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# **Food Price Shocks and the Political Economy of Global Agricultural and Development Policy**

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**Food Price Shocks and the  
Political Economy of Global Agricultural and Development Policy**

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**Abstract**

The recent spikes of global food prices induced a rapid increase in mass media coverage, public policy attention, and donor funding for food security, and for agriculture and rural poverty. This has occurred while the shift from “low” to “high” food prices has induced a shift in (demographic or social) “location” of the hunger and poverty effects, but the total number of undernourished and poor people have declined over the same period. We discuss whether the observed pattern can be explained by the presence of a “global urban bias” on agriculture and food policy in developing countries, and whether this “global urban bias” may actually benefit poor farmers. We argue that the food price spikes appear to have succeeded where others have failed in the past: to move the problems of poor and hungry farmers to the top of the policy agenda and to induce development and donor strategies to help them.

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## **1. Introduction**

Food security tops the international development agenda these days. Yet, hunger and malnutrition are nothing new. They have been a major development problem in the past decades. However, until recently, these issues attracted relatively little public attention, were often low on policy-makers' priority list, and received relatively little donor funding.

To illustrate this, consider the situation in the mid 2000s. According to the leading global indicators, almost 14% of the people in the world were undernourished (FAO, 2012) and around 25% of the people were living below the 1.25 \$/day poverty line (World Bank, 2013a) – see Figure 1. The vast majority (more than 70%) of these people were depending on agriculture for their incomes: around 50% were small farmers and 20% households whose main income is agricultural wages (UNDP, 2005).

Yet, few policy-makers seemed to care. Poor farmers and food security did not figure prominently (if at all) on the global development policy agenda and donor funding for developing country agriculture was declining significantly, despite economic growth in rich countries. As Figures 2 and 3 illustrate, between 2000 and 2005 the share of global overseas development aid (ODA) going to agriculture fell from 5% to 3.8% (OECD, 2013) and the budget share in the UN system going to agriculture (FAO) fell from 20.1% to 15.5% (Global Policy Forum, 2013).

Now consider the situation in recent years. There are still a very large number of poor and undernourished people in the world, but the numbers are significantly better than a decade ago, as Figure 1 illustrates. By 2010 around 12.5% of the people in the world are undernourished (FAO, 2012) and less than 21% of the people are living below the poverty line (World Bank, 2013a). Studies estimate that the number

of poor and food insecure people has declined by between 50 and 250 million people, depending on the source (Heady, 2013; Ravallion, 2013). The vast majority of these poor and food insecure people still depend mostly on agriculture for their incomes.

But now the world cares, and it cares a lot. All the leading development institutions put food security and agricultural development on top of their agendas and global leaders rush to position themselves as saviours of the hungry. One example of high profile action was the 2008 *L'Aquila Food Security Initiative* by G8 leaders to improve world food security. Donor funding followed. As illustrated in Figures 2 and 3, the trend reverses dramatically: between 2007 and 2011 the share going to agriculture (FAO) in the UN system increases from 15.2% to 22.2% and the share of global development aid going to agriculture jumps from 3.7% to 6.5% (Global Policy Forum, 2013; OECD, 2013).

What caused this remarkable turnaround ? What made the world suddenly care about the fate of poor farmers in developing countries ?

In this paper we argue that the spikes of global food prices in 2007-2008 and later had a dramatic impact on the global development agenda and on donor funding, and that attention to the issues in mass media was very strongly correlated with this. Drawing on insights from the political economy literature and the economics of the media, we argue and present empirical evidence that the price shocks induced a (disproportionate) increase in mass media coverage and changed policy-makers priorities and donor funding for agriculture and food security issues. What made this impact particularly remarkable is that all this has occurred while the shift from “low” to “high” food prices has induced a shift in (demographic or social) “location” of the hunger and poverty effects but the total number of undernourished and poor people

have declined over the same period. Moreover, specific policy recommendations to reduce malnutrition have been generally unaltered.

In the final section of the paper, we discuss whether these effects result from a new form of (global) “urban bias” – one that, paradoxically, may benefit poor farmers. The traditional urban bias in developing countries has been well documented in the political economy literature (see e.g. Krueger, Schiff and Valdes, 1992). It refers to the observation that governments in developing countries were (or are) more responsive to urban political pressures than rural pressure and that, as a consequence, farmers were hurt by policies that favoured urban interests, such as low food prices and export taxes on agricultural products. However, in the case of the spike in global food prices discussed in this paper we argue that the “urban bias” effects and the process may be different. As soon as urban protests reached the streets with increasing food prices, these protests were reinforced by global media and international organizations and donors have reacted much like local politicians. However, besides paying much attention to food consumer concerns, there has also been a consistent focus on agriculture and farmers to increase their capacity to produce food and increase their productivity and reduce rural poverty – as there was a realization that much of the food security problems were located in the rural areas. Budgets to support farmers and agriculture were raised at the same time when funding to address consumer concerns were increased – despite the fact that farmers saw their relative income positions improving with higher prices for their products.

The paper is organized as follows. We start by documenting, in chapter 2, the positive link between the evolution of food prices and mass media attention towards food security, agriculture and (rural) poverty. In chapter 3 we document the existence of a similar relationship between food prices and the level of attention towards

agriculture and food policies in the global policy agenda. Chapter 4 shows that this positive relationship also holds also when we look at the evolution of donor funding towards agriculture. In chapter 5 we illustrate that these patterns are disconnected with the actual evolution of global malnutrition and we provide an interpretation for this mismatch, by referring to the presence of an “urban bias”. Finally, Chapter 6 concludes.

## **2. Mass Media Coverage**

The first step of our analysis is to understand whether and to what extent the evolution in food prices affected media coverage of agriculture and food related issues. To do so, we construct a news coverage index, relying on a large archive of US news sources, called Newslibrary<sup>1</sup>. The database archives articles from 4,508 titles, which include newspapers, TV channels, radio channels, newswires and transcripts. We collected data using a program called Imacro to iteratively search the archive: for each day starting 1<sup>st</sup> of January 2000 and until the 31<sup>st</sup> of December 2012 our algorithm delivers the number of news that contained the desired words.

### *2.1 Indicators and word selection*

A crucial issue in the construction of the news coverage index is the selection of specific words as indicators of media coverage of food security, hunger, agriculture and rural poverty. To select these words as objectively as possible, we analyzed official reports (published both before and after the food crisis) written by international organizations and NGOs traditionally dealing with these topics and active in the policy discussions. We used the following methodology. We analyzed

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<sup>1</sup> We searched for alternative data sources outside the US, but to the best of our knowledge there are no comparable databases available.

executive summaries of official reports (written both before and after the food crisis) by international organizations and NGOs traditionally dealing with these topics and active in the policy discussions. Then, we selected the most common words used in the reports and the policy discussions. The analysis of the reports suggested words such as “price”, “food”, “agriculture”, “production”, and “poor” (see Table A1 in Appendix for details).

Taken individually, these words could clearly be used to report about a large number of issues, not necessarily related to the issues we are interested in. We therefore adopted three different strategies in order to limit the noise in our data as much as possible. First of all, instead of looking for the presence of individual words, in our analysis we considered only those articles in which a combination of the key words appears. Second, we performed a random check of specific articles that are identified through our query, to make sure we were not systematically capturing something unrelated to our analysis. Finally, we performed a set of robustness tests, which included modifying the combinations of words and comparing our results to those given by alternative more generic poverty-related queries, in order to control for other potential causes to shifts in attention of the media that are unrelated to the movements of food prices. While it is unavoidable that some noise remains in the news coverage data, we think this approach allowed us to perform a relatively sound analysis. In fact, as we will discuss further, the random checks and the robustness test show that our key results are quite robust to variations in the specific word selections.

## *2.2 Results*

Figures 4a and 4b illustrate the correlation between the monthly movements of the food price index (dashed line) and our news count index (continuous line). The

price index is taken from the IMF database, while the news count index aggregates by month the daily count of news identified according to the procedure described above. More specifically, the news count index used in the graph records the monthly number of news containing the words “*price*”, “*poor*” and “*agricult\**”<sup>2</sup>. Both indices are standardized so that their value is 100 in January 2000.

The correlation coefficient between the food price indicator and the media coverage indicators is a staggering 83%. News coverage of food and agriculture related issue appear to be relatively stable as long as food prices remain relatively stable: from January 2000 until January 2007 an average of 237 news containing our three key words are published every month. However, as food prices start increasing in 2007, the news coverage quickly follows the increase, reaching an average of 1,288 articles per month in April, May and June 2008, when the food prices peaked. As prices decreased, in the second half of 2008, news coverage quickly dropped: the news effect was over. News coverage however stabilized at a level which remained significantly higher than in the previous years, following exactly the same evolution of the food price index. And as food prices increased again, in 2011 and 2012, the news coverage index peaked again as well, even if less impressively than in 2008.

Overall, these data are consistent with our key hypotheses. First, it clearly reveals that the increase in food prices significantly shifted media attention towards these topics. The monthly number of articles more than doubled from an average of 237 in the period 2000-2007 to 553 in the period 2009-2012.

Second, the data show that the shift is disproportionate, and consistent with studies showing that mass media coverage is strongly event-driven (Hawkins, 2002; Swinnen and Franken, 2006). Media attention seems to move more or less in line with

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<sup>2</sup> The star indicates that any word starting with “*agricult*” (i.e. both *agriculture* and *agricultural*) is considered valid.



food index movements for small variation of the index; however, whenever there are more significant and sudden increases, the number of articles jumps up more than proportionally. For the 2008 peak, for instance, while the price index increased by around 200% compared to the reference level, news coverage increased by more than 500%.

Third, the data are also consistent with relatively rapid “media fatigue”: the jump in media attention is exceptional in occasion of the first peak reached by food prices in 2008, while it is less extraordinary, in case of the 2011 (and 2012) increases, despite the fact that food prices reached prices even (slightly) higher than in 2008.

### *2.3 Robustness Checks*

As mentioned above, our measure of media coverage is likely to be affected by some noise. When we look at a random selection of articles that are identified through our combination of words we find most of them to be related to the agriculture and food related issues, as expected. However, from time to time we also mistakenly capture articles not in line with what we are interested in. In order to get a better idea of how serious the noise is in the data and, consequently, how robust our findings are, we perform two different tests.

First, we check the correlation between the food price index and different news count indices obtained by modifying our selection of words. Table 1 reports the results. There is some variation, depending on the index, but interestingly in all cases the correlation is higher than 50% and in most cases is 80% or higher, suggesting very strong co-movements between any of our measure of media coverage and the price index.

Second, we control for the possibility that some other events not directly related to food prices determined the observed shift in media attention. To do so, we run a simple OLS regression of our news count index over the food price index, controlling for alternative news count indexes capturing the number of news containing more generic poverty-related or agriculture-related words. The coefficient of the food price index (Table A2, in appendix) remains always strongly significant, independently from the control that we include.

### **3. Policy priorities**

The second step in our analysis is to investigate how development policy priorities changed with the food price changes and with the associated shift in media attention towards agriculture and food security issues.

#### *3.1 Data and indicators*

The main challenge in this case is to identify an appropriate measure of policy priority setting. As no direct measure is available, we looked for the best possible proxy. The indicator has to satisfy requirements of consistency (for comparison), frequency (to have observations), and policy importance (for relevancy). The best indicator we developed, based on these criteria, relies on the “Communiqués” of the *Joint Ministerial Committee of the Boards of Governors of the Bank and the Fund on the Transfer of Real Resources to Developing Countries*. This committee is usually referred to as the “Development Committee” and is a World Bank and IMF ministerial level forum, whose mandate is to advise the Boards of Governors of the World Bank and the IMF on critical development issues and on the financial resources required to promote economic development in developing countries. The

Development Committee has 25 members, usually Ministers of Finance or Ministers of Development, who represent the full membership of the World Bank and the IMF. They meet twice a year (once in the first and once in the second semester). The agenda for the meetings is based on issues recommended by their Chairman, the President of the World Bank, the Managing Director of the IMF, and the Executive Boards of the World Bank and the IMF. At the end of each meeting, the Committee issues a Communiqué, which summarizes the conclusions of the meeting.

These Communiqués are particularly interesting for our study, since in the whole 2000-2012 period they are standard in format (and thus comparable) and focusing only on the crucial issues discussed at the meetings<sup>3</sup>.

There are in total 25 Communiqués over the 2000-2012 period, starting from the fall of 2000. In order to generate the index, we relied on a “word usage software” to count how often our key words are used in each document. The selection of words followed the analysis described in the previous chapter and included: “*agricult\**”, “*food*”, “*poor*”, “*price\**”, “*product\**”<sup>4</sup>. To take into account that, despite the standard format, the Communiqués may vary in length from year to year, we define the Communiqués Index as the share of key words over the total number of words contained in the document.

Also in this case we performed robustness checks (described below) to check whether our results are affected by any specific word included in our index.

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<sup>3</sup> We also reviewed other reports, such as those by the G-8 and G-20, but they are affected by a large heterogeneity in format and by changing composition of the groups over the 2000-2012 period, which make comparison over time less straightforward.

<sup>4</sup> Given the limited number of reports, in this case we do not use combination of words, but we simply count the times the selected words appear in the Communiqués. In this case we therefore exclude the word “*develop\**” because it often refers to issues that are not necessary related to agriculture. In any case, our results remain in a qualitative sense even after its inclusion, as shown by Figure A1 in Appendix.

## *Results*

Figures 5a and 5b illustrate the correlation between the food price index (dashed line) and the Communiqués index (continuous line). Since we only have one Communiqué per semester, the Food Price Index is defined as the average of the monthly price index over the first or the second semester of each year. Both indices are standardized and take value 100 in the second semester of 2000 (which is the date of the first Communiqué that is available in our dataset).

The correlation between the two indicators is again very strong. The correlation coefficient is even higher than the one in the media analysis and equal to 85%. Communiqués coverage of food and agriculture related issue is relatively stable in the pre-crisis period, from the second semester of 2000 till the second semester of 2007 (corresponding to the first 15 Communiqués). Little attention is paid to the problems of poor farmers suffering from malnutrition, despite widespread rural poverty: the words “*price*”, “*food*”, and “*agricult\**” were mentioned in total only 1, 0 and 7 times, respectively, in the 15 Communiqués published in those years.

However, after the increase in food prices, the Communiqués coverage reaches a peak, with the share of sensitive words in the Communiqué of the first semester of 2008 being 8 times bigger than in previous Communiqué (second semester of 2007). As prices decrease, the Communiqués Index drops significantly again, but it stays higher than in the pre-crisis period. Finally, after the new increase in food prices in 2011 and 2012, it jumps up again, even more impressively than in 2008. In the Communiqués relative to the 10 meetings following the food price crisis (2008 – 2012) the same words “*price*”, “*food*”, and “*agricult\**” have been mentioned in total 22, 34 and 18 times, respectively, despite the fact that the Communiqués became on average more than 40% shorter. So, not only media attention, but also the

focus of policy makers moves in line with the food price movements and the Communiqués index appear even more volatile than the news index.

### *3.3 Robustness Checks*

The relatively low number of observations (one Communiqué per semester) contributes to the volatility of the index, as it makes it more sensitive to the presence of one extra (or one less) key word in each report. We performed two robustness checks to see how results are affected by the choice (inclusion) of particular words.

First, we re-compute the index by dropping one by one the individual words. Figure 6 shows the evolution of the different versions of the index, with each version excluding a different word. While it is clear that some words – such as *poor* - have more weight than others, the graph clearly indicates that the trend is very similar, no matter which specific selection of words is chosen.

Second, to test more formally for the robustness of our finding, we used a regression analysis in which we estimated the relationship between the Communiqués index and the food price index, while controlling for the presence of specific individual words in the Communiqués index. As Table A3 in Appendix shows, the coefficient of the Communiqués index remains always significant, independently from the control that we use.

## **4. Donor funding**

The next step in the analysis is to check whether the funding of public programs and organizations to address agriculture and food security changed with the rise in food prices. Because of the limited amount of information on this, we look at

funding allocating to major international programs and organizations, both public and independent.<sup>5</sup>

#### *4.1 World Bank Funding*

The shift in funding from the international community towards food and agriculture is exemplified by the activities of the World Bank, the largest international organization providing financial support to developing countries. Over the Fiscal Years 2006-2008 (i.e. up to just before the 2008 food crisis<sup>6</sup>) the World Bank Group lent on average \$4.1 billion per year to “agriculture and related sectors”. Over the Fiscal Years 2010-2012 the annual average jumped up to \$8.0 billion (World Bank, 2006, 2012). Moreover, in 2008 the World Bank created a new program – the Global Food Crisis Response Program – specifically aimed at addressing the food crisis by providing trust fund grants and fast-track funding from the International Bank for Reconstruction and Development and from the International Development Association. The project has so far allocated over \$1.6 billion, of which roughly \$350million came from external donors. This involved nearly 100 operations in 49 countries, and is estimated to have directly reached 66 million people through social protection, short term agriculture support and budget support related to food programs (World Bank, 2013b).

#### *4.2 Aid Flow Targeting*

In order to analyse more formally whether the shift in attention towards food and agriculture also implied an increase in aid flows targeting those specific sectors, we rely on the Creditor Reporting System (CRS) database kept by the OECD, which

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<sup>5</sup> We do not consider private investments in agriculture here – see e.g. Byerlee and Deininger (2013) and Deininger (2013).

<sup>6</sup> World Bank’s fiscal year runs from July 1 to June 30.

is, to the best of our knowledge, the most complete database recording aid flows disaggregated by purpose. The rich OECD database records, among other things, ODA commitments and disbursements<sup>7</sup> directed from any donor to developing countries, disaggregated by purpose code.

Table 2 present data on ODA commitments directed towards the four key sectors traditionally targeted by international aid: Education, Health, Agriculture and Industry. The first column shows a generalized increase in international aid commitments (expressed in nominal values): over the period 2000-2007 around \$94 billion were committed every year as ODA directed to developing countries, while the figure increased up to almost \$160 billion - meaning an increase of more than 70% in nominal terms - for the period 2008-2011. When we look at the disaggregation of the figures by sector, we see that nominal commitments increased in every sectors over the two periods considered, but that the difference is most striking for the agricultural sector, with the figure more than doubling. In order to better understand whether these figures truly reflects a shift in the focus of the donor community, the table also report the relative share of each sector in total commitments. Over the period 2000-2007 ODA committed to Agriculture represented, on average, 4,56% of total commitments. This figure increased up to 5,76% in the period 2008-2011, meaning an increase of more than 26% in the relative share. None of the other sectors experienced such an impressive increase in the relative importance over the total budget: Health increased by 14,75%, while Education remained stable (+1,47%) and Industry became relatively less relevant (-20,67%). Looking at actual ODA disbursements, rather than

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<sup>7</sup> Official Development Assistance (ODA) is defined by the OECD as “those flows to developing countries and multilateral institutions provided by official agencies, including state and local governments, or by their executive agencies, each transaction of which meets the following tests: i) it is administered with the promotion of the economic development and welfare of developing countries as its main objective; and ii) it is concessional in character and conveys a grant element of at least 25 per cent.”

commitments, simply strengthen our conclusions: the relative importance of Agriculture within the total ODA disbursements budget increased by 41,99%, compared to an increase of 22,93% for Health, of 14,87% for Education and to a decrease of -17.33% for Industry (see Table A4 in Appendix).

### 4.3 UN Agencies

We use data from the Global Policy Forum which provides information on assessed and voluntary funding<sup>8</sup> for 12 specialized UN agencies and 1 related organization<sup>9</sup>. Each agency is specialized on a different issue, and the Food and Agricultural Organization (FAO) is the one specifically dealing with agriculture and food policy.

Table 3 illustrates the average total contributions (the sum of assessed and voluntary contributions) in the period before and after the food crisis. The first column shows an increase in total nominal contributions: while around \$4 billions were allocated every year to UN agencies over the 2000-2007 period, this figure reaches almost \$6 billions in the 2008-2011 period – an increase of almost 42%. Considering the different agencies separately and focusing on the first columns of each cell, we see that nominal contributions increased in all cases over the two

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<sup>8</sup> Funding to UN specialized agencies is commonly classified in *assessed* and *voluntary* contributions. Assessed contributions are payments made as part of the obligations nations undertake when signing treaties and they are generally referred to as regular budget resources. Assessed contributions guarantee a source of funding for the expenses necessary for the existence of the organization and are provided without conditions attached to their use and can be equated with the notion of “unearmarked contributions”. Voluntary contributions are payments left to the discretion of each member state and are generally called extra-budgetary resources. Voluntary contributions carry conditionalities and are “earmarked” by the donors for specific programmes or projects, limiting the flexibility of the receiving agencies (Yussuf *et al.*, 2007).

<sup>9</sup> In total there are 15 UN specialized agencies. We do not have data for 3 of them: the World Bank (WB), the International Monetary Fund (IMF) (which, while having the specialized agency status, are funded differently), and IFAD. On the other hand, we have information for the International Atomic Energy Agency (IAEA), which without being a specialized agency is still funded through assessed and voluntary contributions. See Table A5, in Appendix, for the list of agencies included in the analysis.



periods, but the growth is particularly high for the FAO (more than 75%). The second column of each cell reports instead the share of total contribution that is directed towards each agency. While about 17% of the total funding was allocated to the FAO in the 2000-2007 period, the figure increased to more than 21% in the 2008-2011 period. None of the other agencies experienced such a high increase and for 7 out of 12 agencies the share of total contributions decreased. report the same analysis, disaggregated for voluntary and assessed contributions. Similar conclusions hold when considering voluntary<sup>10</sup> and assessed contributions separately (Table A6 and A7 in Appendix), with the effect being more pronounced for voluntary contributions. While assessed contributions mostly cover the expenses for the existence of the organization, voluntary contributions, which are earmarked and at the discretion of each member state, are more likely to be allocated for specific projects and purposes, such as to deal with the food crisis<sup>11</sup>.

#### *4.4 Summary*

The data we presented in this chapter suggest that the food crisis led to an important change in donor priorities and to a change in funding allocation in international agencies. In particular, the increase in food prices caused a significant increase in donor funding to agriculture, reversing the downward trend that had characterized the previous years.

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<sup>10</sup> For voluntary contributions we have data on expenditures. However, since voluntary contributions are project-specific, expenditure data are a good proxy for funding data. Moreover, whenever available, we double checked these expenditure data with data on voluntary funding provided by specific organizations and they correspond.

<sup>11</sup> A similar analysis can be conducted for the UN Programmes and Funds. The World Food Program (WFP) is the one addressing issues related to food and agriculture. The WFP funding increased by 64% over the two periods (from \$2.5 to \$4.1 billions on average per year). As with FAO, before 2007 the share of funding allocated to the WFP was declining (from 29% in 2004 to 22% in 2007). After 2007, WFP experienced an increase in the total share of funding allocated (from 22% in 2007 to 25.5% in 2009).

Interestingly, the shift in funding is also reflected in NGO funding. For example Oxfam, the NGO that has played a major role in the public debate on food security, has been significantly more successful in raising contributions after the price increase. While fundraising income remained approximately stable (at around 200m£) between 2004 and 2008, it increased by more than 40% between 2008 and 2011, despite the financial crisis (Oxfam, 2008, 2012). These numbers are consistent with the previous observations that global funding for agriculture and food security issues has increased significantly since 2008.

## **5. An interpretation: Mass Media and Urban Bias During the Food Crisis**

The previous sections have clearly documented that the food price hikes increased media coverage, policy priorities and donor funding for agriculture and food security. However, as Figure 1 illustrated, the observed increase in attention and donor funding is not correlated with actual increases in hunger. While the incidence of hunger has changed, the total number of food insecure households has not increased and poverty has declined since 2006. Recent estimates suggest that poverty fell from about 1.39 billion in 2006 to 1.21 billion in 2010 (Ravallion, 2013; World Bank 2013).

That is (a) because the transmission of global food prices to domestic markets has been imperfect, (b) because economic growth has enhanced incomes in developing countries, and (c) because food prices have mixed effects on food security (Heady, 2013; Swinnen, 2011; Swinnen and Squicciarini, 2012). While poor people spend a vast share of their income on food, and even more so when prices are high, many of them live in rural areas and work on farms, and their incomes also increase with rising agricultural and food prices. Empirical studies document these mixed impacts of food

prices (Aksoy and Hoekman, 2010). The heterogeneity among households and countries is consistent with economic predictions: net sellers and exporters of food benefit and net buyers and importers lose; the transmissions of price shocks to local markets have been mitigated by policy interventions and by institutional and infrastructure deficiencies; and negative price effects on poverty and malnutrition have been offset by economic growth over the same period (Headey, 2013; Verpoorten *et al*, 2013). Accounting for positive wage effects for the rural poor significantly enhances the welfare benefits (Jacoby, 2013).

That said, there remain a very large number of poor and malnourished people and many of them are living in rural areas and the vast majority are depending on agriculture for their incomes, mostly as small farmers.

The dire situation of developing countries' farmers has been caused at least partially by policies in the past which were said to be "urban biased", i.e. favoring urban interests and at the detriment of rural farmers through (implicit) taxes – and a lack of (public and private) investment in agriculture (Krueger, Schiff and Valdes 1992).

There are a variety of explanations for the urban bias in developing countries. Urban consumers, when hit by a negative relative income shock, such as an increase in food prices, will react politically, e.g. through demonstrations.<sup>12</sup> Since they are concentrated in cities and are easier to mobilize (lower transportation and lower

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<sup>12</sup> This shift in policy attention reflects the relative income effect, which is widely observed to be a determinant of food and trade policy. When economic conditions change, government attention will typically shift from one social group (or economic sector) to another depending on how they are (relatively) affected, i.e. who is benefiting and losing from the change. The relative income effect in agricultural and food policy was emphasized by, for example, de Gorter and Tsur (1991), Swinnen and de Gorter (1993) and Swinnen (1994).

organization and communication costs) than dispersed farmers in distant rural areas, they may receive disproportionate attention and policy favors from policy-makers.<sup>13</sup>

It appears that a similar urban bias effect played a role in drawing reactions and policy attention from international organizations and policy-makers. As we have documented, before 2006 there was little attention to the plight of poor farmers suffering from low prices and low productivity in policy makers' priorities and agendas. The high and volatile prices from 2007-2008 onwards changed this. The price spikes captured the attention of global policy-makers and donors. As soon as urban protests reached the streets, international organizations have reacted much like local politicians and paid a disproportionate amount of attention to the problems of urban consumers.

It appears that global mass media have played an important role in drawing reactions and policy attention from international organizations and policy-makers. While the empirical evidence that we presented documents strong correlations, there is no causality that one can draw from it. However, we know from various studies that mass media coverage is an important driver of policy agendas (Strömberg, 2004; Eisensee and Strömberg, 2007; Prat and Strömberg, 2011). In foreign policy, this agenda setting effect has sometimes been earlier referred to as the "*CNN factor*" (Hawkins, 2002). Similarly, the absence of media coverage reduces priority in agenda-setting (Jakobsen, 2000). Robinson (2001) argues that the media can be a powerful source in leading policy makers especially when there is great uncertainty or limited information. We also know from various media campaigns (and studies of these campaigns) that NGOs and other organizations consider these key elements in their drive to mobilize funding and public support (Cottle and Nolan, 2007; The

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<sup>13</sup> The organization cost argument was made first by Olson (1965) and has been applied to agricultural and food policy by, for example, Anderson and Hayami (1986) and Gardner (1987).

Lancet, 2010). Studies have also shown that media coverage is strongly “event driven” (Swinnen and Franken, 2006).

Clearly the correlations as we presented them are consistent with these arguments. The 2007-2008 price spikes, and the ensuing urban consumer unrests, created major “media events”. As soon as urban protests reached the streets, local media reports were picked up by international mass media, paying a disproportionate amount of attention to the problems of urban consumers, compared to the long-run hunger and poverty problems among the rural population.

Thus, while for many years experts pointed at the low level of investment in developing country agriculture as a source of poverty and food security, it was only after the “food crisis” that media attention increased and that policy-makers worldwide put rural poverty and underinvestment in agriculture on their priority list. Donor funding has followed.

In line with our arguments, an analysis of the key policy prescriptions of international organizations of how to address food security and poverty problems have been quite consistent and have not changed with the price changes.<sup>14</sup> Table 4 summarizes the policy recommendations – before and after the food crisis – of organizations active in the global agriculture and food security. While there is a significant shift in the attention to food consumer concerns and in the emphasis of rural households as net food consumers, as well as on some specific policies (e.g. input vs. export subsidies, biofuels, etc), there is much consensus on key structural policies, such as the need for public and private investments in agriculture to improve infrastructure, institutions, rural factor markets – thereby reducing costs for farmers,

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<sup>14</sup> What did change was the emphasis on consumer versus producer effects and, in the trade policy aspects, the focus on export bans versus import tariffs.

and lowering prices for consumers – empowering small farmers, enhancing value chains, and the importance of safety nets for consumers.<sup>15</sup>

## 6. Conclusion

In this paper we have analyzed the links between the movements of international food prices and changes in media attention, in the priorities on the global development agenda and in the targets of donor funding, documenting a strong positive correlation among all these dimensions.

The lack of correlation with the actual trend in poverty and malnutrition – which constantly decreased over the past decade -, suggests that the “food crisis” acted as a catalyst of attention on long-standing issues related to food security and agricultural production, which were made particularly salient by the fact that urban consumers - whose voice is typically heard the most by mass media and policy makers – were hit the hardest by the spikes in food prices.

What is therefore remarkable in this story is that, despite the fact that rural malnutrition and poverty of farmers and low agricultural productivity in developing countries has been a major problem for a long time, it was an “urban (consumer) crisis” that helped to put poor farmers’ situation on top of the agenda. Pressure from urban interests led to a surge in attention to food security issues and, somewhat paradoxically, to the problems of poor farmers.<sup>16</sup>

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<sup>15</sup> In addition, the organizations have maintained their views on issues on which they differ in opinion. For example, organizations like the World Bank, OECD, FAO and IFPRI have continued to emphasize the importance of trade liberalization and of concluding the Doha Round both before and after 2006; while NGOs, such as Oxfam and ActionAid have continued to recommend the cut of rich country subsidies and the importance of government regulation and protection of poor countries’ agri-food markets (Swinnen et al., 2011).

<sup>16</sup> See Hendrix et al (2009) and Maas and Matthews (2009) for empirical political economy analyses on the determinants of protests and riots against the food price increases.

Hence, food price spikes have succeeded where others have failed in the past: to put the problems of poor and hungry farmers on the policy agenda and to induce development policies and donor strategies to help them.

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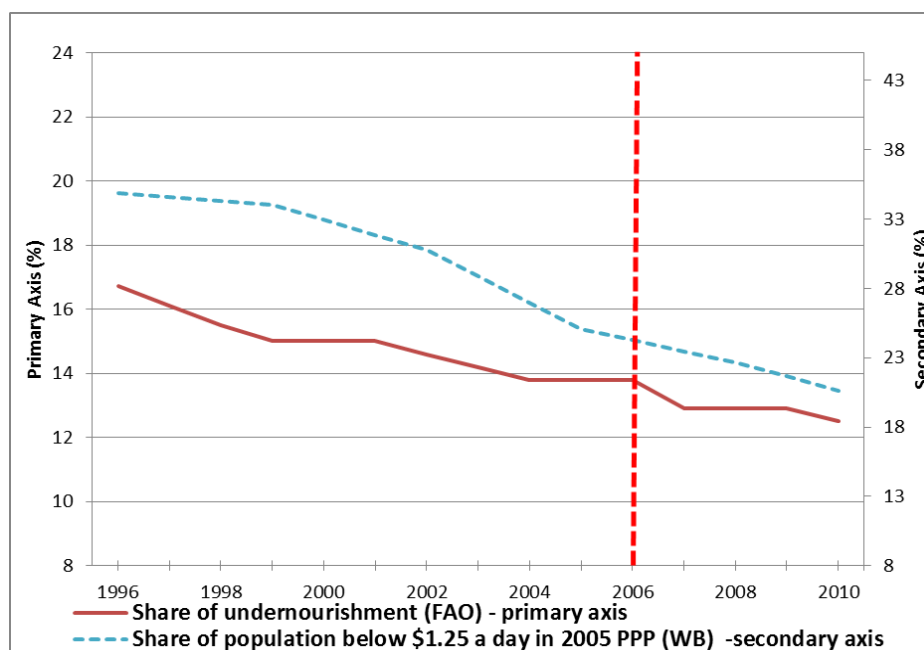
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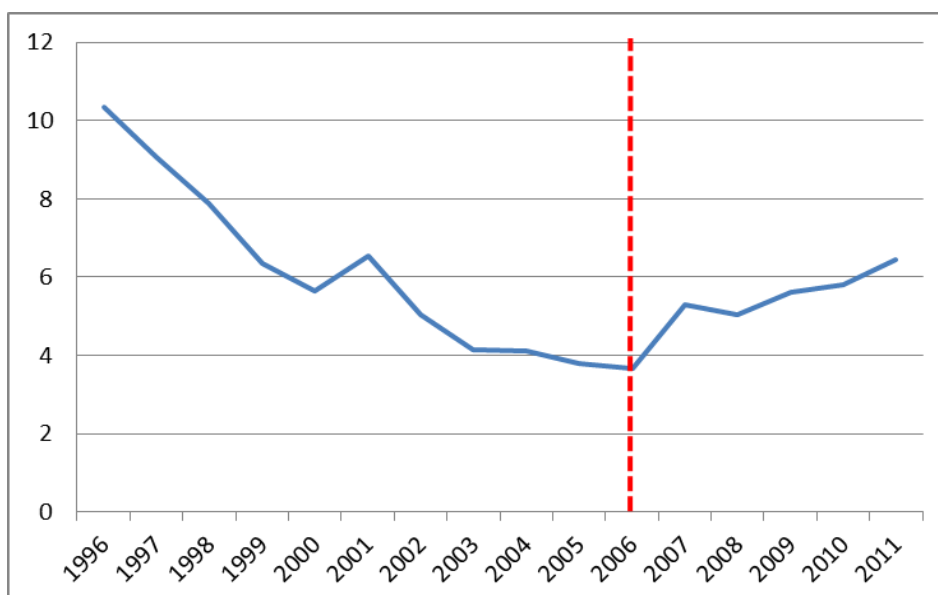
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**Figure 1. Undernutrition and poverty indicators**

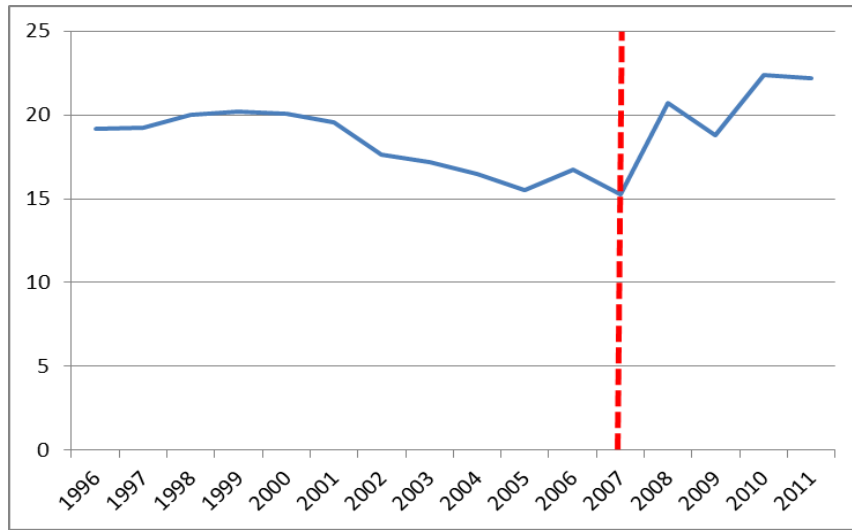


Note: Missing data have been interpolated

**Figure 2. Development aid (ODA) to agriculture (% of total ODA commitments)**

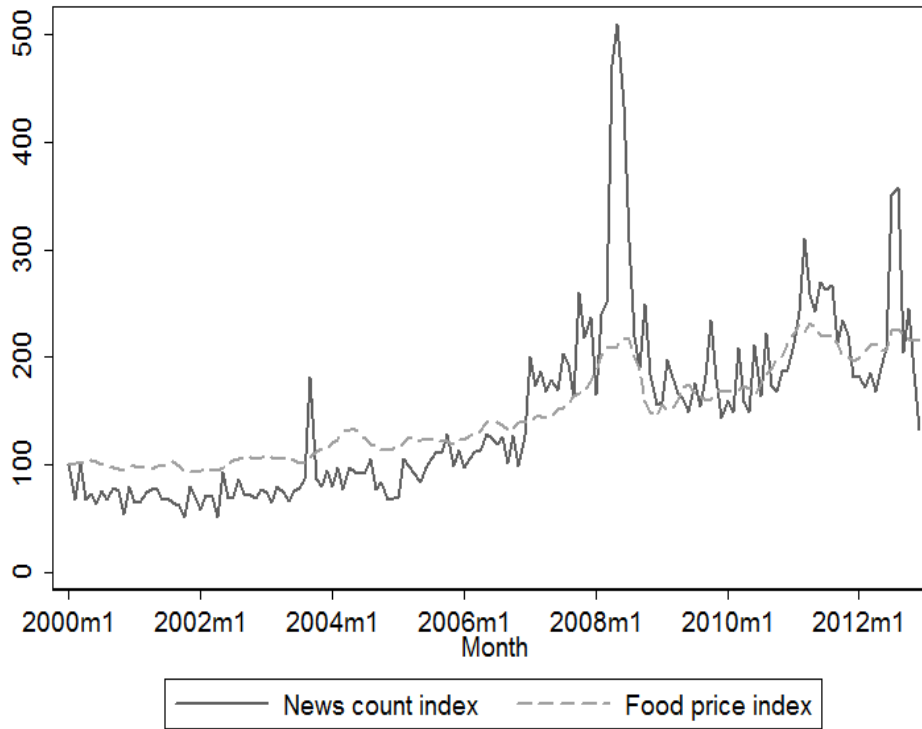


**Figure 3. FAO funding (% of UN agencies)**

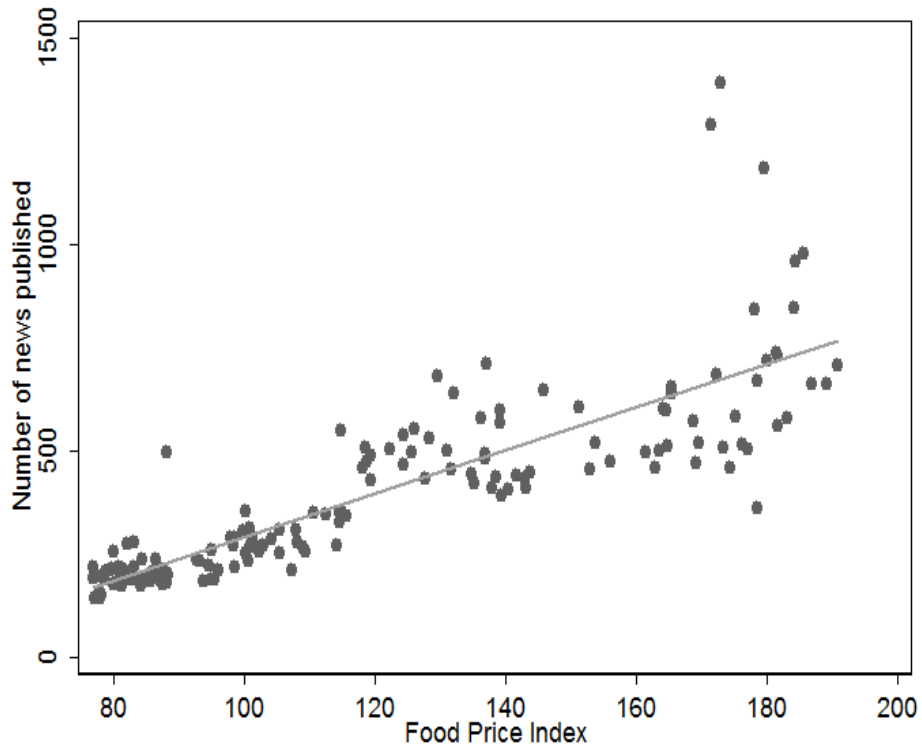


**Figure 4. Food Prices and Mass Media Coverage of Agriculture and Food Security**

*a. Monthly indices 2000 - 2012*

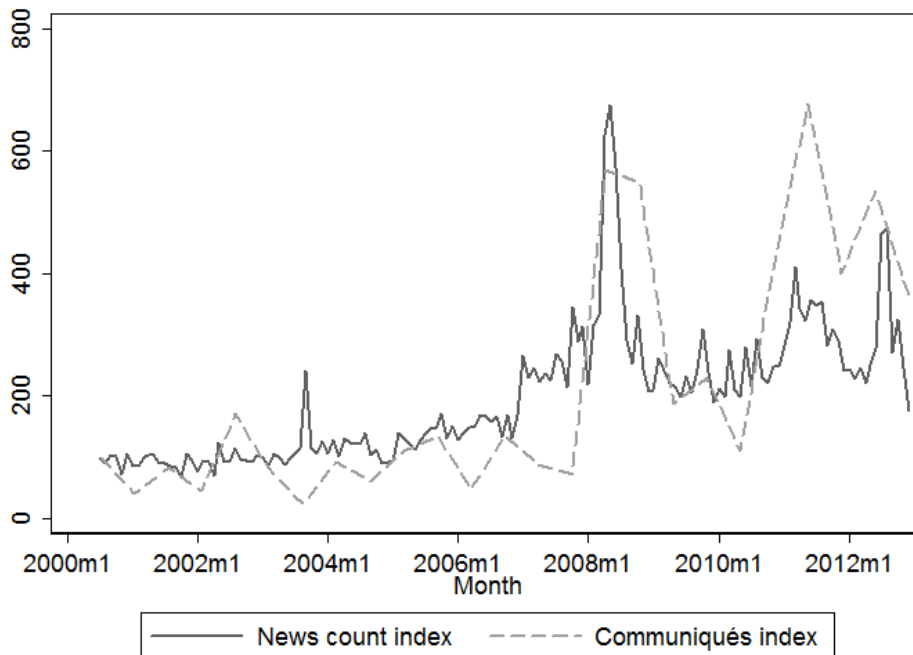


*b. Correlation between media coverage and food price indexes*

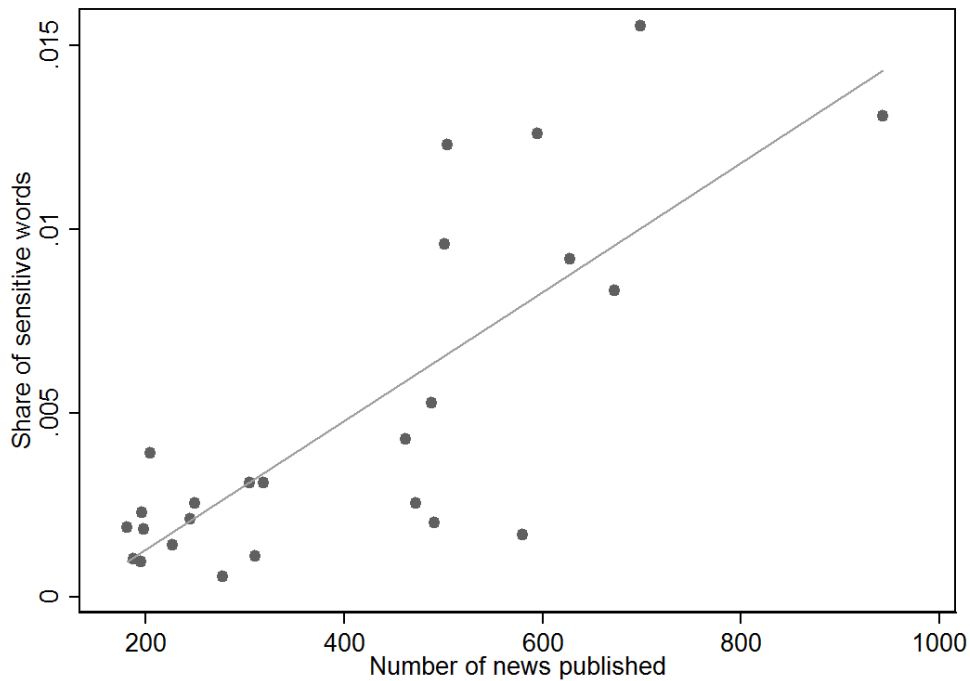


**Figure 5. Mass Media Coverage and Development Policy Priorities**

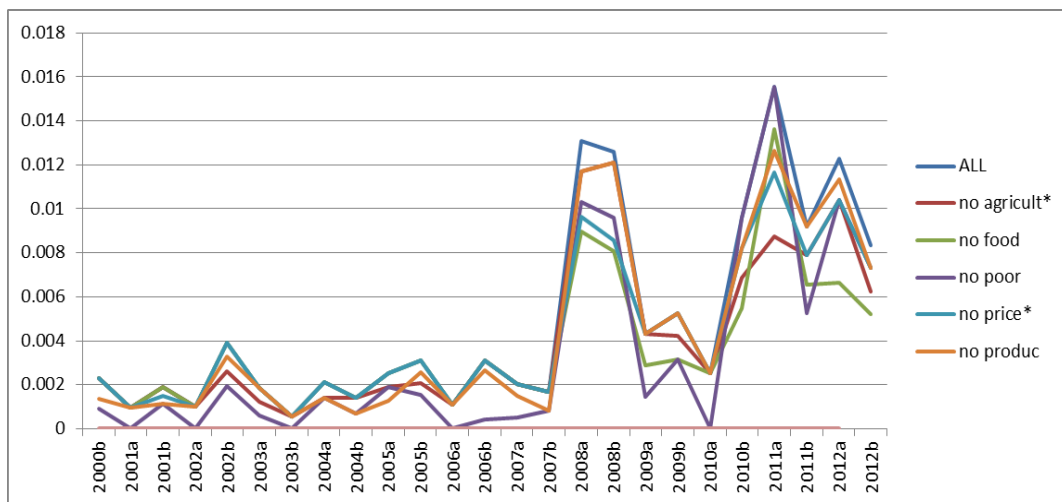
a. *Indices of media coverage and WB-IMF development committee coverage of agriculture and food security 2000 – 2012*



b. Correlation between news count and communiqués indexes



**Figure 6. Robustness check – Alternative Communiqués Indexes**



Note: As explained in the text, the main index (ALL) includes the words “agricult\*”, “food”, “poor”, “price\*”, “produc\*”

**Table 1. Robustness check - Alternative news count index**

News count index: key words considered	Special requirements on how the selected words should be combined in the article	Correlation with food price index
poor, agricult*, price	Any order	0.8250
poor, agricult*, develop*	Any order	0.8327
poor, agricult*, product*	Any order	0.8765
poor, rural, food	Any order	0.7977
rural, food, develop*	Any order	0.8875
product*, agricult*, price	Any order	0.9179
product*, agricult*, develop*	Any order	0.9387
food, price	Within 3 words from each other	0.6383
food, price	Within 10 words from each other	0.7010
poor, farm*	Within 10 words from each other	0.5244
low, price*, poor, farm*	"low" and "price*" within 10 words from each other	0.5817
food, price*, poor, high	"food" and "price*" within 10 words from each other	0.5884
high, price*, poor, food	"high" and "price*" within 10 words from each other	0.5627

Notes: The first column lists the words used for generating each news count index, exactly as they were typed. The star symbol "\*" indicates that any word starting with the letters preceding the symbol is counted as valid. The second column specifies whether some special requirements on how the selected words should be combined in the article were used in the query. Finally, the third column reports the simple correlation between each resulting news count index and the food price index taken from the IMF.



**Table 2. ODA commitments**

ODA commitments									
	<b>TOTAL</b>	<b>Education</b>		<b>Health</b>		<b>Agriculture</b>		<b>Industry</b>	
	<i>USD m</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>
<b>2000-2007</b>	93978	7278	7.74	4798	5.11	4289	4.56	1786	1.9
<b>2008-2011</b>	159965	12570	7.86	9372	5.86	9215	5.76	2412	1.51
<b>% change</b>	70.21	72.72	1.47	95.32	14.75	114.83	26.21	35.02	-20.67

Note: values represent annual averages over the considered period. Source is the CRS database kept by the OECD.

**Table 3. Total Contributions to UN Agencies**

	TOTAL CONTRIBUTIONS																									
<b>Total</b>	<b>FAO</b>		<b>WHO</b>		<b>UNESCO</b>		<b>ILO</b>		<b>IAEA</b>		<b>UNIDO</b>		<b>ICAO</b>		<b>IMO</b>		<b>ITU</b>		<b>UPU</b>		<b>WIPO</b>		<b>WMO</b>		<b>UNWTO</b>	
	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>
<b>2000-2007</b>	4079.0	17.04	1419.5	34.80	565.0	13.85	396.5	9.72	371.8	9.11	180.8	4.43	170.6	4.18	44.6	1.09	106.3	2.60	26.5	0.65	16.1	0.40	69.8	1.71	.	.
<b>2008-2011</b>	5778.8	21.10	1971.5	34.12	576.3	9.97	607.8	10.52	547.5	9.47	291.0	5.04	207.0	3.58	57.5	1.00	130.3	2.25	34.3	0.59	25.8	0.45	88.3	1.53	22.3	0.39
<b>% change</b>	41.7	23.81	38.89	-1.96	1.99	-28.01	53.28	8.19	47.28	3.96	61.00	13.64	21.32	-14.37	28.85	-9.05	22.59	-13.47	29.25	-8.77	59.69	12.72	26.52	-10.69	.	.

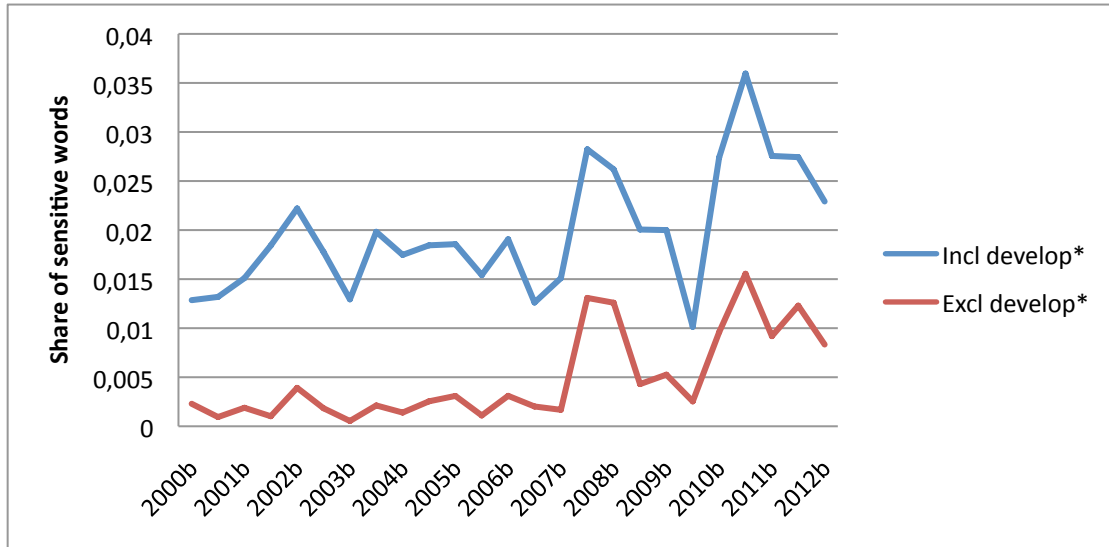
**Table 4. Elements of policy communication before and after the food crisis**

BEFORE	ACTION AID	OXFAM	FAO	IFPRI	OECD	WB
Poor farmers are net consumers	.	.	.	.	.	.
Liberalization in rich countries	++ ***	++ ***	++ **	++ **	++ **	++ ***
Liberalization in poor countries	-- ***	-- ***	+ **	+ **	+ **	++ ***
Elimination of exports bans (in poor countries)	.	.	.	.	.	++ *
Investment in infrastructure	++ *	++ *	++ **	++ *	++ **	++ **
Target Smallholders and Marginal areas	++ ***	++ **	++ **	++ **	++ **	++ **
Support for biofuels production	.	.	.	+ **	.	.
Reduce price volatility	.	.	+ *	.	+ *	++ *
AFTER	ACTION AID	OXFAM	FAO	IFPRI	OECD	WB
Poor farmers are net consumers	**	***	***	***	*	**
Liberalization in rich countries	++ ***	++ ***	+ *	+ **	++ *	++ **
Liberalization in poor countries	-- ***	-- ***	+ *	+ **	+ *	++ **
Elimination of exports bans (in poor countries)	.	+ **	++ **	++ **	++ **	++ **
Investment in infrastructure	++ **	++ **	++ **	++ **	++ **	++ **
Target Smallholders and Marginal areas	++ ***	++ ***	++ **	++ ***	++ **	++ ***
Support for biofuels production	-- ***	-- ***	- **	-- **	- *	- *
Reduce price volatility	+ *	++ **	+ **	++ **	++ ***	++ **
Legend:	+ agree ++ fully agree	- disagree -- fully disagree	* low emphasis ** medium emphasis *** strong emphasis		. no info	

Source: Swinnen, Squicciarini and Vandemoortele (2011)

# **Appendix**

**Figure A1. Communiqués Index with and without *develop*\***



*Note: As explained in the text, the Communiqués index includes the words “agricult\*”, “food”, “poor”, “price\*”, “produc\*”*

**Table A1. Word selection**

Document type	Title	Five most used words
<b>Action Aid</b>		
Report (2006)	Hungry for solutions	food (26); farmer(14); country(14); access(11); land(11)
Report (2008)	Cereals offenders	food(28); country(23); develop(22); g8(19); price(18)
Report (2009)	Who's really fighting hunger?	food(21); agrofuel(18); production(17); land(14); price(12)
Report (2008)	Food, farmers and fuels	country(31); food(30); develop(18); hunger(16); agriculture(15)
<b>Oxfam</b>		
Report (2004)	The rural poverty trap	develop(27); country(15); unctad(15); market(14); international(11)
Report (2006)	Our generation's choice	world(10); poverty(8); goal(8); paper(8); develop(7)
Report (2008)	Double-Edged Prices	country(26); food(24); develop(18); price(17); crisis(15)
Report (2008)	Rising food prices in the Sahel	food(14); price(11); rising(6); impact(5); poor(4)
Report (2008)	Another Inconvenient Truth	biofuel(24); food(15); cost(14); country(13); change(8)
<b>FAO</b>		
Report (2004)	The state of agric. commodity markets	price(42); country(37); commodity(34); market(32); develop(30)
Report (2005)	The state of food and agriculture	trade(28); country(26); agricultural(23); develop(17); market(15)
Report (2008)	Soaring food prices	food(14); price(14); market(8); country(7); level(6)
Report (2009)	The state of agric. commodity markets	food(42); price(27); country(17); need(15); world(13)
Report (2010)	The state of food and insecurity in the world	protract(16); crisis(14); food(13); crisis(8); assistance(7)
<b>IFPRI</b>		
Report (2006)	Agriculture and Achieving the Millennium Development Goal	develop(50); mdg(49); agricultural(37); agriculture(35); growth(33)
Policy Brief (2008)	High Food Prices: The What, Who, and How of Proposed Policy Actions	price(27); food(23); inflation(9); country(9); international(8)
<b>OECD</b>		
Report (2005)	Promoting Pro-Poor Growth: Agriculture	rural(42); agriculture(28); agricultural(25); policy(24); poor(24)
Policy Brief (2003)	The Doha Development Agenda: Tariffs and Trade	tariff(75); country(50); develop(44); trade(40); reduction(24)
Report (2008)	Rising prices – Causes and Consequences	price(105); market(44); increase(34); food(32); country(29)
Working Papers (2009)	Development Dimensions of High Food Prices	develop(53); market(38); policy(37); international(35); price(34)
Report (2008)	Business for Development 2008	develop(50); sector(48); agricultural(45); agriculture(45); country(40)
<b>WB</b>		
Report (2003)	Reaching the rural Poor	rural(167); develop(116); bank(80); strategy(59); country(56)
Report (2009)	Agriculture Action Plan 2010 – 2012	support(35); agriculture(27); develop(27); food(22); agricultural(21)

**Table A2. Robustness check – regression analysis**

	Dependent variable: News count index “ <i>price</i> ”, “ <i>poor</i> ” and “ <i>agricult*</i> ”			
	(1)	(2)	(3)	(4)
Food price index	1.543*** (0.115)	1.371*** (0.204)	1.224*** (0.343)	1.661*** (0.291)
News_index <i>aid</i>		0.170 (0.117)		
News_index <i>agricult*</i>			0.196 (0.157)	
News_index <i>poverty</i>				-0.116 (0.201)
Constant	-81.733*** (13.994)	-87.807*** (12.289)	-73.936*** (18.709)	-80.966*** (13.042)
Observations	158	158	158	158
R-squared	0,681	0,685	0,686	0,682

Notes: All indexes have been standardized so that value 100 is given to the variables in January 2000. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A3. Robustness check – regression analysis**

	Dependent variable: : Communiqués Index					
	(1)	(2)	(3)	(4)	(5)	(6)
Food price index	0.109*** (0.014)	0.080*** (0.019)	0.072*** (0.025)	0.108*** (0.017)	0.051*** (0.009)	0.092*** (0.013)
<i>agricult*</i>		1.097*** (0.353)				
<i>food</i>			0.000*** (0.000)			
<i>poor</i>				0.075 (0.620)		
<i>price*</i>					2.299*** (0.248)	
<i>produc*</i>						1.886*** (0.477)
Constant	-8.386*** (1.550)	-5.809*** (1.726)	-5.047* (2.522)	-8.427*** (1.541)	-2.895*** (0.988)	-7.515*** (1.260)
Observations	25	25	25	25	25	25
R-squared	0.716	0.790	0.832	0.717	0.936	0.778

Notes: The Communiqués Index and the single words indices are per 1,000 words. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A4. ODA disbursement**

	<b>ODA Disbursement</b>									
	<b>TOTAL</b>	<b>Education</b>		<b>Health</b>		<b>Agriculture</b>		<b>Industry</b>		
	<i>USD m</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	<i>USD m</i>	<i>% of total</i>	
<b>2000-2007</b>	96789	7051	7.28	4699	4.85	3346	3.46	1508	1.56	
<b>2008-2011</b>	141685	11856	8.37	8456	5.97	6955	4.91	1825	1.29	
<b>% change</b>	46.38	68.15	14.87	79.95	22.93	107.85	41.99	21.02	-17.33	

Note: values represent annual averages over the considered period. Source is the CRS database kept by the OECD.

**Table A5. List of UN agencies included in the analysis**

- 1) **FAO** Food and Agriculture Organization
- 2) **IAEA** International Atomic Energy Agency
- 3) **ICAO** International Civil Aviation Organization
- 4) **ILO** International Labour Organization
- 5) **IMO** International Maritime Organization
- 6) **ITU** International Telecommunication Union
- 7) **UNESCO** United Nations Educational, Scientific and Cultural Organization
- 8) **UNIDO** United Nations Industrial Development Organization
- 9) **UNWTO** United Nations World Tourism Organization
- 10) **UPU** Universal Postal Union
- 11) **WHO** World Health Organization
- 12) **WIPO** World Intellectual Property Organization
- 13) **WMO** World Meteorological Organization

**Table A6. Voluntary Contributions to UN Agencies**

VOLUNTARY CONTRIBUTIONS																											
Total	FAO		WHO		UNESCO		ILO		IAEA		UNIDO		ICAO		IMO		ITU		UPU		WIPO		WMO		UNWTO		
<i>USDm</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	
<b>2000-2007</b>	2156.3	342.3	15.87	993.4	46.07	276.5	12.82	143.3	6.64	121.0	5.61	102.3	4.74	116.9	5.42	10.8	0.50	19.3	0.89	2.3	0.10	3.5	0.16	23.3	1.08	.	.
<b>2008-2011</b>	3311.5	731.5	22.09	1495.5	45.16	254.8	7.69	242.3	7.32	203.0	6.13	185.0	5.59	135.8	4.10	11.0	0.33	11.0	0.33	.	.	8.3	0.25	27.3	0.82	6.3	0.19
<b>% change</b>	53.6	113.73	39.17	50.55	-1.97	-7.87	-40.01	69.11	10.11	67.77	9.24	80.93	17.81	16.15	-24.37	2.33	-33.37	-42.86	-62.79	.	.	135.71	53.48	17.20	-23.68	.	.

**Table A7. Assessed Contributions to UN Agencies**

ASSESSED CONTRIBUTIONS																											
Total	FAO		WHO		UNESCO		ILO		IAEA		UNIDO		ICAO		IMO		ITU		UPU		WIPO		WMO		UNWTO		
<i>USDm</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	<i>USDm</i>	<i>% of total</i>	
<b>2000-2007</b>	1922.8	353.0	18.36	426.1	22.16	288.5	15.00	253.3	13.17	250.8	13.04	78.5	4.08	53.8	2.80	33.9	1.76	87.0	4.52	24.3	1.26	12.6	0.66	46.5	2.42	.	.
<b>2008-2011</b>	2467.3	488.0	19.78	476.0	19.29	321.5	13.03	365.5	14.81	344.5	13.96	106.0	4.30	71.3	2.89	46.5	1.88	119.3	4.83	34.3	1.39	17.5	0.71	61.0	2.47	16.0	0.65
<b>% change</b>	28.3	38.24	7.73	11.70	-12.95	11.44	-13.15	44.32	12.47	37.39	7.07	35.03	5.23	32.56	3.30	37.27	6.98	37.07	6.82	41.24	10.07	38.61	8.02	31.18	2.23	.	.