
Original Article

A Qualitative Analysis of Policymaking on the Food Price Crisis in the Andean Region: Preparing for the Next Crisis

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Abstract The article argues that the question of what are the most effective policies to address the food price crisis remains largely unanswered, despite the huge analytical effort to understand its causes and consequences. Partly, this is because instruments of policy analysis are based either on a description of interventions, lacking any assessment of the merits of the policy, or on sophisticated, country-specific quantitative analyses sensitive to assumptions and data limitations. The article uses an intermediate analytical tool that is flexible yet relevant to investigate potential impacts of interventions across key policy dimensions: coverage, fiscal impact, efficiency and sustainability. The exercise is applied to interventions adopted by the Andean countries to address the food price crisis. It concludes that they are far from adopting a ‘desirable’ set of interventions.

Le présent article soutient que la question de la politique la plus efficace pour faire face à la crise des prix alimentaires reste en grande partie sans réponse, malgré les nombreux efforts analytiques déployés pour comprendre ses causes et conséquences. Ceci s’explique, en partie, par le fait que les outils d’analyse des politiques reposent soit sur une description des interventions, omettant d’évaluer les mérites de ces politiques, soit sur des analyses quantitatives sophistiquées et spécifiques à chaque pays et donc sensibles aux hypothèses et aux insuffisances concernant les données. Cet article mobilise un outil analytique intermédiaire flexible mais pertinent pour examiner les impacts potentiels des interventions, au travers de dimensions de politiques clés: couverture, impact fiscal, efficacité et durabilité. Nous appliquons cette démarche aux interventions mises en œuvre par les pays andins pour répondre à la crise des prix alimentaires, et concluons que ces pays n’ont pas sélectionné l’ensemble le plus ‘souhaitable’ d’interventions, loin s’en faut.

European Journal of Development Research (2011) **23**, 72–93. doi:10.1057/ejdr.2010.62

Keywords: food price crisis; policy analysis; qualitative tool; Andean region

Introduction

In policy terms, the food price crisis in the Andean region has focused the attention of governments, donors and civil society on the importance of investing in agriculture, the need to increase food production and provide assistance to small-scale producers to increase their productivity, and the need to improve existing systems of social protection and security in order to mitigate the effects on most of the vulnerable sectors. This broad consensus was reached at the Food Summit sponsored by the FAO in Rome in June 2008 (Von Braun *et al.*, 2008). This consensus, however, left out other important aspects on which there is less clarity and less commitment (IFPRI, 2008): the elimination of trade barriers, especially those that restrict exports; the limitations on the use of grains and oil and fat products for the production of bio-fuels; and the way (who, how and when) that policies should be coordinated and implemented. Part of this lack of clarity is explained by the limitations of existing analytical instruments.

From an analytical standpoint, obtaining consensus on measures that might mitigate or prevent these crises in the future requires a determination of the causes of the food price crisis, *but above all*, of the importance of each of these causes and their interrelationship. Analyses conducted to date agree on multiple causes. Demand factors include higher energy prices, an increase in subsidized production of bio-fuels, and population and income growth coupled with urbanization. Supply factors include restrictions on the use of land and water, lack of investment in rural infrastructure and agricultural innovation, lack of access to agricultural inputs, and natural disasters. However, little discussion exists on their relative importance, their interrelationship and their prioritization. As a result, there is no clear consensus on what to do, how to do it, or who should do what at the international level. It is not surprising that this lack of clarity has resulted in a variety of policies and interventions that are not always in line with national circumstances.

This article contributes to the literature on the food price crisis by applying a qualitative technique – a detailed taxonomy of policies whose preliminary or expected impacts are assessed across a series of desirable policy attributes – to the food price crisis in the Andean countries, about which relatively little research has been done. The detailed taxonomy improves simpler comparisons and descriptions of policies adopted to address the crisis and complements country-specific quantitative methodologies that require more data, such as general equilibrium models. The article argues that the proposed technique is a useful policy diagnostic tool to inform the potential outcomes of interventions. It may also contribute to the design of further analytical – quantitative – research, hence becoming a valuable planning tool for future policymaking. The proposed method is applied to the Andean region, a part of the world interesting in its own right because of the heterogeneous mix of net oil exporters and food importers, on the one hand, and economic and political ideologies, on the other, but one that is scarcely present in the literature, certainly not in the food price crisis literature. The next section reviews previous studies on the food price crisis focusing on their policymaking analysis. The subsequent section describes the analytical exercise and compares it with alternative options. The penultimate section applies it to the Andean Region and discusses results. The last section offers some concluding reflections.

Policymaking Lessons from the Food Crisis

The Causes of the Crisis

It is extremely difficult to predict when a crisis will start and when it will end. Even though there might be consensus on its causes, there is typically less agreement on which one(s) dominate(s) and, consequently, which measures might effectively confront them. This empirical fact is applicable to most crises, from the global financial crisis to the swine flu, as well as to the food price crisis. From a policymaking standpoint, the critical question is how to balance short- and long-term interventions and how, in practice, to triangulate cautious macroeconomic measures, effective compensatory social policies and a lasting stimulus without disastrous distortions.

There is now general consensus that food prices have risen because of the coincidence of various causes related to supply and demand on a global scale. This is the conclusion drawn from numerous statements and studies by international financial institutions, policymakers and academia (see, among others, ADB, 2008a, b; Dessus *et al*, 2008; FAO,

2008a,b,c; FAO and EBR, 2008a,b; IMF, 2008a,b,c; Ivanic and Martin, 2008; Levy, 2008; Mitchell, 2008; Rosegrant, 2008; Timmer, 2008; UN, 2008 and 2009; Von Braun *et al*, 2008; World Bank, 2008a,b,c,d; IDB, 2009; and Cuesta, 2010). These factors are the higher price of energy, especially oil; increased demand (both quantity and variety) for food by countries such as China and India; restrictions on supply following natural disasters associated with climate change; and reduction in the production of certain food-stuffs, such as corn, in favor of bio-fuels. It is on the magnitude of the contributions of each of these factors where consensus is not absolute, as argued by Zezza *et al* (2008). Studies such as Mitchell (2008), Heady and Fan (2008) and Aksoy and Isik-Dikmelik (2008) unambiguously identify the increased demand on bio-fuels as the dominant contributor to food price increases (even though other factors may admittedly have also played a role). Other authors identify more than one dominating factor. Abbot *et al* (2008, 2009) argue that there are three main factors explaining the food price crisis: increased demand of key commodities around the world, depreciation of the dollar and the increased demand for bio-fuels. A third perspective, somewhat in the middle, is that presented by Trostle (2008), which argues that dominant factors shift over time: thus, escalating crude oil prices, rapid expansion of bio-fuels production and dollar devaluation were the dominant factors between 2002 and 2007. Rising farm production costs, adverse weather and large foreign exchange reserves were the leading factors through 2007 and 2008. In 2008, aggressive purchases by importers and exporter and importer policies contributed the most to food price peaks.

Policy Lessons Emerging from the Crisis

In a recent article, Cuesta (2010) analyzes the formulation of policy recommendations for the food price crisis in a comprehensive sample of studies (over 30) by international institutions. In particular, the study focuses on the depth and merits of the policy discussion and the connection between generated knowledge and specific policy advocacy. A large body of knowledge has been created, a natural consequence of the heterogeneity of countries, periods, commodities, information sources and aims of the studies. Table 1 compares those studies identified in Cuesta (2010) that actually conduct a policy analysis and/or discuss a future policy agenda. Notwithstanding the heterogeneity of aims, the methodologies used in the studies reviewed are more limited in number and sophistication. Descriptions, reviews and cross-references abound, while original econometric analysis, distributive micro-simulations or general equilibrium models are comparatively scarce. This asymmetry has not prevented a very wide range of results, both in terms of indicators and magnitudes and, most notably, in terms of policy recommendations. In addition, a certain degree of delinking is observed between the choice of policy instruments and the analysis of causes and policy advocacy.

Typically, the depth of the analysis and policy advocacy discussion hardly justifies the unambiguous choice for a given instrument(s) made by international financial institutions. Neither the continuation of an existing instrument nor the selection of a new one is explicitly justified *vis-à-vis* other alternatives. In fact, most of the studies from that sample either fail to provide a policy discussion at all or provide 'soft' general recommendations such as calls for further analysis or the need to adopt both short- and long-run policies. Recommendations also include policy directions not linked specifically to the food crisis but, rather, to *any* crisis, as well as long-standing sectoral concerns and institutional mandates: namely, investing in agriculture, increasing food production, easing assistance

Table 1: Analysis of policy making in previous studies of the food price crisis

	<i>Description of study</i>	<i>Policy analysis</i>	<i>Policy instrument</i>	<i>Future policy agenda</i>
ADB (2008a)	Country; D, S	Discussion linked to originally estimated results, advocating agricultural sector reforms, use of modern technology, improvement of financial systems, and increase of food availability. Also, a review of the taxonomy of policy responses, adapted from World Bank policy analysis (2008a) with similar conclusions: preference for targeted cash transfers, food stamps or food-for-work; more reliable credit; improve institutional capacity and governance; technology and infrastructure	None identified	None identified
ADB (2008b)	International, Country, Region (SEA); D	Policies should differentiate short and medium term. ADB response should be articulated around its 2020 strategy: improve social protection and more equal access to improved opportunities	ADB 2020 Strategy	Not identified
ADB (2008c)	Region (Pacific Rim); R, D	Not really related to the conducted analysis. General advocacy towards liberalize price controls, avoid excessive taxation, target help to the most vulnerable, rural infrastructure and services, seek alternative energy sources and make use of mining and oil revenues	None	None
CEPAL (2008) Cuesta <i>et al</i> (in press)	Regional (LAC); A, S Region (Andean); S	Brief review of adopted policies There are several dimensions of the policy analysis to consider when choosing the set of policies to combat the crisis	None None	None None
Dessus <i>et al</i> (2008)	International; S	Expansion of already existing safety nets rather than invest much on identifying new poor. Also, keep improving targeting Discussion around supply management	Safety nets	Explore the cost of alternative policy options using these results as benchmarking Explore alternative ways to increase price of agricultural commodities
FAO (2006a)	International; R	Discussion around supply management	International commodity arrangements, commodity funds (as buffer mechanisms)	



Table 1: Continued

	<i>Description of study</i>	<i>Policy analysis</i>	<i>Policy instrument</i>	<i>Future policy agenda</i>
FAO (2006b)	International; S	None	Short Term Consistency Model (ie, a simulation analytical model)	Improve agricultural price and output projections
FAO (2007)	International; A	Limited to a brief discussion of causes but no policy conclusions discussed	None	Contribute to the expansion of production and boosting inventories
FAO (2008b)	International; R	Long-term design of innovation risk management; develop a secure access to land; distribution of vouchers to targeted families' increase supply response of small-holders	None	None
FAO and EBRD (2008a)	International; E	Recommendations to realize untapped potential through targeting human capital development, improving credit systems and land markets; foster public investment in private-public partnership	None	Contribute to realize the maximum potential for agriculture
FAO and EBRD (2008b)	International; A,R	Taxonomy of measures adopted. Three policy messages: (1) Eliminate price support and other distortions; (2) Target most vulnerable (cash transfers, nutrition programs, programs for the old and sick); (3) develop markets (eliminate land restrictions, develop legal frameworks, improve infrastructure)	None	Develop supply chains to increase production.
IDB (2008a)	Region (Andean); R,D,S	Description of the policies adopted or announced, without an analysis of their merits	None	Develop new financial instruments. Policy dialogue. Strategic alliance between FAO and EBRD
IDB (2008b)	R (Central America); D,S	Discussion of the appropriate mix of social protection responses depending on specific country circumstances	CCTs	Strengthen the presence of the Bank in vulnerable economies with new or extended CCT programs
IMF (2008a)	International; E,A	Comparison of the fiscal cost of different alternative policies (consumption tax rates, excise taxes, food subsidies, targeted transfers)	Augmenting existing PRGF. Exogenous Shocks Facility. New PRGF. Stand-by Arrangements. Advisory work.	Continue with policy advice. Strengthen IFIs coordination. Task Force on Global Food Crisis

Table 1: *Continued*

	<i>Description of study</i>	<i>Policy analysis</i>	<i>Policy instrument</i>	<i>Future policy agenda</i>
IMF (2008b)	International; E, A	Comparison of the fiscal cost of different alternative policies (consumption tax rates, excise taxes, food subsidies, targeted transfers)	Two new PRGF, four new countries granted. Augmented PRGF and ESF facility under consideration (between June and September)	Continue with policy advice. Strengthen IFIs coordination. Task Force on Global Food Crisis.
IMF (2008c)	Country; S	Levels of required consumption compensation required for the three policy options analyzed: CCT, food subsidies and import tariffs	CCTs	Protect the poor
Mitchell (2008)	International; A	Marginal: brief discussion on factors driving the increase in bio-fuel production: remove US and EU subsidies and tariffs to increase bio-fuel production and improve sugar cane-based Brazil and African countries production	None discussed	None
Timmer (2008)	Region (SEA); D, E	Very general and not related to original analysis: avoid hoarding behavior although it is acknowledged that no international organization has such a mandate. Need to stimulate productivity growth in the agricultural sector	None	Need to better estimate the link between exchange rates and commodity prices
WB (2007)	International; D	Call for a more comprehensive evaluation on the bio-fuel production strategy	None	Need for developing countries to examine whether production of bio-fuels is an appropriate strategy, and if so, how to do it without huge subsidies
WB (2008a)	International; R, D	Need to separate short-term and long-term policies. Both role of developing and developed nations in the crisis (keep social investments and increase aid, respectively)	US\$ 12 billion GFRP – a rapid financing umbrella facility that is providing technical advice	Develop a multi-pillar approach that combines policy advice, expedited financial support, development of new products and research
WB (2008b)	International; D	Targeted safety nets; remove price distortions; greater focus on agriculture; greater and quicker support from donors; make available financial instruments to vulnerable economies	Financial instruments; safety nets	Refocus investments in agriculture and social protection

Table 1: *Continued*

	<i>Description of study</i>	<i>Policy analysis</i>	<i>Policy instrument</i>	<i>Future policy agenda</i>
WB (2008c)	Region (LAC); D	Policy focus in LAC countries largely on coping strategies for consumers but political and institutional constraints may affect its efficiency. Separate short-term from medium-term responses. World Bank's response should be directed to three fronts: cope with household consumption effects; macroeconomic effects; and supply responses	Investment support and technical assistance. CCT programs	Country-specific tailored support. Fill knowledge gaps
WB (2008d)	International; D	Targeted safety nets; remove price distortions; greater focus on agriculture; greater and quicker support from donors; make available financial instruments to vulnerable economies; establish foundations to improve functioning of international trade systems; more effective international coordination; revise bio-fuel development strategies	Policy advice; Expedited financial support; Multi-Donor Trust Fund and GRFC facility; new financial market insurance products; research to address knowledge gaps	International Coordination; Develop innovative financial instruments; research on global food markets and global food price trends; poverty, distributional and nutritional impacts of food price increases; fiscal and macroeconomic implications and responses; trade responses and impacts at country and global level; facilitating an agricultural supply response; using safety nets to dampen the social impact of the crisis Ensure food security
WFP (2008)	International, Country; D	Critical role of WFP in contributing towards food security	Food aid	

Source: Author based on Cuesta (2010).
Type of Analysis refers to: (1) coverage; International; Regional; Country-specific, SEA refers to South and East Asia; LAC, Latin America and the Caribbean; (2) research technique: R = literature review; D = qualitative discussion; S = simulation; E = econometric; A = accounting.

to small-scale producers, and improving social protection and security. Even at this broad level of analysis, there is a set of policies less clearly agreed upon: elimination of trade barriers, limitations on the production of bio-fuels and global coordination in the implementation of policies.

The Analysis of the Impacts of the Crisis

None of the studies mentioned above, however, draw recommendations from a systematic quantitative comparison across policy alternatives. Only a handful – Arndt *et al* (2008), IMF (2008c), Valero-Gil and Valero (2008), and Cuesta *et al* (2010) – conduct more rigorous exercises evaluating policy options in the context of the food price crises. They typically simulate the distributive effects of interventions from the expansion of conditional cash transfer programs, the provision of price subsidies and tariff elimination. Results show that increasing transfers (little is analyzed in terms of improving targeting) is the most effective way to compensate for consumption losses and expected increases in poverty incidence and depth. These schemes outperform bold but short-ranging tariff reductions and typically regressive food price subsidies. Unfortunately, this hard evidence relates to a tiny sample of countries – Mozambique, Mexico and Nicaragua – leaving open the question of their global representativeness. In addition, comparisons of results are hard to draw for several reasons. Typically, studies use a variety of price changes, commodities and time periods. This implies that meaningful comparisons can be done only at an aggregated level such as general findings on, say, poverty impacts and their differentials by urban and rural location. Understandably, the magnitudes of the estimated impacts differ across studies, as they refer to distinct price changes and consumption (of food and non-food) patterns in the face of the crisis, but also because of differences in the effect of the crisis at the aggregated level of incomes and across income groups in each country. In effect, existing estimates of the income elasticity of food calories in developing countries suggest that food consumption and calorie intakes may either not change (Behrman and Deolalikar, 1989) or, instead, may change substantially as income changes (Subramanian and Deaton, 1996), leaving open the question of whether income effects from the food price crisis should be presumed sizeable after all. In any case, focusing only on the Andean region, Ivanic and Martin (2008) estimate an elasticity of basic food price to poverty incidence of 0.05 for Bolivia and -0.01 for Peru, well below Cuesta *et al*'s (2010) estimated elasticity of 0.11 for the Andean region as a whole. Interestingly, however, Ivanic and Martin (2008) report a larger poverty deterioration in urban areas *vis-à-vis* rural areas in Bolivia (2.1 versus 1.9 percentage points), while the opposite occurs in Peru (0.1 versus -1 per cent point for urban and rural areas, respectively). Cuesta *et al*'s (2010) numbers show the same mix but different magnitudes: 9.7 versus 0.2 in urban and rural Bolivian populations and 3.6 and 1.5 per cent in urban and rural Peruvian populations, respectively. Valero-Gil and Valero's (2008) results for Mexico (for the period 2006–2007, international prices, 11 basic foodstuffs) are reassuringly similar to those reported in Cuesta *et al* (2010) regarding price and income effects on poverty associated with the food price crisis. Poverty before the price change rose from 25 to 27.91 per cent by virtue of the price effect and to 27.77 per cent when the income effects are also considered. In other words, the income effect from increased sales of produced food is responsible for a 0.15 per cent reduction in the incidence of poverty. For the Andean region as a whole, Cuesta *et al* (2010) report a reduction in household poverty incidence specifically attributed to income effects of 1.1 per cent, down from 55.1 per cent.

An Alternative Qualitative Exercise: A Detailed Taxonomy Assessment of Interventions

As policymaking analyses have followed either a straightforward comparative approach or a rigorous approach high on data demands, this article proposes a systematic way of comparing policy interventions based on a simple assessment of their expected consequences across critical policymaking dimensions. This methodology builds upon discussions in Manzano and Stein (2008) and Malarín (2008) in the context of desirable public goods provision in the agricultural sector. The exercise consists of first establishing a set of widely acknowledged desirable properties. Such properties are identified for the purposes of this exercise along the coverage, cost, efficiency and political economy dimensions. They comprise the degree of targeting and scope of the measures (coverage), their fiscal cost (cost), their degree of distortion (efficiency) and their reversibility (political economy). Table 2 reports the specific properties of interventions in the areas of social compensation and supply-side policies associated with the food price crisis. Second, the exercise maps a detailed taxonomy of interventions undertaken in the countries and the period being studied. Table 3 depicts that intervention map for the Andean region. Third, the expected consequences of the mapped interventions are systematically assessed across a series of desirable policy dimensions. The detailed comparison of the interventions' potential effects is gauged or assessed from alternative angles. Here, the analysis proposes two distinct angles: one, the extent to which those expected effects fare in terms of achieving desirable properties (see Tables 4 and 5); and two, whether or not they strike a balance between short- and long-term desirable effects (see Table 6). Needless to say, this qualitative exercise is susceptible to being complemented with alternative quantitative methodologies, such as micro-econometric analysis, as in Robles and Torero (in press), which estimates pass-through price transmission and consumption substitution effects; distributive simulations as in Cuesta *et al* (2010), estimating the price and income effects of price increases in the poverty incidence, and Computational General Equilibrium models estimating several macroeconomic impacts (on GDP growth, inflation, production, exports and employment) associated with food price increases, as in Arndt *et al* (2008) and Valero-Gil and Valero (2008).

A first advantage of this taxonomy methodology is that it enables an early assessment of how interventions adopted in each country resemble a 'desirable' policy package. That occurs when such interventions (i) have broad coverage or targeted to the poorest segments of the population; (ii) have a low fiscal cost or even a positive fiscal impact; (iii) have low levels of distortion and/or generate positive incentives; and (iv) are easily reversible after completing their mission. The set of interventions in a country may turn undesirable if they go in the opposite direction. There is also the possibility that a given policy package contains some measures with desirable features and others with undesirable characteristics. In any case, the comparison of the attributes of a policy package is especially useful at the time of designing a response to a crisis, at least to guide policymakers through the haze of options available, their consequences and the compromises likely to arise from the selection of specific interventions.

A second advantage is that the technique is flexible yet relevant for the analysis of policymaking in general and not just exclusively for food price interventions. The selection of dimensions may be expanded to consider alternative aspects deemed more relevant to the subject of analysis: for instance, in analyzing an innovation intervention, one may want to consider property rights issues, which may not be as critical a dimension of analysis in the context of the food price crisis but may be so in the context of agricultural

Table 2: Detailed physiognomy of crisis interventions

<i>Policies</i>	<i>Coverage</i>	<i>Fiscal cost</i>	<i>Level of distortion</i>	<i>Reversibility</i>
<i>Compensatory social policies</i>				
Expansion of conditional cash transfers	Low/Medium (if targeted)	Medium/Low	Low (positive incentives: accumulation human capital)	Difficult
Expansion nutrition programs	Low/Medium (if targeted)	Medium/Low	Low (incentives for school permanence and performance)	Difficult
<i>Price policies</i>				
Price controls	Broad	Medium/High	High	Difficult
Tariff reduction/elimination	Broad	Low	Low	Easy
Contingent tariffs	Broad	Low	Low	Easy
Performance requirements	Broad	Low	Medium	Difficult
State trading companies	Broad	Medium/High	High	Difficult
Restrictions on exports	Broad	None	High	Easy
Export tax	Broad	Low (Positive)	High	Easy
Sanitary or technical requirements	Broad	None	High	Difficult
Food distribution	Low (targeted)	Medium/Low	Medium/High	Difficult
Direct purchases of food by public sector	Low (targeted)	Medium/Low	Medium/High	Difficult
<i>Fiscal transfers</i>				
Direct or implicit transfers to consumers (price subsidies, checks to taxpayers)	Broad	Medium/High	High	Difficult
Transfers to producers based on cultivated area, production, historical rights, use of inputs, total agricultural income, use of technology)	Low (targeted at certain producers)	Medium/High	High	Difficult
<i>Agricultural services</i>				
Provision of public goods such as risk management, technical innovation, health and food safety, collective infrastructure, promotion and marketing, public storage, agricultural education, information systems	High (sector-wide)	Medium/high	Null (positive, increasing sector productivity and competitiveness)	Difficult (although it is desirable that they are not reversed but strengthened)

Source: Author.



Table 3: Measures implemented to tackle the food crisis in the Andean countries through January–December 2008

Country	Compensatory social policies			Supply-side stimulus
	Monetary and fiscal	Exchange regime	Indexed CCT	
Bolivia	Contractive monetary and expansionary fiscal policies	Nominal exchange rate anchor, crawling peg regime	No, there is no CCT, although they are working on a community-based CCT (not household) with no plans for indexing	<p>(1) Reduction of import tariffs (first diesel, then rice, meat, corn, soybeans and meat) and then cancellation for rice, wheat, wheat flour, maize, vegetable oils, beef, chicken and live animals, meat, sugar.</p> <p>(2) Restrictions on exports (chicken, wheat, maize, vegetable oils and fats), although maize export ban lifted in October 2008.</p> <p>(3) Subsidies for bread and wheat flour production</p> <p>(4) Support for agricultural production creating a state company, EMAPA, for purchase and sale and marketing of inputs and products such as wheat, rice, corn or soy (under the new productive food security and sovereignty program 2008–US\$58 million in 2008)</p>
Colombia	Contractive monetary policy and no change in fiscal policy	Inflation targeting, flexible exchange rate	Families in Action program (urban and rural). Indexable, although it has not been annual	<p>Community households, family compensation fund, non-contributive pensions. There are no employment programs</p> <p>^b(1) Incentives to producers' purchase of hedging instruments against the fall in exchange rate (up to COP 120 per dollar)</p> <p>(2) Government purchase of milk to improve children nutrition</p>



Table 3: *Continued*

Country	Macroeconomic policies		Compensatory social policies		Supply-side stimulus
	Monetary and fiscal	Exchange regime	Indexed CCT	Nutrition programs?	
Ecuador	Expansionary fiscal policy (no monetary policy due to dollarization)	Dollarization	Human Development Bond (urban and rural). Not indexed	School meals program, Alimentate Ecuador, PANN 2000, Children's Development Fund	<p>(3) Increase of credit for agricultural investment</p> <p>(4) Release of rice stocks</p> <p>(1) Fixing of prices of rice, milk, corn and bananas</p> <p>(2) Direct marketing through the National Development Bank to bakeries and direct sale of rice</p> <p>(3) Rice imports to guarantee supply and restriction of exports to neighboring countries (Colombia and Peru)</p> <p>(4) Import tariffs for wheat and wheat flour reduced</p> <p>(5) Ban on rice exports (except to Venezuela)</p> <p>(6) Wheat flour subsidies to be gradually withdrawn</p> <p>(7) Further increases in the subsidy for the human development bond (voucher) have been considered</p> <p>(8) Policy to recover agricultural production with reference to the poverty map expected</p> <p>(1) Reduction of duties on rice and maize and elimination of wheat tariff; and reduction of consumption tax</p> <p>(2) Temporary food distribution program to 100 000 poor families in Lima</p>
Peru	Contractive monetary and contractive fiscal policies	Inflation targeting, flexible exchange rate regime	Juntos program (rural). Not indexed	School breakfasts, glass of milk, people's cafeterias, food distribution to	<p>A Trabajar Urbano, A Trabajar Rural</p>

Table 3: *Continued*

Country	Compensatory social policies			Supply-side stimulus	
	Monetary and fiscal	Exchange regime	Indexed CCT		Nutrition programs? ^a
Venezuela	Contractive monetary and expansionary fiscal policies	Maximum and minimum interest rates (use of reserve requirement and OMO), exchange control	No	<p>Missions</p> <p>Mercal (food distribution in poor barrios), Vuelvan Caras (food production), Food program in Bolivarian and regular schools (PAMI)</p>	<p>Missions: Barrio Mothers (monetary); Negra Hipólita (children), Ribas (education), Barrio Adentro and Milagro (health)</p>
				<p>communities (new) and food distribution to children (Foncodes, CRECER, PACFO)</p>	<p>(3) Partial public cover of farmers debts (no more than PEN 10 000 on debts up to PEN 30 000) of farmers by Agrobank</p> <p>(4) The National Council of Agrofood Security and Supply was set up with the objective of monitoring supply and prices of key agricultural products and guiding decision-making on promotion of the national food supply</p> <p>(1) Subsidies are maintained on the domestic price of gasoline and energy, along with exchange and price controls</p> <p>(2) Subsidies on sale of food and other basic products in poor barrios through 'missions' direct measures</p> <p>(3) There are no other specific direct measures</p> <p>(4) Donation of US\$100 million to Bolivia, Cuba and Nicaragua to contribute to food security</p> <p>(5) Maintain the PetroCaribe initiative to support oil importing countries</p>

^aSince November 2008, partly financed by a modification in the distribution of the direct tax on hydrocarbons.

^bThe Colombian government did not undertake any measure until September 2008.

Source: Author based on FAO (2009).

Table 4: Taxonomy of the potential effects of interventions to tackle the crisis

<i>Policies</i>	<i>Who implemented them?</i>	<i>Coverage</i>	<i>Fiscal cost</i>	<i>Level of distortion</i>	<i>Reversibility</i>
<i>Compensatory social policies</i>					
Expansion of conditional cash transfers	Impending implantation in BO; urban expansion planned in PE; expansion process in CO continues	Low	Medium	Low to positive	Difficult
<i>Supply-side policies</i>					
<i>Price policies</i>					
Price controls	EC	Broad	Medium	High	Difficult
Tariff reduction/elimination	BO, EC, PE	Broad	Low	Low	Easy
State trading companies	BO, EC, PE	Broad	Medium	High	Difficult
Restrictions on exports	BO, EC	Broad	None	High	Easy
Food distribution	PE (temporary)	Low	Medium/Low	Medium/High	Difficult
Direct purchases of food by public sector	CO	Low (targeted)	Medium/Low	Medium/High	Difficult
CO	CO	Low (targeted)	Medium/Low	Medium/High	Difficult
<i>Fiscal transfers</i>					
Direct or implicit transfers to consumers (price subsidies, checks to taxpayers, and so on)	VE	Broad	Medium/High	High	Difficult
Transfers to producers based on cultivated area, production, historical rights, use of inputs, total agricultural income, use of technology	BO, EC (to be gradually withdrawn)	Low	Medium/High	High	Difficult
<i>Agricultural services</i>					
Provision of public goods such as risk management, technical innovation, health and food safety, collective infrastructure, promotion and marketing, public storage, agricultural education, information systems	CO (exchange rate insurance and credit) PE (farmers' debt coverage by public bank) Planned in EC	High (targeted at all the sector)	Medium	Positive, increasing sectoral productivity and competitiveness)	Difficult (although it is desirable that they are not reversed but strengthened)

Source: Author.

Table 5: Policy mix to tackle the crisis, country by country

	<i>Policies where desirable impacts predominate</i>	<i>Policies where undesirable impacts predominate</i>	<i>Policies with mix of impacts (difficult to predict)</i>
Bolivia	CCT Expansion Tariff reduction	Restrictions on exports Subsidies to food production	Trading company
Colombia	CCT Expansion Agricultural Support Services (insurance, credit) Release stocks	Public purchase of food	
Ecuador	Agricultural Support Services Tariff reduction	Price controls Export restrictions	Trading company
Peru	CCT Expansion Tariff reduction		Trading company Debt public guarantee to small farmers
Venezuela		Price subsidies	

Source: Author.

production; or in the case of redistributive policies one may consider that ethical considerations are at center stage of the discussion. The possibility of including critical dimensions of analysis adds relevance to the exercise without compromising the consideration of fundamental dimensions such as costs, benefits and beneficiaries, efficiency, and political economy issues. Associated with the notion of flexibility, this analysis may be updated as frequently as required and at relatively low analytical and financial cost. In other words, it is a low-maintenance method.

A third advantage of the taxonomy assessment is that it may complement other analytical techniques. By identifying a preliminary mapping of desirable policies, the detailed taxonomy will identify specific intervention(s) whose consequences may require further and more complex analytical efforts. In that sense, it enables prioritization of not only policy interventions, but also parallel analytical needs. Similarly, it may help understand what specific design and implementation changes are needed in order to turn a prospective policy intervention into a desirable action: for instance, restricting geographically an intervention alone may well be a result of the analysis, suggesting that such a move will ensure better targeting and increased efficiency, both ‘desirable’ policy features.

As with any qualitative method, the main disadvantage associated with this technique is its lack of precision in the effects discussed and, ultimately, in their aggregation. There are some obvious questions that the exercise cannot answer without a complementary quantitative analysis to determine how the different impacts of interventions balance or offset one another. Which intervention is likely to have the largest positive impact of all, and the most deleterious? Is the expected magnitude of an intervention similar for economic (growth) and social (poverty incidence) consequences? A second disadvantage is that results are not necessarily generalizable to other countries or regions in the world, as each may well have a substantially different policy mix. However, even though results cannot be scaled up (or down) to other regions, the mechanics of the exercise can be applied to very different context inasmuch as the identified desirable attributes are truly universal: is a fiscally responsible intervention superior? Is a non-distortionary economic policy always preferable to a more distortionary option? To the extent that we are ready to accept that there is a consensus on these individual questions or, more generally, on the

Table 6: Temporary dimension of the measures adopted in the Andean countries

<i>Emergency package</i>	<i>Countries</i>
1. Expand emergency and humanitarian assistance responses	Peru: food distribution Colombia: public purchases of milk
2. Eliminate barriers to exports	Peru and, partially in Bolivia and Bolivia (cut tariffs but introduced barriers to exports)
3. Promote 'rapid' food production programs in strategic areas ^a	Colombia: increase credit for agricultural investment and publicly guarantee insurance to exporters Planned in Ecuador and Peru
4. Change bio-fuels policies based on corn and fats	None (does not apply in practice to these countries)
<i>Long-term package</i>	None
5. Transmit confidence to the markets with anti-speculation regulations, public food storage, strengthening of import finance.	
6. Invest in social protection	
7. Scale up investments which result in sustainable growth of agriculture ^b	Expansions planned in Bolivia, Peru and Colombia. In Ecuador and Venezuela, their different systems already implemented are large scale.
8. Complete the Doha trade round	Planned in Peru and Ecuador (but more detail is needed to characterize the strategy) Colombia and Peru most interested in bilateral agreements. Support of Bolivia, Ecuador and Venezuela improbable.

^aShort-term measures to create incentives for agricultural growth through access to seeds, fertilizers, credit for small producers, carefully subsidizing and targeting these inputs, along with electricity and water, and development of market access programs for subsistence producers.

^bIncludes investments in infrastructure, services, research, technology, which go not only to the agricultural level but more collectively cover productive chains, involving the private sector in areas such as food processing and sale, for example.

Source: Author based on Von Braun *et al* (2008).

desirability of a package of policies, the mechanics of the exercise are valid regardless of specific country contexts. Third, the proposed analysis enriches the discussion of policy alternatives to the extent that these have been detailed beyond mere outlines. If interventions are simply outlined, the method will help mostly on the design and implementation by providing insights on what attributes may lead to desired impacts, but its discussion will be necessarily prospective rather than a powerful tool for either a proper *ex-ante* evaluation exercise or a redesigning instrument of policy as the crisis evolves.

Policies Implemented to Confront the Food Price Crisis in the Andean Region

Table 2 summarizes the interventions by the five Andean countries to the end of 2008. These interventions are grouped into three policy categories: macroeconomic (monetary, fiscal and exchange rate), social compensation and agricultural supply promotion. The Andean countries have adopted a great variety of macroeconomic policies, among other reasons, as a result of their different monetary and exchange rate regimes. In the case of Ecuador, with its dollarized system, monetary policy is inflexible as an instrument to deal with this type of shock, although Ecuador was the least affected country. In contrast, Colombia and Peru, which kept implementing inflation targeting, opted for contractive monetary policies through higher interest rates, open-market operations and, in the case of Peru, increases in the bank reserve requirement. Bolivia used the exchange rate as nominal anchor, and thus the effectiveness of its monetary instruments is reduced by the absence of predefined inflation targets. In Venezuela, exchange rate controls and interest rate caps and floors also limit the scope of monetary policy. However, both countries have adopted a contractive monetary policy, especially through open-market operations (and higher bank reserve requirements in the case of Venezuela). Also in Bolivia, the exchange rate has appreciated against the dollar. On fiscal policy, three Andean countries – Bolivia, Ecuador and Venezuela – opted for expansionary policies early on, already in 2007. In Peru, contractive fiscal policy complemented the action of monetary policy to contain inflationary pressures, while in Colombia, no change in fiscal policy was pursued. The result has been a serious deterioration of the fiscal balance and inflation control in Venezuela and Bolivia, moderate deterioration in Ecuador, with no substantial change in Colombia, and an improved fiscal balance and lowering of inflation in Peru.

Among the compensatory social interventions, no country seems to have *additionally* used their social protection systems to tackle the crisis, including conditional cash transfers, nutrition programs or mass intervention programs (in Venezuela) specifically for this purpose. However, Bolivia, Colombia and Peru have plans to implement or expand their programs in the near future. In Bolivia, in November 2008, the government modified the distribution of the Direct Tax on Hydrocarbons to partially finance programs for the elderly and school children (FAO, 2009). However, a series of potential deficiencies must be taken into consideration at the time of planning to expand those programs: they do not reach all who need them, and they also reach those who may need them much less. For example in Ecuador, the intermediate distribution quintile has traditionally received 25 per cent of the benefits (see Cuesta and Ponce, 2007). Moreover, only the Colombian conditional transfer system has indexation mechanisms, although adjustments are not regular (that is, not yet practiced on an annual basis). In other countries, such as Peru, the scope of conditional transfers is only rural, although there are plans to expand the scheme to urban areas. In Bolivia, conditional transfers are targeted not to households but to the community, and the system has not yet been implemented. Ecuador has not adopted co-responsibility in practice,

although there is evidence that the popular expectation of conditionality has effectively conditioned the behavior of benefitting households (see Schady and Araujo, 2008). In addition, all of the Andean countries have at-school nutrition programs and/or emergency labor programs. However, there are no reports that these have been intensified or expanded to confront the food price crisis or that these programs contain in-built mechanisms that can reverse potential negative effects caused by the crisis, such as deterioration of nutrition among children who leave school to join the agricultural labor force, or mechanisms that can compensate for changes in demand for employment produced by relative price changes (between levels of specialization or geographical areas, for example).

The Andean countries have implemented various supply-side policies to soften the impact of the food price crisis. In Bolivia, the government authorized (until May 2008) the free import of key foodstuffs, such as rice, wheat, wheat-derived products, corn, soy oil and meat. In addition, exports of cereals and meat products were prohibited. In Ecuador, the government increased the wheat flour subsidy, introduced in October 2008, from US\$10 to US\$14.3 per 50 kilos. Duties on wheat and wheat flour imports were eliminated, and the price of bread was fixed. In Peru, the government eliminated duties on imports of food products of popular consumption,¹ and reduced the selective fuel tax. It also set up a program to distribute food to the poorest sectors. The Peruvian government is currently evaluating a possible food stabilization fund. In Colombia, no specific measures were introduced until September 2008. They consisted of agricultural support services in the form of foreign exchange insurance and the increase of credit for agricultural investment, the release of rice stocks and the public purchase of milk to improve the nutrition of poor children. Venezuela has donated \$100 million to other countries in the region to contribute to their food security.

Table 3 applies the detailed taxonomy method to those policies adopted in the Andean countries described in Table 2. It compares interventions according to their nature. Table 4 reformulates the detailed comparison by policy into a country characterization. Jointly, Tables 3 and 4 substantiate that no Andean country has adopted a complete set of desirable policies with respect to broad coverage and/or targeting of the most vulnerable, low fiscal cost, high effectiveness and reversibility if necessary. Some countries seem to have adopted one or more responses aimed at achieving some of these criteria, but these responses are mixed with others which could have undesirable effects (such as increased trade restrictions or general price subsidies). The effect of other strategies, such as the establishment of state agencies to promote agricultural production, is difficult to predict because they are not known in great detail. Similarly, the effect of the strategies of Colombia and Venezuela is not clear. These countries had not taken direct measures against the crisis by the end of 2008. A fundamental point is that even the countries that have apparently taken up measures against the crisis had been planning or had initiated those reforms before the crisis. Presenting such reforms as responses to the crisis follows a political logic, as the incumbent is being seen as proactively combating the crisis. Similarly, rushed interventions – or so perceived – in the heat of the crisis may be soon phased out after hitting the ground (as in the case of a temporary food distribution program), as they become publicly questioned and political liabilities.

Next, the policy analysis focuses on the scope and sequence of the proposed policy mix. Von Braun *et al* (2008) emphasize the need to separate short-term measures, which they term an ‘emergency package’, from long-term measures. Explicitly, there is recognition that different actors must assume different responsibilities, and that the scope of certain measures is necessarily national while others are international and consequently require a degree of international inter-institutional coordination. Even though Von Braun *et al*

(2008) do not discuss the costs of these policies or their feasibility (that is, political economy issues that facilitate or impede their execution), it is worth asking how the current interventions of the Andean countries perform in relation to their short- and long-term horizons. Table 5 reports the result of that exercise. It shows three key results. First, the dynamism with which the countries have adopted interventions such as those proposed by Von Braun *et al* is heterogeneous, with Peru as the most active and Colombia the least. Second, only the social compensation dimension is in a strong position in all countries to react immediately to the consequences of the crisis. Third, efforts are concentrated on short-term policies rather than long-term policies, which may have to do with the magnitude of the crisis, as well as politicians having large discount rates into the future and short planning horizons (Alesina and Perotti, 1995).

Conclusion

To predict when a crisis will end while it is still taking place is extremely difficult. This is, of course, also the case of the current food price crisis. Even though there is consensus on what factors are causing the crisis, there is less agreement on how to obtain a balance of short- and long-term effective interventions. Expectedly, ‘patched’ and/or rushed policies may well result in costly and ineffective interventions. The article develops an analytical tool to analyze the potential consequences of interventions recently undertaken or planned to be. The analysis is qualitative in nature and focuses on critical attributes that are broadly acceptable from a policy point of view: that is, interventions are fiscally responsible, cover a relevant segment of the population, are sustainable, and are the least distortionary and/or even introduce adequate incentives. Interestingly, the present analysis shows that no Andean country has so far adopted a complete set of policies with desirable properties. However, some countries have adopted one or more responses aimed at achieving some of these criteria. These responses are mixed with others which could have undesirable effects, such as increased trade restrictions or general price subsidies. The effect of other strategies, such as the establishment of state agencies to promote agricultural production, is difficult to predict because they are not known in great detail. Similarly, the effect of the strategies of Colombia and Venezuela is not clear. These countries have not taken direct measures against the crisis.

A fundamental policy matter is whether or not countries that seem to have undertaken measures against the crisis had been planning or initiating these reforms before the crisis. The most obvious illustration refers to the process of strengthening social programs around solid conditional cash transfers. In the context of the food price crisis, improvements to these programs might consist of extending them to areas or beneficiaries who do not currently receive benefits (whether they become eligible because of the crisis or because they were eligible before the crisis but did not enjoy the benefits), indexing benefits according to the food price increase or the total loss of purchasing power (caused by inflation of the prices of food and other goods and services), and establishing automatic red flags (on certain thresholds in key indicators which are easy to track). This means that policy responses to a crisis are in practice determined by existing instruments, even if that implies using major long-term interventions to respond to sharp short-term changes. It also means that the design of these interventions – either short or long term, but especially among the latter – must either introduce certain elements of flexibility (for example, the possibility of emergency indexing of a benefit) and/or consider different contexts to be tackled by the intervention over time. No intervention can

totally account for all eventualities, but alternative scenarios need to be considered in the design of long-term interventions.

In contrast, and this is easier to predict, short-term or indiscriminate measures will result in expensive, unsustainable and ineffective exercises. However tempting, exclusively expanding compensatory social measures already on their feet will only address one dimension of the problem, but not its productive or macroeconomic sides. A combination of responsible and cautious macro-policies, on the one hand, and measures that effectively support agricultural diversification and competitiveness (needed a long time before this crisis), on the other, must accompany efforts to expand a social protection system that is really effective in dealing with this and future crises. These actions involve recognition beyond mere words that the responsibility for mitigating the crisis is not exclusive to each individual country. It must also involve the international community as a whole, in terms of both improving domestic institutional capacity to respond to policy crises but also a trade policy causing distortions and asymmetries unfavorable to vulnerable developing countries.

Acknowledgement

This article reflects only the views of the author and not necessarily those of the World Bank or its Board of Directors. I have benefited greatly from inputs and multiple conversations about this project with R. Baldwin, S. Duryea, F. Jaramillo, H. Malarín, S. Levy, M. Robles and other colleagues at the Inter-American Bank working on this topic. I am also grateful to participants in several seminars discussing the food price crisis. The usual disclaimers apply.

Note

1. Duties were cut from 9 to 0 per cent for the group of beef, fish, and shellfish, milk products, sweet corn and some wheat flour products, among others. On another group of products, duties were cut from 17 to 9 per cent (beef, fresh and prepared fruits, vegetables, and pulses). In a third group, mainly meat products, duties fell from 20 to 17 per cent.

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