal devaluation of the peso (by more than 200%) and to counter the sharp fall in tax revenue. Most of the proceeds from the export tax went to finance the programme *Jefas y Jefas*, a conditional case transfer to the poor. Since being introduced, successive resolutions have altered export tax rates, with applicable duties ranging from 5% to 45% of the fob value.
2. The revenue earned from the increase is being used to fund the compensation programmes that began in 2007.
3. Farmers protested strongly against the introduction of this variable export tax regime by delaying the harvesting and selling of product, blockading highways and street protests.
4. The increase in the export tax on soybeans and derived products in January 2007 was estimated to provide 80% of the revenue needed to fund the cost of subsidising the domestic industry and producers, requiring the government to finance the rest from other sources. A split between the subsidy provided to millers and producers of wheat and maize is not available but assumed to be 50/50.
5. Since 1992, Argentina has applied a system of pre-registration for all exports of goods. The government controls exports of grains and oilseeds by temporarily suspending the registration of export sales and changing the time permitted between registration of an export and shipment.
6. Registration of wheat flour exports was also closed on 8 March 2007 but was reopened on 14 March 2007.
7. The government had announced on a number of occasions in the first half of 2008 that export registration would soon reopen, only to postpone it.
8. For example, the fixed price for wheat was ARS 370/tonne (USD 120/tonne) in 2007 and 2008 rising to ARS 420/tonne (USD 113/tonne) in 2009.
9. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:

Central Bank of Argentina (2009), *Inflation Report*, various issues, www.bcra.gov.ar.
GAIN-AR7008 (2007), *Argentina: Agricultural Situation – Argentina imposes variable export taxes; raises duty on major commodities*, USDA FAS, 3 April.
GAIN-AR8016 (2008), *Argentina: Grain and Feed – Annual*, USDA FAS, 12 April.
GAIN-AR8021 (2008), *Argentina: Oilseeds – Annual*, USDA FAS, 9 May.
GAIN-AR9005 (2009), *Argentina: Grain and Feed – Annual*, USDA FAS, 13 March.
GAIN-AR9013 (2009), *Argentina: Oilseeds – Annual*, USDA FAS, 16 April.
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Annex Table A.2. Short-term policy responses: Brazil

Label	Description of policy	Objective	Commodity	Start Date	End Date[6]	Fiscal implication (BRL million)	
						2007	2008
M1	Established a duty-free TRQ for 1 million tonnes of wheat from non-Mercosur countries to be imported before the end of June 2008. In May, the TRQ volume was increased to 2 million tonnes and the deadline for entry extended to 31 August. The Common External Tariff (CET) is 10%, with imports from Mercosur countries already duty-free.	Prevent domestic shortages in view of limited quantity of product able to be imported from Argentina	Wheat	6 Feb 2008	31 Aug 2008	--	78
M1	Established a TRQ for 80 000 tonnes of sardines at 2%. The CET is 10%.	Prevent domestic shortages	Sardines	16 Apr 2008	15 Apr 2009	--	4
M1	Eliminated the merchant marine levy (AFRMM) of 25% of the freight cost imposed on freight using Brazilian ports	Reduce border prices	Wheat and wheat flour	May 2008	Dec 2008	--	14
M1	Established a TRQ for 72 500 tonnes of palm kernel oil of 2%. The CET is 10%.	Prevent domestic shortages	Palm kernel crude oil	1 Aug 2008	31 Jul 2009	--	1
M3	Eliminated PIS/Confins social contribution tax of 9.25%	Lower consumer prices	A variety of dairy products[1]	Jun 2007	Continuing	n.a.	n.a.
M3	Eliminated PIS/Confins social contribution tax of 9.25%	Lower consumer prices	Wheat, wheat flour and bread	May 2008	Dec 2008	--	500
M7	Released government stocks	Control the extent of the price rise	Rice, maize, wheat and beans	2006	2008	--	--
I1	The Central Bank of Brazil increased its monetary policy rate (Selic) by 250 basis points (from 11.25% to 13.75%) between April 2008 and September 2008[2]	Restrain demand and inflation	All	April 2008	Jan 2009	--	--
C1	Increased benefit levels provided by Bolsa Família by 19% in 2007 and a further 15% in 2008[3]	Assist those affected by rising prices	All	2007	2008	1 441	2 843
P1	Increased the minimum guaranteed prices by up to 20% for direct government purchases through AGF and Public option programmes in 2008/09	Increase public stock levels	Wide variety	June 2008	Continuing	--	54
P2	Eliminated import tariff of 4%-6%	Reduce production costs	Some mineral and chemical fertilisers	Sept 2007	Continuing	--	28
P2	Launched the National Wheat Plan which provides an additional BRL 1.2 billion credit line at a concessional interest rate of 6.75%	Increase production by 25%	Wheat	April 2008	Continuing	--	69
P2 and P3	Expanded the amount of concessional credit available to commercial (medium to large scale) agricultural producers by BRL 7 billion (12%) to BRL 65 billion for the 2008/09 crop year. Extra capital was made available for both working capital (P2) and investment (P3).	Increase production for the purposes of raising public stock levels from 1.5 million tonnes in 2008 to 6 million tonnes in 2009	All	July 2008	Continuing	--	193
P3	Launched the "More Food" programme, which provides a new BRL 6 billion credit line to family farmers that fall within PRONAF. It also includes an agreement with manufacturers to decrease the purchase price of machinery by 11%-15%.[4]	Help family farmers purchase up to 60 000 tractors and 300 000 agricultural machines and accessories by 2010	A wide range of products[5]	July 2008	Continuing	--	300
P4	The "More Food" plan also included an increase in technical assistance and rural extension services	Increase the availability of appropriated technology and help the organisation of family farms.	A wide range of products[5]	July 2008	Continuing	--	229

" -- ": no fiscal implication; "n.a.": not available.
1. Including SMP, fermented drinks, infant formula, certain cheeses and whey for human consumption.
2. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
3. Bolsa Família (Family Bonus) was created in October 2003 by merging four existing transfer programmes. It is a conditional cash transfer programme provided to poor families below a minimum income level. The nominal benefit was held constant from 2003 until July 2007, despite a 16.7% increase in the cost of living. In July 2007, Decree 6.157 increased benefit amounts by 17% to 20% (depending on the category), thereby restoring their initial value (Grosh *et al*., 2009). It was increased again in 2008. Benefit levels were raised again in 2009 but this was due to the economic downturn. Almost 90% of benefit is used to purchase food (Curralero, 2009).
4. Farmers are able to borrow up to BRL 100 000 at 2% to purchase tractors and other agricultural machines and accessories. The overall aim is to increase production from this sector by 18 million tonnes by 2010, an extra 17%.
5. Maize, manioc, milk, soybeans, fruits, rice, poultry, pigmeat, wheat, beans, coffee and onions.
6. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:

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Annex Table A.3. Short-term policy responses: Chile

Label	Description of policy	Objective	Commodity	Start Date	End Date[3]	Fiscal implication (CHL million)	
						2007	2008
M9	The Ministry of Agriculture through its Office of Agricultural Polices and Studies (OPEDA) disseminates weekly consumer price information from strategic areas and markets of Santiago. It began with fruits and vegetables in March 2008. Red meat prices were added in October and bread in November. Prices for dairy products have been provided since 2009.	To improve the value chain and avoid speculative behaviour	All	March 2008	Continuing	--	n.a.
I1	The Central Bank of Chile raised its monetary policy rate by 325 basis points (from 5% to 8.25%) between July 2007 and September 2008;	Restrain demand and inflation	All	July 2007	Jan 2009[1]	--	--
C1	A one-off bonus of CLP 20 000 (USD 35) to 1.4 million households registered in three social aid programmes.[2] The cash payment benefited a total of 5.6 million people, the poorest 40% of the population.	Help those most affected by the rise in food and energy prices	All	May 2008	May 2008	--	28 810

" -- ": no fiscal implication; "n.a.": not available.
1. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
2. The beneficiaries included: 300 000 households registered in Chile Solidario – a programme that helps the poorest 5% of the population combat various barriers to social exclusion; 515 000 beneficiary families of the Subsidio Unitario Familiar (Unified Family Subsidy) – a family allowance for the poor who receive their bonus through the Pension Normalization Institute (INP); and 600 000 workers receiving family allowances and whose annual salary as at March 2008 amounted to less than CHL 250 000.
3. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:
Central Bank of Chile (2009), Monetary Policy Report, various issues, *www.bcentral.cl/eng/publications/policies/polit02.htm*.
Economic Commission for Latin America and the Caribbean [ECLAC] (2008), Economic Survey of Latin America and the Caribbean 2007-08, ECLAC, *www.cepal.org/cgi-bin/getProd.asp?xml=/publicaciones/xml/3/33873/P33873.xml&xsl=/de/tpl-i/p9f.xsl&base=/tpl-i/top-bottom.xslt*.
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Annex Table A.4. Short-term policy responses: China

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (CNY million)	
						2007	2008
M1	Reduced import tariff from 3% to 1%	Stabilise domestic oilseed prices	Soybeans	1 Oct 2007	30 Sept 2008	436	2 274
M1	Reduced import duties from 10% to 5%	Increase supply to meet rising consumer demand	Olive oil and coconut oil	1 June 2008	30 Sept 2008	--	20
M1	Reduced import duties from 6%-25% to 5%-6%	Increase supply to meet rising consumer demand	Variety of food products[1]	1 June 2008	31 Dec 2008	--	578
M2	Eliminated the 13% VAT rebate on exports[2]	Reduce exports, thereby lowering demand for grains[3]	Ethanol	1 Jan 2007	Continuing	--	-59
M2	Eliminated the export rebate of 13% of declared value at exporting port	Curb the increase in prices and increase domestic supplies	Grains and soybeans, and their derived flour by-products	20 Dec 2007	Continuing	--	-916
M2	Introduced export taxes: 5% on maize, rice, sorghum, millet, soybeans and soybean flour/meal; 10% on flours of maize and rice and maize starch; 20% on wheat, rye, barley and oats; and 25% on wheat and rye flour and wheat starch. On 1 December 2008, the export taxes on maize, maize flour and maize starch, and sorghum, millet, rye, barley and oats were eliminated. At that time export taxes on wheat and rice lowered to 3% and on wheat flour and wheat starch to 8%.	Reduce rising food prices by discouraging exports	Grains and soybeans, and their derived products	1 Jan 2008	30 Jun 2009	--	-684
M2	Eliminated the VAT rebate on exports - which ranged from 13%-17%	Contain rising food prices	Vegetable oils	13 June 2008	Continuing	--	-467
M4	Introduced price controls whereby wholesalers and retailers must register one-off increases of 5% or more or accumulated rises of 8% over October 2007 prices	Contain rising food prices	Food grains, vegetable oils, pork, beef, mutton, dairy products and eggs	26 Jan 2008	1 Dec 2008	--	--
M6	Limited the issue of export quotas[4]	Ensure domestic supply	Maize, rice and wheat	2007	Continuing	--	--
M6	Introduce export licensing requirements	Cap the volume of exports should the export tax not prove high enough	Flours of wheat, maize and rice	1 Jan 2008	Continuing	--	--
M7	Market intervention with stocks from national reserve	Increase supply	Rice and wheat	2007	2008	--	--
M8	Ceased approval of any new grain processing plants, including those for bio-fuel production	Cap industrial consumption	Grains	2007	2008	--	--
M9	Introduces new reporting system for imports of certain bulk agricultural commodities	To better monitor domestic supply and international price trends	Wide variety	August 2008	Continuing	--	--
I1	The People's Bank of China (PBC) expanded market operations by increasing the issue of central bank bills and bond repos	Reduce increases in money supply generated by the PBC purchase of foreign exchange in order to maintain a stable currency	All	Early 2007	July 2008	--	--

Annex Table A.4. Short-term policy responses: China *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (CNY million)	
						2007	2008
I1	The PBC raised the reserve requirement ratio (RRR) for financial institutions by 8.5 percentage points between 15 January 2007 and 25 September 2008. For example, the RRR for general financial institutions increased from 9% to 17.5%.	Reduce the private sectors capacity to create money	All	Jan 2007	Sept 2008	--	--
I1	The PBC raised its lending and deposit rates six times between March 2007 and December 2007. For example, the one-year deposit rate increased by 162 basis points, from 2.52% to 4.14%.[5]	Restrain demand and inflation	All	March 2007	Sept 2008	--	--
I1	The PBC expanded the daily floating band of CHY to USD trading price on the inter-bank spot market from 0.3% to 0.5%, thereby allowing the CHY to appreciate at a faster rate than otherwise	Promote a more balance BOP account	All	21 May 2007	Continuing	--	--
C1	Increased monthly payments through the "Minimum Livelihood Guarantee Scheme" (the urban Di Bao program) by 23% in 2007 (from CHY 83 to CHY 102 per person per month) and raised the maximum income threshold level below which persons become eligible for the payments[6]	Offset rising food and fuel prices	All	2007	2008	2 940	4 000
P1	Raised minimum support prices by 9%-10%[7]	To stimulate domestic production	Rice	2008	Continuing	--	3 150
P2	Raised minimum support prices by 4%-7%[7]	To stimulate domestic production	Wheat	2008	Continuing	--	2 520
P2	Increased expenditure on the comprehensive subsidy on inputs programme by 131%	Compensate farmers for price increases in fuel, fertiliser and other agricultural inputs	Grains	2008	Continuing	--	36 200
P2	Expanded the area covered by the seed subsidy programme, resulting in a 82% increase in expenditure[8]	Increase production by raising yields	Grains and oilseeds	2008	Continuing	--	5 440
P2	Imposed export duty of 20% on phosphate fertilisers in February 2008. This was extended to a 100% export duty on all fertilizer and related material exports between 20 April and 30 September 2008 (affecting 32 tariff lines including phosphoric acid, ammonia, nitrogen, phosphate, potash, and compound fertiliser). In early September 2008, the export tariff on fertilisers was raised to 150%.	Help restrain rising prices and guarantee an abundant grain harvest for the year.	Fertiliser	15 Feb 2008	24 Jan 2009	n.a.	n.a.
P2	Reduced tariffs from 5% to 2%	Ensure adequate supply for livestock producers	Soybean and peanut meal and feed	1 June 2008	31 Dec 2008	15	--
P3	Increased expenditure on the farm machinery purchase programme by 233% and expanded it from two-thirds of agricultural counties to all	Help restrain rising prices and guarantee an abundant grain harvest for the year.	Rice, wheat and maize	2008	Continuing	--	2 800
P5	Announced that the government will examine the scale and standard of planned land use, implement the system of the land utilization regulation, manage the land for construction purpose by rural collectives and individuals by law, and stop the behaviour of illegal occupation of the farmland and forestry land.	Help meet the "red line" on arable land of no less than 120 million hectares	Grains	March 2008	Continuing	--	--

" -- ": no fiscal implication; "n.a.": not available.
1. Food products are frozen pork, frozen fish (cod, haddock and coalfish), whey and modified whey, pistachios, infant formula for retail sale, malt extracts and yeast.
2. Export and VAT rebates have been part of the tax incentive policy implemented to encourage exports of all categories of commodities since the 1980s. Export rebates for products containing agricultural inputs were increased in 2007 from 5% to 11%-13% to promote the use of agricultural inputs in domestic production for the export market.
3. In the Chinese bio-fuel industry, grain is used for ethanol production. Four plants use grain-based feedstock - 80% of production based on maize and 20% on wheat/rice.
4. Agricultural products subject to export quotas are cotton, maize, rice, wheat and tea. Exports of cotton, maize and rice also subject to state trading.
5. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
6. Expenditure only relates to increase in central government share of payments. The programme also receives funding from provincial governments.
7. Minimum support prices for different varieties of rice and wheat had been unchanged since they were introduced - in 2004 for rice and 2006 for wheat. They were increased again for 2009: 16%-17% for rice and 13%-15% for wheat.
8. While the unit subsidy level remained the same, the area covered by the programme increased greatly. For example, the area for wheat increased from 6.7 million hectares in 2007 to 13.3 million in 2008, and for maize from 2 million to 13.3 million hectares.
9. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:

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Annex Table A.5. Short-term policy responses: India

Label	Description of policy	Objective	Commodity	Start Date	End Date[12]	Fiscal implication (INR billion)	
						2007	2008
M1	Tariffs reduced from 10% to 0%	Contain rising prices	Pulses	8 June 2006	31 Mar 2009	4	5
M1	Tariffs reduced from 50% to 5% for private sector imports, and then to 0% effective 9 September 2006. Wheat imports by government agencies (*e.g.* the State Trading Corporation) already enter duty-free. The private sector is obliged to adhere to the same quality standards as those followed by government agencies.[1]	Alleviate the shortage of wheat on the domestic market and thereby reduce prices	Wheat	28 June 2006	Continuing	n.a.	n.a.
M1	Tariffs reduced from 50% to 0%	Encourage imports to steady price rises	Maize	25 Jan 2007	31 Dec 2007	0.04	--
M1	Tariffs reduced from to 75%-80% to 40%-45% on 23 July 2007, and then to 20% on 21 March 2008, and then to 0% effective 1 April 2008. The tariff on crude soy was raised back to 20% in November 2008 but reduced back to 0% on 19 March 2009.[2]	Encourage imports to steady price rises	Crude palm, soy and sunflower seed oils	23 July 2007	Continuing	23	70
M1	Tariff reduced from 36% to 0%	Encourage imports to steady price rises	Wheat flour	2 Jan 2008	31 Mar 2009	--	4
M1	Tariffs reduced from 70%-80% to 0% - originally until 31 March 2009 but has been extended until 30 September 2010	Encourage imports to steady price rises	Rice	21 March 2008	Continuing	--	0
M1	Tariffs reduced from 40%-75% to 20%-27.5%, and then to 7.5% effective 1 April 2008	Encourage imports to steady price rises	Refined palm, soy and sunflower seed oils	21 March 2008	Continuing	--	19
M2	Introduced export tax of INR 8 000 per tonne (approx USD 200)	Discourage exports	Basmati rice	29 Apr 2008	20 Jan 2009	--	n.a.
M5	State Trading Corporation of India imported, via public tenders, 5 million tonnes of wheat in 2006/07 and 2 million tonnes in 2007/08	Stabilise prices on the domestic market	Wheat	2006	2008		
M5	Introduced subsidy on edible oil imports by public sector companies	Encourage imports to steady price rises	Edible oil	2008	Continuing	--	5
M6	Imposed export ban on all pulses with the exception of kabuli chana (garbanzos)	Limit rising prices	Pulses	22 Jun 2006	31 Mar 2009	--	--
M6	Imposed export ban	Limit rising prices	Milk powders	1 Feb 2007	30 Sept 2007	--	--
M6	Imposed export ban - although government-to-government sales have been allowed.[3] Wheat seeds were permitted from 18 September 2008.	Limit rising prices	Wheat and wheat products	9 Feb 2007	2 Jun 2009	--	--
M6	Established export quota of 650 000 tonnes			3 Jun 2009	31 Mar 2010	--	--
M6	Imposed export ban - although food aid exports are exempt	Limit rising prices	Non-basmati rice	9 Oct 2007	30 Oct 2007	--	--
M6	Introduced minimum export price (MEP) of USD 425 tonne. This was increased to USD 500 on 27 December 2007, to USD 650 on 5 March 2008 and USD 1 000 on 27 March 2008.			31 Oct 2007	31 Mar 2008	--	--
M6	Re-imposed export ban[4]			1 April 2008	Continuing	--	--
M6	Introduced MEP of USD 950 per tonne. This was increased to USD 1 100 on 27 March 2008 and to USD 1 200 on 1 April 2008. It was reduced to USD 1 100 on 20 January 2009 and to USD 900 on 7 September 2009.	Limit rising prices	Basmati rice	5 Mar 2008	Continuing	--	--

Annex Table A.5. Short-term policy responses: India *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[12]	Fiscal implication (INR billion)	
						2007	2008
M6	Restricted exports to Mundra and Pipavav ports only. Expanded on 1 April 2008 to also allow exports via Kandla, Kakinada, Kolkata and JNPT Mumbai.	Limit rising prices	Basmati rice	17 Mar 2008	Continuing	--	--
M6	Imposed export ban	Limit rising prices	Maize	3 July 2008	15 Oct 2008	--	--
M7	Released government held stocks	Keep prices in check	Rice and wheat	2006	Continuing	--	--
M8	Restrictions on the movement of wheat by rail by private traders	Maximise state procurement of harvest	Wheat	April 2008	May 2008	--	--
M8	Issued Central Order under the Essential Commodities Act 1955 to enable state governments to invoke limits on private sector (wholesaler and retailer) stock holdings - stocks of imported oils exempted	To prevent hoarding and facilitate state procurement at a time of tight supplies	Edible vegetable oils, pulses, rice and wheat	29 Aug 2006	Continuing[5]	--	--
M9	De-listed from futures trading	To reduce speculative pressure on prices	Two varieties of lentils - Urad (mung beans) and Tur (pigeon pea)	23 Jan 2007	Continuing	--	--
M9	De-listed from futures trading		Rice	28 Feb 2007	Continuing	--	--
M9	De-listed from futures trading		Wheat	28 Feb 2007	15 May 2009	--	--
M9	De-listed from futures trading		Soya oil, rubber, potatoes and chickpeas	7 May 2008	30 Nov 2008	--	--
M9	Created a 5 million tonne "strategic reserve" of food grains – 3 million tonnes of wheat and 2 million tonnes of rice. These stocks are in addition to the buffer stocks already maintained for the PDS.[6]	Strengthen food security and meet emergency needs	Rice, wheat	25 April 2008	Continuing	--	--
I1	The Reserve Bank of India (RBI) raised the cash reserve ratio (CRR) by 400 basis points (from 5% to 9%) between December 2006 and August 2008[7]	Control monetary expansion	All	23 Dec 2006	11 Oct 2008	--	--
I1	The RBI raised its repo rate - the rate at which it lends funds to banks - by 125 basis points (from 7.75% to 9%) between June 2008 and August 2008[7]	Control monetary expansion	All	12 June 2008	20 Oct 2008	--	--
C2	Maintain central issue prices for products released through the Public Distribution System[8]	Maintain availability for the poorest	Wheat and rice	2007	Continuing	74	198
C2	Launched distribution on subsidised edible oils (1 million tonnes at a subsidy rate of INR 15 kg) to below-the-poverty line population through PDS	Increase availability for the poorest	Edible oils	17 July 2008	Continuing	--	15
P1	Raised minimum support price (MSP) on product procured by the Food Corporation of India (FCI) from INR 6 400 tonne in the 2005/06 season to INR 7 000 in 2006/07, INR 8 500 in 2007/08, INR 10 000 in 2008/09 and INR 10 800 in 2009/10[9]	To build up reserve stocks	Wheat	1 April 2006	Continuing	9	77
P1	Raised MSP on product procured by the FCI from INR 5 700 tonne paddy (common) in the 2005/06 season to INR 6 200 in 2006/07, INR 7 450 in 2007/08, INR 9 000 in 2008/09 and INR 10 000 in 2009/10[9]	To build up reserve stocks	Rice	1 Oct 2006	Continuing	26	101
P1	Raised minimum support prices[10]	To match increases for food grains	Coarse grains and oilseeds	2006	Continuing	n.a.	n.a.

Annex Table A.5. Short-term policy responses: India *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[12]	Fiscal implication (INR billion)	
						2007	2008
P2	Maintained constant price of fertilisers in fact of rising world prices. In addition, due to a new pricing regime based on nutrient content, prices of various complex fertilisers were reduced by 18% on average.	Provide farmers with fertilisers at reasonable prices and give producers of fertilisers a reasonable return on their investment	All	July 2008	Continuing	80	534
P2, P3 and P4	Launched the National Food Security Mission	To increase production on a sustainable basis[11]	Rice, wheat and pulses	Aug 2007	Continuing	--	9

" -- ": no fiscal implication; "n.a.": not available.
1. Data on the quantity of imported by private traders is unavailable although it is likely to be negligible. High phytosantiary requirements raise cleaning costs and risk cargo rejection at port in India. As a result the import price of wheat is higher than other countries for similar quality wheat.
2. In addition, the reference prices used for calculating the value of tariff duty of edible oils have were kept at their September 2006 levels.
3. The export ban on wheat was originally intended to last until 31 December 2007 but was extended indefinitely on 8 October 2007. The government allocated 2 million tonnes for export in 2008 but there were no large commercial shipments, just small shipments humanitarian exports to Afghanistan, Maldives, Myanmar and Nepal.
4. Although not genetically related to basmati rice, from 5 September 2008, the export of the long-grained aromatic variety Pusa-1121 has been permitted subject to the conditions imposed on basmati rice. In October 2008 permission was given to export 55 000 tonnes to Cameroon, Ghana, Nigeria and Senegal through the State Trading Corporation of India. On 7 May 2009, the government permitted the export of 1 million tonnes by state firms to 21 countries.
5. With the exception of wheat which, where the Order expired on 30 March 2009.
6. Existing "end of season" desired buffer stock levels for the operation of the central pool (to supply the PDS system and other public welfare schemes) are 4 million tonnes of wheat and 5.2 million tonnes of rice. The fiscal cost of purchasing product for this strategic reserve is included in the estimated costs associated with raising the MSP for wheat and rice.
7. End date is the month in which the CRR or repo rate was reduced in order to stimulate the economy.
8. The government has not increased the central issue prices for rice and wheat released through the PDS since 1 July 2002. Since that time support prices have increased by over 80% in the case of rice and over 70% for wheat. This has contributed to a significant increase in the food subsidy that covers the difference between the cost of procuring and distributing food grains and the release price.
9. These prices include incentive bonuses that are sometimes announced during the season on top of the originally announced MSP. MSP had been relatively stable for the previous six seasons.
10. Minimum support prices for these commodities remain below market prices so only very small quantities are purchased.
11. The Mission attempts to do this by bridging the yield gap through the dissemination of improved technologies and farm management practices so as to ensure food security. Targets include raising production of rice by 10 million tonnes, wheat by 8 million tonnes and pulses by 2 million tonnes by 2011-12.
12. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:

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Annex Table A.6. Short-term policy responses: Indonesia

Label	Description of policy	Objective	Commodity	Start Date	End Date[11]	Fiscal implication (IDR billion)	
						2007	2008
M1	Lowered tariff from IDR 450/kg to IDR 200/kg[1]	Reduce the cost of imports made by Bulog	Rice	March 2007	May 2007	25	--
M1	Removed 5% tariff	Ease depressed consumer purchasing power	Wheat flour	21 Jan 2008	28 Jan 2009	--	132
M1	Removed 10% tariff	Offset soaring prices	Soybeans	14 Jan 2008	14 July 2008	--	338
M2	Increased base export prices (set monthly) and export taxes on crude palm oil (CPO) and its derivatives.[2] For example, the base price for CPO was increased from USD 458/t in 2006 to USD 1 196/t in April 2008. The export tax on CPO was raised from 1.5% in 2006, to 6.5% in June 2007, 10% in September 2007 and 20% in April 2008. The export tax was removed on 1 November 2008.	Limit the quantity of exports and increase the supply of cooking oil sold on the domestic market	Crude palm oil and its derivatives	Feb 2007	Nov 2008	n.a.	n.a.
M3	Introduced price stabilisation programme involving the distribution of 40 000 tonnes of bulk cooking oil at reduced prices in major population areas	Lower domestic prices by 23%	Non-branded cooking oil	21 May 2007	Nov 2007	160	--
M3	Removed the 10% VAT[3]	Increase consumer purchasing power	Non-branded and packaged cooking oil	24 Sept 2007	Dec 2008	12	86
M3	Removed the 10% VAT	Offset soaring prices	Soybeans	14 Jan 2008	14 Jul 2008	--	742
M3	Removed the 10% VAT	Maintain an affordable wheat flour price for consumers	Wheat and wheat flour	Feb 2008	Jan 2009	--	2 328
M3	Introduced subsidy to small-scale producers of tofu and fermented soybean cake (tempeh) of IDR 1 000 kg soybeans	Reducing price pressure on low income consumers	Soybeans	April 2008	Sept 2008	--	50
M5	Permission given to Bulog (National Logistic Supply Organisation) in December 2006 to import 0.5 million tonnes of rice in early 2007.[4] In February 2007, Bulog was given permission to import a further 1 million tonnes in 2007.[5]	Increase supply to prevent further increases in domestic prices	Rice	Jan 2007	Dec 2007	--	--
M5	Bulog given authority to decide when, how much and what type of rice needs to be imported. The imported rice may be used for increasing government reserves, distribution through Raskin or be directly released on to the market to stabilise prices.[6]	Stabilise price of lowest quality rice at IDR 4 750/kg (USD 0.52/kg) until January 2008	Rice	Sept 2007	11 April 2008	--	--
M5	Lifted the Indonesian National Standard (est. June 1988) for wheat flour, thereby removing the requirement that imported wheat be fortified with iron, zinc, thiamine, riboflavin and folic acid	Increase supply possibilities	Wheat flour	Jan 2008	July 2008	--	--
M5	Approved the importation of meat and bone meal from two additional US rendering plants in February 2008 and another two in March 2009 bringing the total to five	Increase supply possibilities for domestic animal feed millers from a cheaper source	Meat and bone meal	Feb 2008	Continuing	--	--
M6	Instructed producers of crude palm oil to increase the amount supplied for the manufacture of domestic cooking oil by 50% as high world prices were encouraging them to export more product	Lower domestic prices	Non-branded cooking oil	1 May 2007	Dec 2007	--	--

Annex Table A.6. Short-term policy responses: Indonesia *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[11]	Fiscal implication (IDR billion)	
						2007	2008
M6	Appointed Bulog the sole exporter of non-glutinous and non-fragrant rice, subject to approval of the Ministry of Trade, and was prohibited from exporting any rice unless its stocks were at least 3 million tonnes, more than double existing levels. Any company can export glutinous rice, subject to approval of the Ministry of Trade.[7]	Limit exports and control local prices	Rice	11 April 2008	May 2009	--	--
M7	Instruction given to BULOG in December 2006 to release stocks onto the market – 50 000 tonnes in December	Bring down domestic prices	Rice	Dec 2006	Dec 2006	--	--
M9	Announced plans to increase the buffer stock level from 1 million to 3 million tonnes as part of a major plan to intensify production on 300 000 hectares	Ensure domestic price stability	Rice	May 2008	Continuing	--	--
I1	The Bank of Indonesia increased its open market operations - with its position widening from IDR 39 trillion to IDR 281 trillion	Absorb excess liquidity	All	Jan 2007	Dec 2007	--	--
I1	The Bank of Indonesia sold foreign exchange from reserves[8]	Suppress exchange rate depreciation pressure	All	Jan 2008	June 2008	--	--
I1	The Bank of Indonesia raised its base interest rate by 150 basis points (from 8% to 9.5%) between May 2008 and October 2008[9]	Restrain demand and inflation	All	May 2008	Dec 2008	--	--
C1	Provided subsidised cooking oil (IDR 2 500 litre) for 19.1 million poor households	Offset the impact of rising cooking oil prices for the poorest	Cooking oil	Feb 2008	July 2008	--	516
C2	Expand the distribution of subsidised rice through Rankin (Rice for the Poor programme). For 2007, the number of eligible households was increased to 15.8 million, from 10.8 million in 2006. For 2008, the number of eligible households was increased to 19.1 million. In addition, the monthly rice ration was increased from 10 to 15 kg for 9 out of the 10 months, although the price paid for the rice was increased from IDR 1 000/kg to IDR 1 600/kg. For 2009, the number of households eligible was reduced to 18.5 million but the monthly ration was provided for the full 12 months of the year, with the subsidised price remaining the same.	Offset the impact of rising rice prices for the poorest	Rice	Feb 2008	Continuing	2 346	4 806
P1	Raised the government reference purchase prices (HPP) for rice. For example, the paddy rice price was raised by 15% in 2007, 10% in 2008 and 5% in 2009.[10]	To offset rising production costs and to track increases in world prices	Rice	2007	Continuing	675	2 400
P2	Expanded the seed assistance programme which distributes free seeds to farmers - increased the quantity of seeds provided rice farmers and included corn and soybean seeds	To increase production by raising yields	Rice, maize, soybeans	Jan 2007	Continuing	875	3 135
P2	Increase fertiliser subsidies. The maximum retail price of fertiliser has not changed since January 2007.	Increase production	Rice	Jun 2008	Continuing	3 095	12 016

" -- ": no fiscal implication; "n.a.": not available.
1. In a move to protect farmers, the import tariff was raised from IDR 450/kg to IDR 550/kg between September 2007 and February 2008, at which point it was lowered back to IDR 450/kg.
2. The base price is used to calculate the export tax paid and is determined by the CIF price in Rotterdam.
3. On 8 January 2007, the 10% VAT was removed on a number of strategically important agricultural products including corn, meat, poultry, eggs and fresh milk. However, the purpose of this was to improve and increase the competitiveness of the sector rather than offset the impact of rising prices and so is not included in the table.
4. Bulog can only import rice when its stocks fall below 1 million tonnes or the retail market price of medium grade rice exceeds ISD 3 550/kg (USD 3.90/kg). In 2006, Bulog was instructed to and imported a total of 320 000 tonnes in order to rebuild buffer stocks. In 2008, Bulog was authorised to import 0.57 million tonnes but only imported 70 000 tonnes due to the good rice harvest that year.
5. In order to ensure the quick delivery of the 1 million tonnes, Bulog appointed a small number of private companies (approximately 10) to import 20% of this quantity, and distribute it subject to official price ceilings. This was the first time since 2004 that private traders had been allowed to engage in the importation of medium quality rice. On 10 January 2004, the government announced a seasonal ban on rice imports between January and June - one month prior to and two months after the peak harvest season. This ban was repeatedly extended to take on the character of a permanent ban. Private traders are permitted to import glutinous and other specialty rice.
6. On 11 April 2008, the government issued "new" import requirements that are essentially the same as those established in 2004.
7. These export restrictions were put in place as world prices of rice rose above Indonesian prices for the first time in many years.
8. In the second half of 2008, continued excess demand for foreign currency (due to high import prices for gas) and further contraction of supply (due to collapse in commodity prices) and lower foreign reserves forced Bank Indonesia to give up on this policy and allow the rupiah to depreciate.
9. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
10. Since March 2005 these no longer provide a floor to producer prices, as there is no obligation for the government to purchase unlimited amounts of rice at these levels. They are called "reference" prices to guide BULOG in its marketing operations.
11. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:
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Annex Table A.7. Short-term policy responses: Russia

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (RUB million)	
						2007	2008
M1	Reduced tariffs from 5% to 0%. The reduction was initially for the nine-month period from September to June, but was extended for a further nine months in June 2008, and a further 2.5 months in April 2009.	Reduce price pressure	Palm, coconut (copra) and palm kernel oils in bulk	12 Sept 2007	31 May 2009	171	1 030
M1	Reduced tariffs from 15% to 5%	Reduce price pressure	Milk and milk products	1 Nov 2007	30 April 2008	390	926
M1	Reduced tariffs from 15% to 5%. The reduction was initially for the six-month period from December to May, but was extended at the beginning of June for a further seven months.	Reduce price pressure	Soybean, rapeseed and sunflower seed oils[1]	1 Dec 2007	31 Dec 2008	7	335
M2	Introduced export tax of 10%, but not less than EUR 22 tonne, on exports to countries outside the Customs Union Agreement (CUA).[2] Effective 28 January, the export tax was raised to 40%, but not less than EUR 105 tonne. Effective 18 March, exports to Belarus and Kazakhstan were banned to avoid circumvention of the export duties. The export tax and ban, which were initially supposed to end on 30 April 2008, were extended in March to the end of June.[3]	Restrain rise in domestic prices	Wheat and meslin	12 Nov 2007	30 June 2008	-1 360	-2 158
M2	Introduced export tax of 30%, but not less than EUR 70 tonne, on exports to countries outside the CUA.[2] The export tax was initially to end on 30 April 2008 but was extended in March to the end of June.[3]	Restrain rise in domestic prices	Barley	12 Nov 2007	30 June 2008	-15	-45
M3	Introduced subsidised interest rates on working capital loans for processors to acquire raw materials. Companies applying for the subsidised loans must agree to maintain price controls.	Maintain consumer prices	Processor of staple food products[4]	24 Oct 2007	30 April 2008	--	--
M4	Prices for staple foodstuffs were frozen at their 15 October level in a formal agreement signed between the Ministry of Agriculture and major food processors and retailers on 24 October 2007. Under the terms of original agreement, prices for these products were to be frozen until 31 January 2008. A new agreement, signed on 31 January, extended the price freeze for a further three months although the ceiling level at which prices were frozen was increased by 10%-15%.	Maintain consumer prices	Staple food products[4]	24 Oct 2007	30 April 2008	--	--
M5	Approved additional dairy factories in Ukraine and Belarus for exporting to Russia	Increase supply possibilities	Milk and milk products	May 2008	Continuing	--	--
M7	Release 1.3 million tonnes of grain (85% of intervention stock), predominately in large industrial centres and grain importing regions	Restrain domestic prices	Grain	Oct 2007	June 2008		--
M9	Issued a resolution ordering the Federal Antimonopoly Service to work with regional leaders to ensure producers and food retailers are observing antimonopoly legislation, with special attention paid to dairy products	Restrain domestic prices	All	Nov 2007	Continuing	--	--
I1	The Central Bank of Russia raised its fixed rates on deposit operations conducted with credit institutions	Reduce money supply levels	All	March 2006	April 2009	--	--

Annex Table A.7. Short-term policy responses: Russia *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (RUB million)	
						2007	2008
I1	The Central Bank of Russia raised the required reserve ratios on credit institutions liabilities' by around 50%[5]	Alleviate inflationary pressure	All	Jan 2008	Sept 2008	--	--
I1	The Central Bank of Russia raised its refinancing interest rate by 300 basis points (from 10% to 13%) between February 2008 and December 2008[6]	Restrain demand and inflation	All	Feb 2008	April 2009	--	--
P1	One-off subsidy to pork and poultry producers based on the quantity of live-weight shipped for slaughter over the period January-June 2008[7]	Offset rising feed prices	Pork and poultry	Jan 2008	June 2008	--	10 000
P1	Increased grain procurement prices by 60% in 2008/09.[8] The increased prices were announced in March 2008, four months before the start of harvest, the earliest ever announced.	Increase intervention stocks	Wheat and rye	July 2008	June 2009	--	46 100

" -- ": no fiscal implication; "n.a.": not available.
1. The tariff reduction applied to all types of soybean and rapeseed oils but just to bulk shipments of sunflower seed oil.
2. Members of the Customs Union Agreement (CUA) are Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan.
3. Fiscal revenue is estimated by assuming that the minimum export tax is paid on the quantity of product exported during the period, excluding exports to the members of the CUA.
4. Including wheat bread, rye bread, milk (fat content 1.5% or more), kefir (fat content 1% or more), bottled sunflower seed oil and poultry eggs.
5. For example, the reserve ratio for liabilities to non-resident banks was raised from 3.5% to 8.5%.
6. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
7. RUB 10/kg (USD 0.40/kg) for pigs and RUB 5/kg (USD 0.20/kg) for poultry. This policy was announced on 6 October 2008 and paid retrospectively.
8. The government was not able to purchase grain for the intervention fund in 2007/08 as market prices increased far above procurement price levels determined for the 2007 crop.
9. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

Sources:
Central Bank of Russia (2010), Annual Report, various years, CBR, Moscow, www.cbr.ru.
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Annex Table A.8. Short-term policy responses: South Africa

Label	Description of policy	Objective	Commodity	Start Date	End Date[9]	Fiscal implication (ZAR million)	
						2007	2008
M8	Reduction in target penetration of bio-fuels from 4.5% to 2%[1]	Minimise food security concerns	All	Dec 2007	Continuing	--	--
I1	The South African Reserve Bank raised its monetary policy rate by 500 basis points (from 7% to 12%) between June 2006 and June 2008[2]	Restrain demand and inflation	All	June 2006	Dec 2008	--	--
C1	Increased existing monthly state grant payments and raised the income threshold level[3]	Reduce the financial burden of price rises	All	April 2008	Continuing	5 415	13 573
C1	One-off increase in Social Relief of Distress (SRD) grant[4]	Shield the poor from undue hardships caused by rising food prices and the global economic meltdown	All	April 2008	March 2009	--	500
C2	Increased budgetary expenditure on school feeding programme[5]	Attempt to ensure that poorest learners get at least one good meal at school everyday	All	April 2007	Continuing	121	829
C2	Development of community food banks[6]	Improve community food security by providing access to adequate and nutritious food	All	April 2008	Continuing	--	n.a.
P2	Expanded the Household Food Production Programme (HFPP)	Increase the number of households receiving "starter packs" by 70 000	All	April 2008	March 2009	--	76
P3 and P4	Introduction of Ilima/Letzema campaign[8]	Increase food production by making use of all productive land	All	Nov 2008	Continuing	--	96

" -- ": no fiscal implication; "n.a.": not available.

1. Change between the draft strategy approved for public consultation in December 2006 and the final strategy released in December 2007. It is estimated that the 2% level will require about 1.4% of arable land in South Africa and can be achieved without jeopardising food security.
2. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
3. The minimum income threshold levels were raised to allow people with slightly higher incomes to apply for grants. For example, in August 2008, the income threshold for the child support grant, which had not changed since introduced in 1988, was increased – effectively doubled to adjust for inflation. Rather than setting a static threshold again, a formula was introduced whereby the income threshold is calculated at 10 times the amount of the grant. The age limit for receiving the child support grant was raised from 14 to 15 as from 1 January 2009, making a further 220 000 children eligible for the grant. At the other end, the age of eligibility for men to receive the old age pension is being reduced from 65 to 60 years – which is the same for women – over the period 2008-10.
4. The SRD is a temporary provision (3 month maximum) of assistance in the form of cash, food voucher or food parcel, intended for persons who are in dire need and are unable to meet their or their families' most basic needs. It is designed to address extreme hardship, and provides an immediate response to a crisis situation when people are without the means to provide for themselves.
5. Expenditure was increased to enable all children, in all the schools included in the programme, to be feed at least one meal a day. From April 2009, the NSNP was expanded to include over 1 500 secondary schools which have been categorised as the poorest of the poor (in quintile one or two).
6. During the period, the Department of Social Development supported four community food banks in Durban, Port Elizabeth and Johannesburg, and one rural village food bank pilot in Umkhanyakude. The Department facilitated the signing of a Memorandum of Understanding (MoU) between the South African government, the Community Food Banking Network of South Africa and the Global Food Banking Network (GFN).
7. HFPP provides seedlings, seeds, fertiliser, pesticides and other production inputs to vulnerable households. Altogether 79 866 vulnerable households and emerging farmer groups were supported by means of agricultural starter packs as part of the HFPP in 2008/09 – up from 15 765 in 2007/08.
8. The campaign was launched by the Department of Agriculture in eight provinces (all except North West Province) coinciding with the summer planting season. In comparison to HFPP, which aims to lift household food production, Ilima/Letsema focuses on lifting food production at a broader level by mobilising communities to make use of underutilised land (especially fallow land) through the rehabilitation of land and irrigation schemes, and encouraging emerging farmers to improve crop production.
9. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

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Annex Table A.9. Short-term policy responses: Ukraine

Label	Description of policy	Objective	Commodity	Start Date	End Date[7]	Fiscal implication (UAH million)	
						2007	2008
M4	A cabinet resolution gave local administrations the power to set maximum profit margins of 10% for millers of wheat and rye flour and bakeries using these products, and to set wholesale prices for these kinds of flour.[1] In April 2008 the maximum wholesale margin was raised to 15% and the range of products for which limits can be set was expanded.	Limit price increases	Wheat and rye flour and bread, and socially important foodstuffs[2]	Jul 2007	Dec 2008	--	--
M4	A MOU was signed between the government and national entities of the retail trade network to limit the mark-up for socially important foodstuffs to 10% of the wholesale price[3]	Provide socially important foodstuffs at affordable prices	Socially important foodstuffs[2]	Apr 2008	Dec 2008	--	--
M6	Export quotas totalling 403 000 tonnes for 2006/07 marketing year and 1 203 000 tonnes for 2007/08 MY	To ensure adequate food supply and limit the rise in bread prices	Wheat	17 Oct 2006	23 May 2008	--	--
M6	Export quotas totalling 6 000 tonnes for 2006/07 marketing year and 6 000 tonnes for 2007/08 MY	To ensure adequate food supply and limit the rise in bread prices	Rye	17 Oct 2006	23 May 2008	--	--
M6	Export quotas totalling 1 million tonnes for 2006/07 marketing year and 603 000 tonnes for 2007/08 MY	To ensure adequate supplies and limit the rise in livestock feed prices	Maize	17 Oct 2006	31 March 2008	--	--
M6	Export quotas totalling 1.2 million tonnes for 2006/07 marketing year and 903 000 tonnes for 2007/08 MY	To ensure adequate domestic supplies and limit the rise in livestock feed prices	Barley	17 Oct 2006	23 May 2008	--	--
M6	Export quota of 300 000 tonnes, increased to 500 000 on 23 April	To reduce price pressure	Sunflower oil	22 March 2008	28 May 2008	--	--
M6	Export quota of 1 000 tonnes	To reduce price pressure	Sunflower seed	22 March 2008	28 May 2008	--	--
M7	The Agrarian Fund and the State Committee for Material Reserve (Derzhkomrezerv) released flour milled from wheat purchased in previous harvest – 375 000 tonnes in 2007 and 85 500 tonnes in 2008[4]	To prevent price hikes for bread	Wheat flour	July 2007	July 2008	--	--
M7	Derzhkomrezerv sold 14 600 tonnes of product from the state material reserve to the meat processing industry, and a quantity of imported poultry to retail outlets	Undercut high retail prices	Meat	Sep 2007	July 2008	--	--
M7	The Agrarian Fund and Derzhkomrezerv sold 2 000 tonnes of sugar from their reserves	To reduce price pressure	Sugar	Jan 2008	July 2008	--	--
M9	Establish procedures for notifying changes in wholesale prices	To ensure transparent formation of prices	Socially important foodstuffs[2]	Dec 2007	Continuing	--	--
M9	Intensify the scrutiny of conformance with pricing regulations by the State Inspectorate for Price Control[4]	Ensure compliance with regulations	Socially important foodstuffs[2]	Jan 2008	Continuing	--	--

Annex Table A.9. Short-term policy responses: Ukraine *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[7]	Fiscal implication (UAH million)	
						2007	2008
I1	The National Bank of Ukraine (NBU) raised the mandatory reserve requirements by including foreign currency borrowing by local banks from foreign financial institutions	Restrain inflationary pressure	All	20 Nov 2007	Continuing	--	--
I1	The NBU raised its base interest rate by 400 basis points (from 8% to 12%) between January 2008 and April 2008[5]	Restrain inflationary pressure	All	Jan 2008	Jun 2009	--	--
I1	The NBU revalued the official exchange rate of hryvnia against the US dollar from UAH 5.05 to UAH 4.85 per USD[6]	Restrain inflationary pressure	All	22 May 2008	30 Sept 2008	--	--
P1	Increased minimum purchase prices for intervention purchases by the Agrarian Fund. For example, the minimum price for milling wheat (3rd class), the main product purchased, has increased from UAH 690 tonne when introduced in 2005/06 to UAH 1 251 in 2008/09.	Enable Agrarian Fund to purchase stocks	Wheat and rye	2007	Continuing	401	1 274

" -- ": no fiscal implication; "n.a.": not available.
1. Arrangements are oblast and city specific. In practice, a profit margin of 5% was commonly used. Local administrations provided subsidies to bakeries to ensure they can purchase flour early in the season.
2. Includes flour, bread, cereals, pork, beef, poultry, eggs, milk, sour cream, butter, sugar and sunflower oil.
3. At the same time the existing system of discount cards for socially important foodstuffs was suspended in the retail chains involved.
4. During the first half of 2008, 8 900 inspections were carried out by price control bodies. Violations were found at 57% of inspected entities.
5. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.
6. On 1 October 2008, the NBU devalued the official exchange rate from UAH 4.85 down to UAH 7.70 per USD.
7. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

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Annex Table A.10. Short-term policy responses: Vietnam

Label	Description of policy	Objective	Commodity	Start Date	End Date[6]	Fiscal implication (VND billion)	
						2007	2008
M1	MFN tariffs reduced by 30%-50% on a wide range of products. The initial reduction in August was followed by further reductions in October 2007 and August 2008 on some additional products and on some already reduced. While tariff reductions remain in place for most products, they have been raised again for meat and some dairy products.	Slow the rise of market prices	A wide range of products[1]	3 Aug 2007	Continuing	628	2 367
M2	Established an export tax that increased proportionally with export prices, starting when prices exceed USD 600 per tonne. On 15 August the minimum threshold was raised to USD 800 per tonne.	Maintain domestic supply and stabilise market prices	Rice	21 Jul 2008	19 Dec 2008	--	n.a.[2]
M6	Imposed export ban, with exemption given to contracts signed with Cuba and Indonesia whose shipped anchored in Vietnam before 11 November 2006. Soon afterwards the 2006 export target was lowered from 5 million tonnes to 4.7 million tonnes to reflect the volume of contracts signed for the year.	Maintain domestic supply and stabilise market prices	Rice	12 Nov 2006	Feb 2007	--	--
M6	Export sales allowed to resume. The export target for 2007 was reduced to 4.5 million tonnes, down from the target of 4.7 million tonnes set in December 2006 and the initial level of 5 million tonnes.	Maintain domestic supply and stabilise market prices	Rice	Feb 2007	Dec 2007	--	--
M6	Raised the minimum export price (MEP) on all grades of rice by USD 10 per tonne, *e.g.* MEP for 5% and 25% broken rice increased to USD 300 and USD 280 per tonne respectively. MEPs were increased throughout the year.	Maintain domestic supply and stabilise market prices	Rice	Feb 2007	Dec 2007	--	--
M6	Halted the registration of new export contracts when the total contracted volume reached the export target of 4.5 million tonnes. Shipments to fulfil already registered contracts continued. However, Vinafood 2 and selected provincial food exporters were permitted to participate in the Philippines National Food Authority's December 2007 and January 2008 tenders, securing a total of 700 000 tonnes to be shipped in 2008.	Maintain domestic supply and stabilise market prices	Rice	21 Jul 2007	18 Jan 2008	--	--
M6	Registration of export contracts allowed to resume, with the export target for 2008 set at 4.5 million tonnes, down from the 4.8 million tonnes estimated in September 2007. However, the Vietnam Food Association (VFA) informally asks that no sales of 25% broken rice be made – 25% rice represents about 40% of export volume.	Maintain domestic supply and stabilise market prices	Rice	18 Jan 2008	5 Feb 2008	--	--
M6	Raised the MEPs on all grades of rice, *e.g.* MEP for 5% and 25% broken rice set at USD 385 and USD 360 per tonnes respectively for January-February shipment.	Maintain domestic supply and stabilise market prices	Rice	18 Jan 2008	5 Feb 2008	--	--

Annex Table A.10. Short-term policy responses: Vietnam *(cont.)*

Label	Description of policy	Objective	Commodity	Start Date	End Date[6]	Fiscal implication (VND billion)	
						2007	2008
M6	Revoked MEPs, thereby making it impossible for private traders to enter into new contracts. Shipments to fulfil already registered contracts continued, while Vinafood 2 continued to participate in tenders. On 14 March the Vietnam Food Association (VFA) announced that it would ban new export contracts until the end of April. On 28 April the ban was extended through to June.	To ensure supplies for government sanctioned contracts	Rice	5 Feb 2008	18 Jun 2008	--	--
M6	VFA issued new, tighter rice export registration regulations. Exporters are required to hold at least 50% of the contracted amount in available stocks, and export prices should be in line with the price guidance set by VFA. Shipping should be no later than two months after the date of the contract.[3]	Slow down exports	Rice	26 Mar 2008	Dec 2008	--	--
M6	Registration of export sales permitted to resume but with the total contracted quantity limited to 3.5 million tonnes in the nine months to September and with a MEP set at USD 800 per tonne. This was lowered to USD 600 per tonne on 30 July and lowered further in September.	Maintain domestic supply and stabilise market prices	Rice	18 Jun 2008	Dec 2008	--	--
M9	Issues decree against speculators, banning non-traders from trading in grain	Stop chaotic buying binge	Rice	28 Apr 2008	Continuing	--	--
M9	Established a national rice reserve	To smooth supply and demand fluctuations	Rice	Jun 2008	Continuing	--	300
I1	The State Bank of Vietnam (SBV) raised its base interest rate by 575 basis points (from 8.25% to 14%) between February 2008 and June 2008[4]	Restrain demand and inflation	All	Feb 2008	Oct 2008	--	--
I1	The SBV increased reserve requirement ratios by 1.5-2 times	Control liquidity growth	All	Jun 2007	Nov 2008	--	--
P2	As part of the general tariff reduction, tariffs on animal feed were reduced	Reduce costs of production	Animal feed	3 Aug 2007	Continuing	153	701
P2	Irrigation fee waiver for households who had received State land and water areas for agriculture, forestry, aquaculture and salt making.	Reduce costs of production	Crops	Jul 2008	Continuing	--	500
P5	Suspended giving out licenses for new golf courses	Maintain land for rice production and protect poor farmers	Rice	Sept 2008	Continuing	--	--

" -- ": no fiscal implication; "n.a.": not available.

1. Among the most significant tariff reductions in terms of revenue forgone by the Vietnamese government were those affecting poultry (reduced from 20% to 12%), milk powders (from 10%-30% to 5%-15%), maize (from 5% to 0%) and palm oil (from 30% to 20%).

2. The fiscal revenue earned from the export tax is likely to have been minimal as export prices fell below the threshold level very soon after it was introduced. The average monthly value of rice exports from Vietnam fell from around USD 970 per tonne in July to around USD 550 per tonne in August. The minimum threshold was raised in August to try and lift export prices.

3. In addition, exporters may sign contracts with any buyer except the Philippines' NFA, Bulog of Indonesia, Alimport of Cuba and Bernas of Malaysia. Contracts for glutinous (sticky) and aromatic rice are not subject to this restriction.

4. End date is the month in which the monetary policy interest rate was reduced in order to stimulate the economy.

5. Irrigation fees will still be collected in areas where demand for water exceeds available supplies, with exceptions for farmers living below the poverty line. The Ministry of Agriculture and Rural Development estimate that this will save farmers up to 7-10% of production costs.

6. The term "continuing" indicates that the policy measure was still in place as at 31 December 2009.

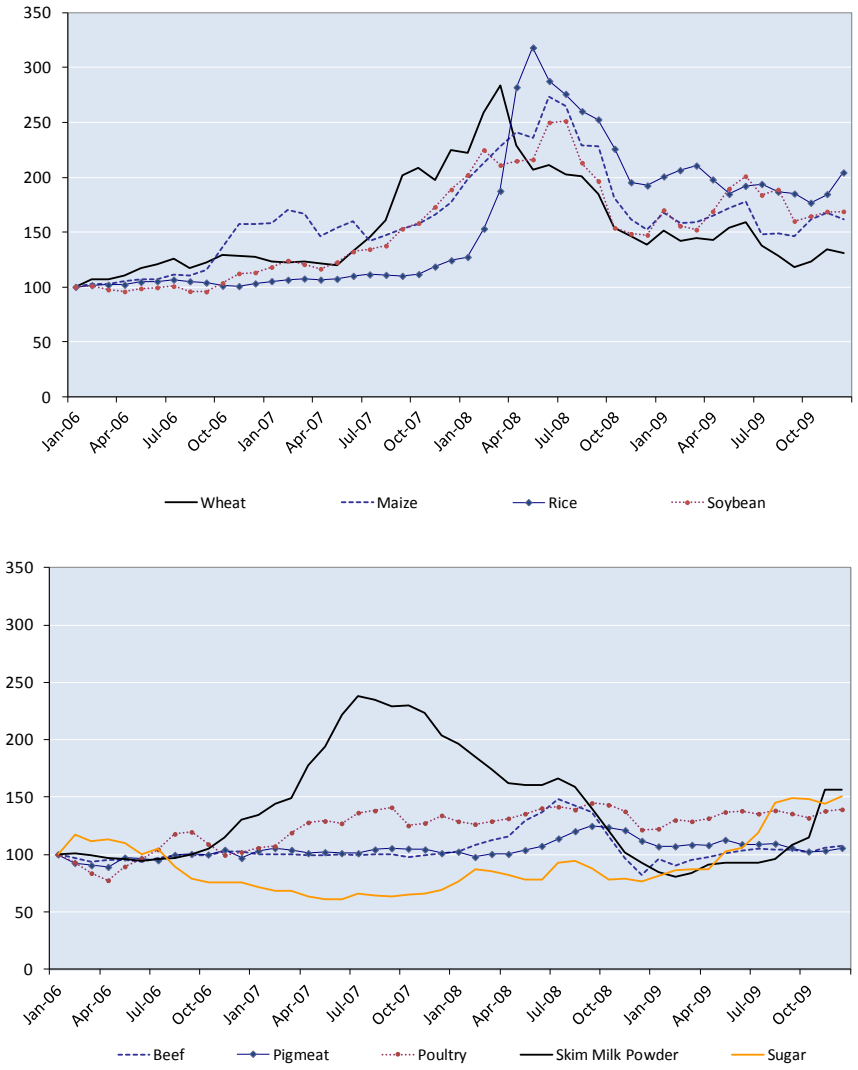
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ANNEX B. INTERNATIONAL COMMODITY PRICE MOVEMENTS SINCE 2006

Annex Figure B.1 shows the movement in monthly average international prices for selected international commodities between January 2006 and mid-2009. The top graph shows the price trend for the four commodities that are the focus of this study; the bottom graph shows the price trend for a selection of other commodities. In general, international prices of basic foods, such as cereals, oilseeds and dairy products, increased far more dramatically than the prices of tropical products, such as coffee and cocoa, and raw materials, such as cotton or rubber (FAO, 2009c).

Annex Figure B.1. Developments in international prices for selected agricultural commodity prices since 2006

Index January 2006=100



Prices refer to monthly average.
Wheat: US No. 2 Hard Red Winter, f.o.b. Gulf
Maize: US No. 2 Yellow, f.o.b. Gulf
Rice: Thai white rice 100% B second grade, f.o.b. Bangkok
Soybean: US No. 1, Yellow, f.o.b. Gulf
Sugar: I.S.A. daily price
Beef: Australian, cow beef, boneless, c.i.f. USA
Pigmeat: USA, pork, frozen product, export unit value
Poultry: USA, Broiler cuts, export unit value
SMP: Oceania, indicative export prices, f.o.b.
Source: FAO, *International Commodity Prices Database*, 2010, www.fao.org/es/esc/prices/PricesServlet.jsp?lang=en.

The monthly average export price of US maize (No. 2 Yellow, f.o.b. Gulf) increased slowly from around USD 100 per tonne in January 2006 (which was also the annual average price for 2005) to USD 118 per tonne in September 2006. A short sharp rise in the maize price occurred in October-November 2006, with the monthly average price rising by more than one-third to USD 160 per tonne. It remained at this level, on average, for about one year. Towards the end of 2007, the export price for maize began rising again, increasing by 75% in eight months to reach a peak of USD 291 per tonne in June 2008. Over the last six months of 2008, the monthly average price fell by 44% to reach USD 156 per tonne in December. The export price remained relatively constant around this level during 2009. In the second quarter 2009, the average export price was 62% above the price during the same period in 2006 at USD 176 per tonne.

During the first nine months of 2006, the monthly export price of US soybeans (No.1 Yellow, f.o.b. Gulf) remained fairly stable in the range of USD 225-235 per tonne. A steady upward trend in the international price began around October 2006 and lasted for almost two years, reaching a peak in July 2008 at USD 586 per tonne, an increase of over 160%. In contrast to the steady rise, the international price plummeted by 40% in the following three months to reach a low point of USD 344 per tonne in December. In comparison to the other three commodities, the international price for soybeans rose steadily over the first half of 2009, and by mid-2009 was 90% higher than the average price in the second quarter 2006.

After rising by about one-third in the first half of 2006, the monthly export price of US wheat (No.2 Hard Red Winter, f.o.b. Gulf) remained fairly stable for almost a year, averaging USD 210 per tonne for the 12-month period June 2006-May 2007. In mid-2007, the export price began rising, and over the following nine months it steadily rose by almost 140% to reach a peak of USD 482 per tonne in March 2008. The export price for wheat decreased almost as steadily as it rose, falling by just over 50% in nine months between its peak in March and December 2008 when it reached USD 235 per tonne. The average monthly export price for wheat in the first quarter 2009 was almost USD 250 per tonne, 40% above the average price during the same period in 2006.

The monthly export price of Thai rice (white, 100%, B second grade, f.o.b. Bangkok) increased later and rose faster than the other three commodities. During 2006 and for most of 2007, the export price of rice was relatively unaffected by the rise in prices for other commodities, increasing by 12% from USD 300 per tonne in January 2006 to just under USD 340 per tonne by October 2007. In late 2007, the export price of rice began increasing at a slightly faster rate, and then accelerated away in early 2008. It rose by more than 150% in the four months between January and May when it reached a peak of USD 963 per tonne. Between May and December 2008, the price of rice fell by 40% to USD 582 per tonne. In the first six months of 2009, the monthly export price remained relatively stable. It averaged USD 580 per tonne in the second quarter 2009, 84% higher than the price in the corresponding period in 2006.

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