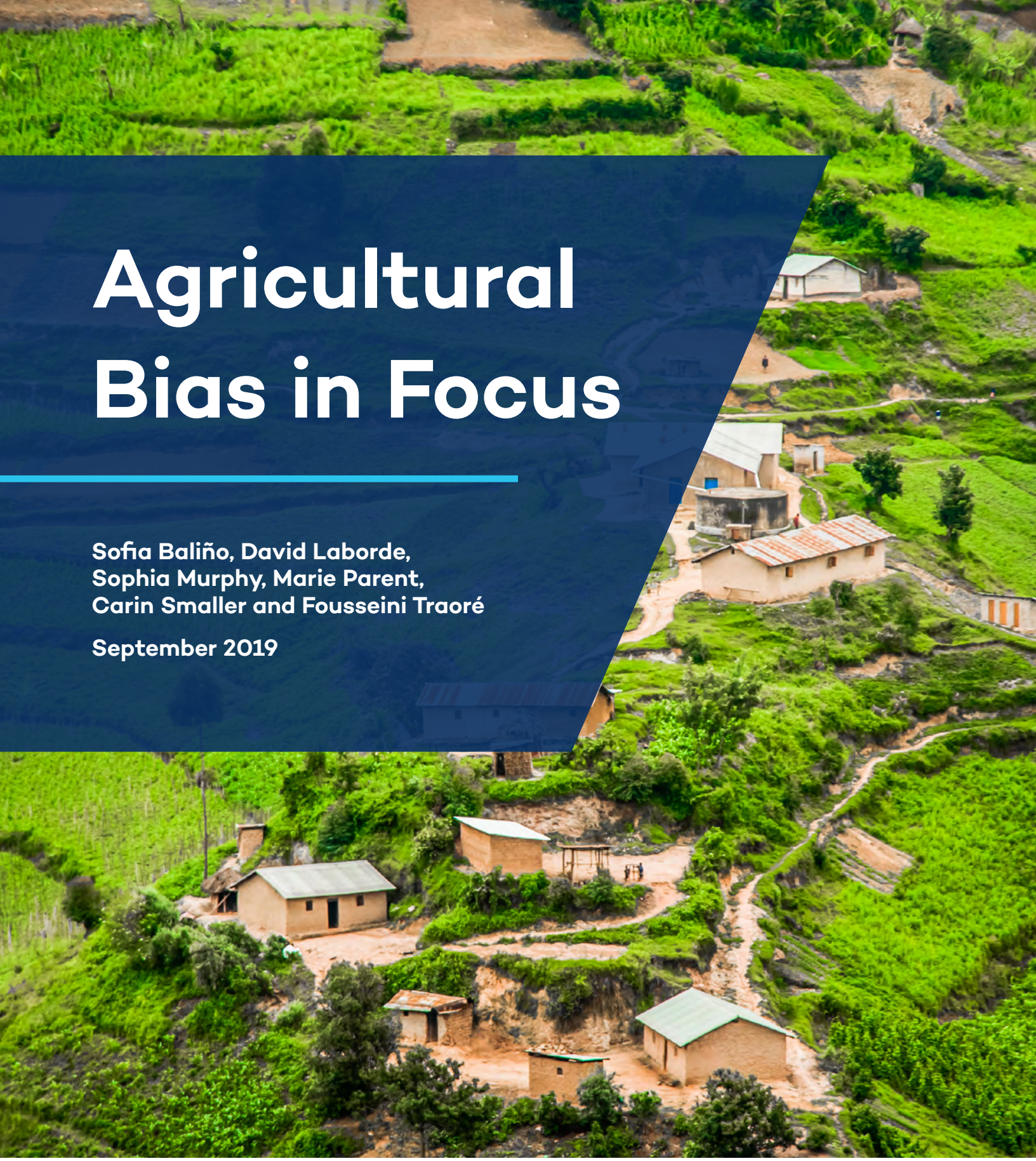

Agricultural Bias in Focus

Sofia Baliño, David Laborde, Sophia Murphy, Marie Parent, Carin Smaller and Fousseini Traoré

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International Institute for Sustainable Development

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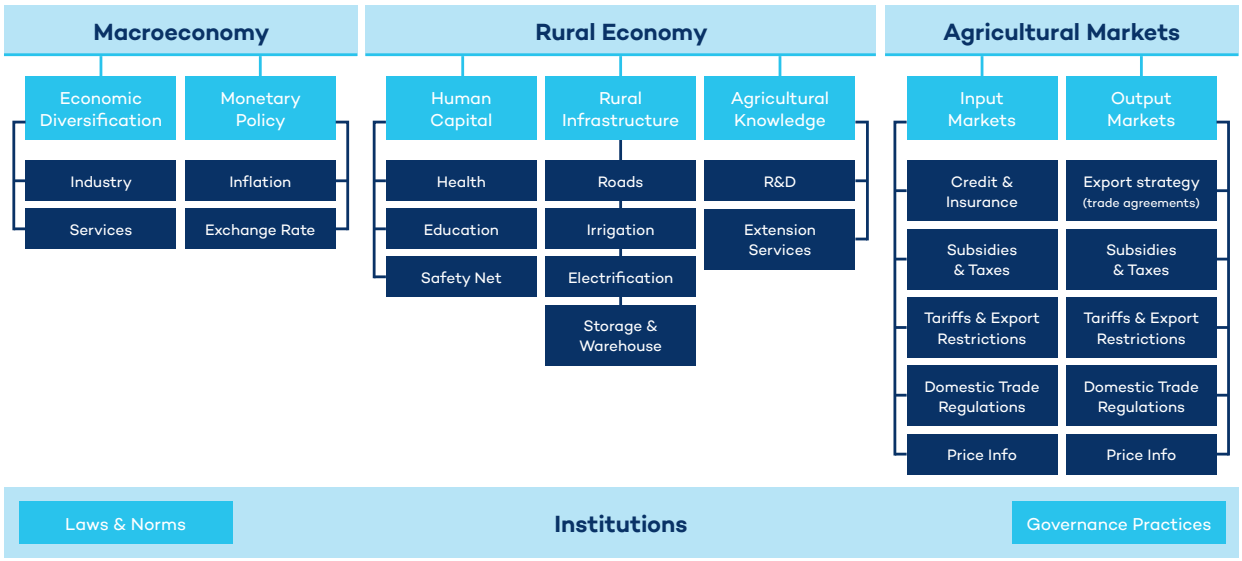
Introduction

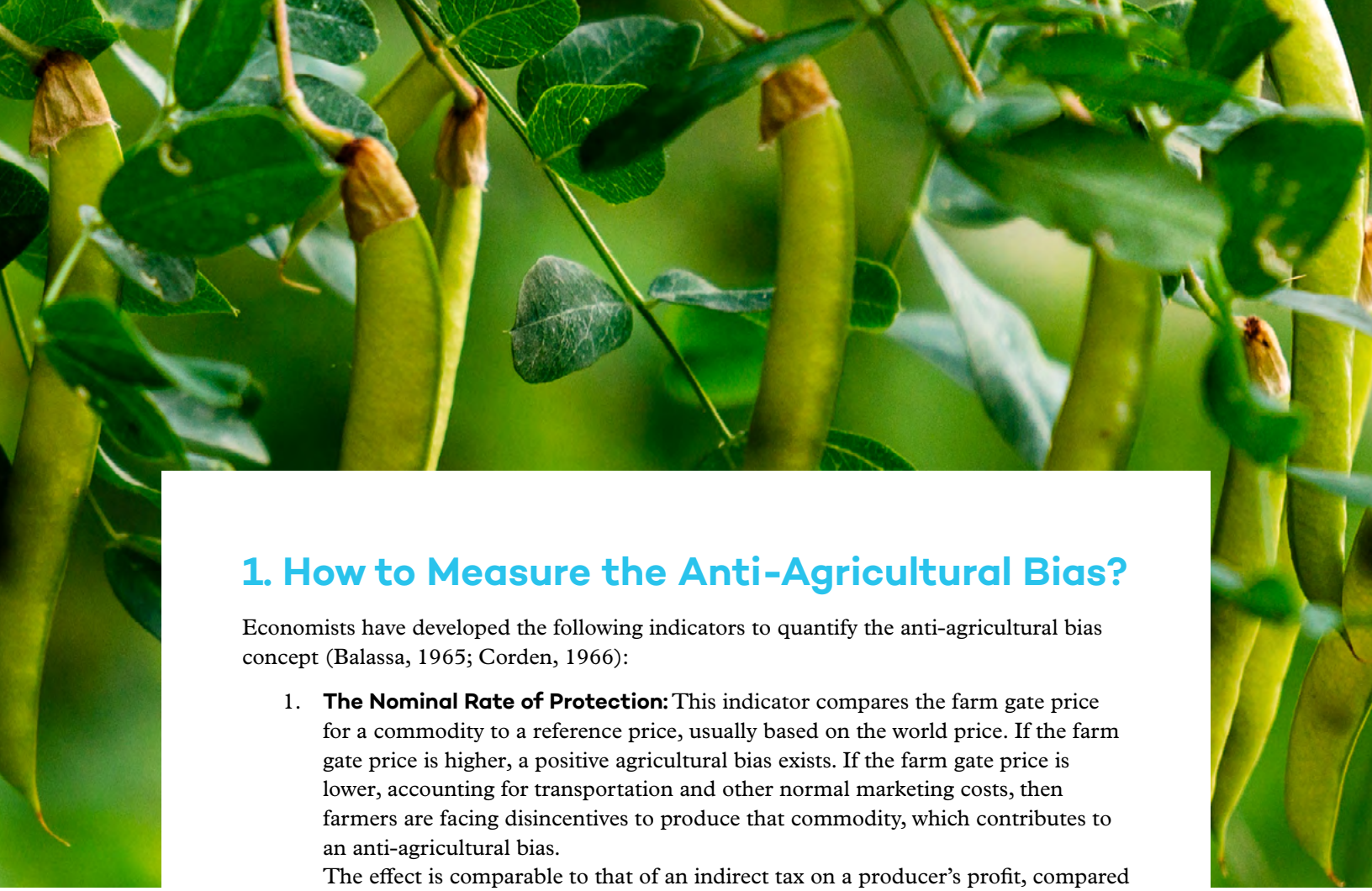
The report *Transforming Agriculture in Africa and Asia: What Are the Policy Priorities?* showed that successful agricultural transformation has depended on interacting agricultural policies as well as the broader economic policy environment. A key finding was that agricultural transformation succeeded when governments removed the policies and addressed the market failures that disadvantaged the agricultural sector relative to the rest of the economy. We referred to this relative disadvantage as the anti-agricultural bias.

To explain how these policies interact and which policies affect different aspects of the overall economy, we developed a policy taxonomy, with a focus on those that affect prices in agricultural markets (see *A Policy Taxonomy for Agricultural Transformation*). The policy taxonomy came from an inventory of policies collected from over 250 articles and is derived from the policy framework used in *Transforming Agriculture in Africa and Asia: What Are the Policy Priorities?* (see Figure 1)

Figure 1. Policy taxonomy: Agricultural Transformation



This paper provides further details and explains how to measure and understand the source of agricultural bias in a country, including examples and country case studies.



1. How to Measure the Anti-Agricultural Bias?

Economists have developed the following indicators to quantify the anti-agricultural bias concept (Balassa, 1965; Corden, 1966):

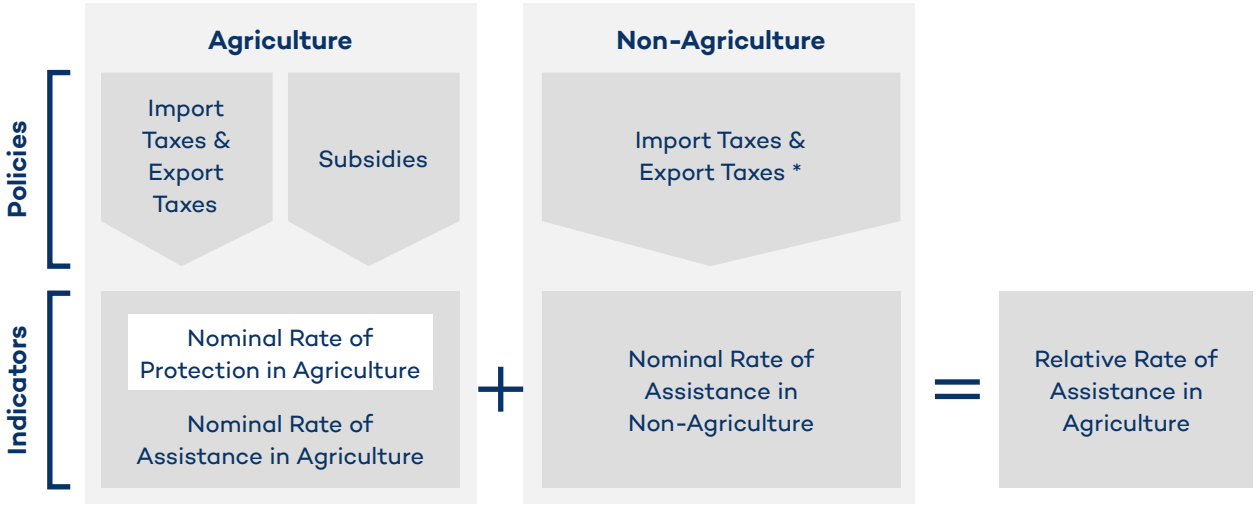
1. **The Nominal Rate of Protection:** This indicator compares the farm gate price for a commodity to a reference price, usually based on the world price. If the farm gate price is higher, a positive agricultural bias exists. If the farm gate price is lower, accounting for transportation and other normal marketing costs, then farmers are facing disincentives to produce that commodity, which contributes to an anti-agricultural bias.
   The effect is comparable to that of an indirect tax on a producer's profit, compared to what they would earn if they were operating freely on world markets. This metric is heavily affected by agricultural trade policies. In most developing countries, where domestic support to agriculture is minimal, the nominal rate of protection is a good proxy for measuring the direct incentives perceived by farmers where farm gate prices remain the main signal for their production choice.
2. **The Nominal Rate of Assistance:** This indicator is more complex. It looks beyond market prices to include the various taxes farmers pay and the subsidies they receive, as these also affect farmers' production decisions. The nominal rate of assistance includes the nominal rate of protection plus or minus the subsidies received or taxes paid. The result is a more comprehensive metric of the level of bias. In most OECD countries, the nominal rate of protection has been reduced in the last 30 years, but many farmers enjoy a relatively high nominal rate of assistance due to the existence of various subsidies and other transfer payments.
3. **The Relative Rate of Assistance:** This indicator compares the rate of assistance in agriculture to the rate of assistance in the rest of the economy. It provides a measure that compares agriculture to other sectors, showing the actual and combined effects of incentives faced by farmers. It captures the anti-agricultural bias in a true general equilibrium framework, where economic agents have to decide in which activity they will work and invest.
4. **Effective Rate of Protection:** This indicator aims to track, normally at the commodity level, the net effects of various policies on farm value added.[1] It compares the distortions on farm output and input agent prices, looking at the

[1] The difference between farm production value and intermediate consumption.

actual cost structure for farmers. It combines data and concepts from the three previous indicators. It can be used to monitor the anti-agricultural bias in a partial equilibrium framework and is rarely used to look at long-term agricultural transformation. Its value lies in its strong explanatory power when analyzing value chain development.

Figure 2 shows the relationship between the main indicators for measuring the anti-agricultural bias and the bias's link to policies. Practically, to assess the level of the anti-agricultural bias, we start by comparing prices for a given commodity in-country with a reference price. This allows us to compute the nominal rate of protection. International market prices are commonly used as the reference, even though they are also to some extent distorted by policy interventions. More detail is available in Part 4: Defining Prices.

Figure 2. Measuring the Relative Rate of Assistance: main indicators and linkages with the policy space

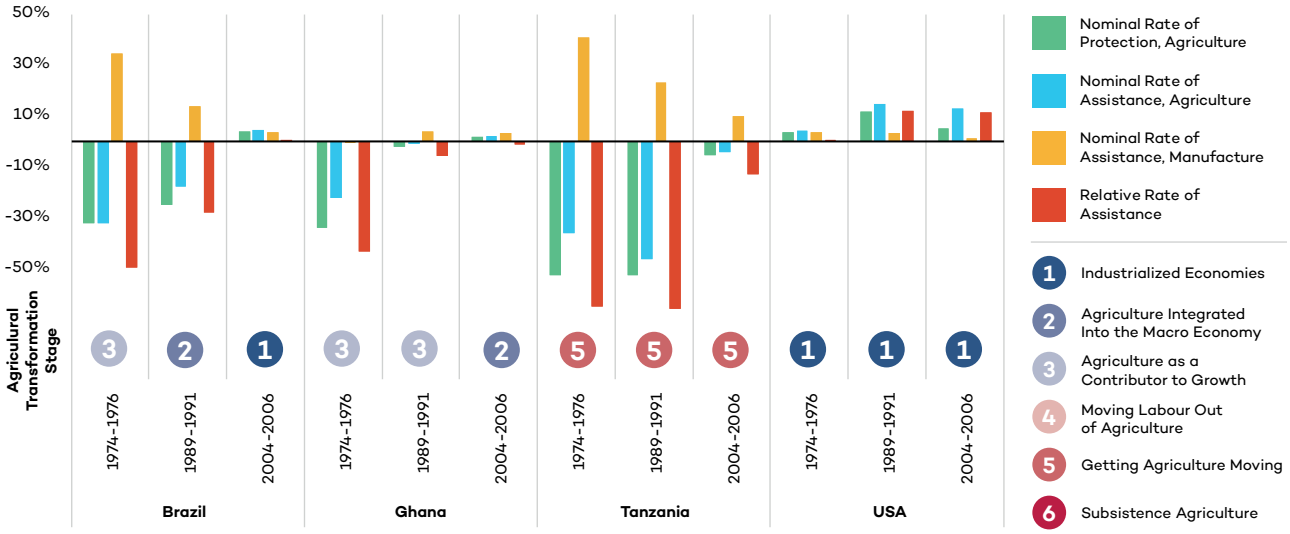


Source: Authors' design.

**Why are subsidies in the non-agriculture sector not included in the calculation of the nominal rate of assistance in non-agriculture? The primary reason for this omission is that an inventory of these subsidies would be impractical, given the vast scope of products and sectors that fall within the overarching heading of non-agriculture. The effect of not including these subsidies likely means that we underestimate the anti-agricultural bias.*

Under normal conditions, both the nominal rate of protection and the relative rate of assistance are lower than the nominal rate of assistance. Historically, developing countries (Anderson, 2009) would often implement measures that in practice taxed rather than protected their agriculture sector, while providing extensive protection to industry. This meant they had a larger relative anti-agricultural bias, as shown by providing industry a higher rate of assistance than their farm sectors. Over time, this trend has been reversed in transforming or transformed economies (AgIncentives, n.d., Tsakok, 2011). In the countries that have transformed the most, such as Brazil, they now use a small amount of border protection reinforced with farm subsidies (a pro-agricultural bias). (See Figure 3 for a subset of countries belonging to various stages of agricultural transformation, as defined in Laborde et al. [2017])

Figure 3. Evolution of the anti-agricultural bias over time and phases of agricultural transformation: Brazil, Ghana, Tanzania, United States



The different indicators used to measure the anti-agricultural bias are useful to understand the political economy of policy reform. On the one hand, changes in the nominal rate of protection involve a redistribution of real income between *consumers* of these agricultural goods and *producers* of the same: policies that keep farm gate prices low are bad for these producers and good for these buyers. On the other hand, changes in the nominal rate of assistance could come from a change in the level of protection, or in the various taxes paid by farmers or subsidies received by them. In this case, there is a redistribution between agricultural *producers* and *taxpayers*.[2]

It is important to note that these indicators measure solely the bias's extent, rather than its source. Understanding the cause of the bias and developing a menu of policy options requires further information and analysis.

[2] Due to the heterogeneity of households, and their individual contribution to tax revenue, but also their exposure to food prices, it is important to differentiate between taxpayers and consumers. Rich households spend a tiny fraction of their income on food products but contribute largely to public finance, both in absolute and relative terms, while very poor household spend most of their income on food products but have no, or very limited—mainly through indirect taxation—contribution to public finance.

2. Policies That Drive Anti-Agricultural Bias

A broad range of policies drive a country's agricultural bias. Table 1 shows a non-exhaustive list of the policies that are included in the measurement, directly or indirectly, of the anti-agricultural bias.

Table 1. Sources of Anti-Agricultural Bias: What policies are included?

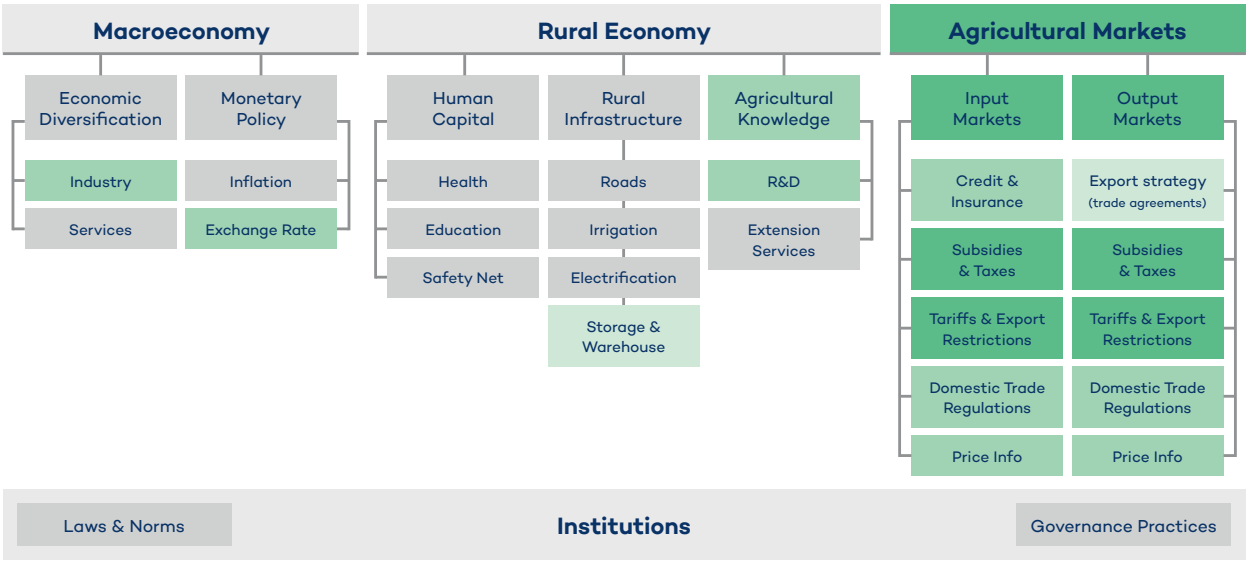
	Nominal Rate of Protection	Nominal Rate of Assistance	Relative Rate of Assistance	Relevant but not included in indicators
Import taxes/subsidies/quotas/bans	■	■	■	
Export taxes/subsidies/quotas/bans	■	■	■	
Commodity boards	■	■	■	
Intervention prices	■	■	■	
Production subsidies		■	■	
Input subsidies		■	■	
Subsidized credit & insurance		■	■	
Quota fees		■	■	
Income support to farmers and social safety nets		sometimes	sometimes	
Payments for ecosystem services		sometimes	sometimes	
Agricultural R&D		sometimes	sometimes	
Public investments in improved storage & marketing (off-farm)		sometimes	sometimes	
Non-agricultural import taxes/subsidies			■	
Non-agricultural export taxes/subsidies			■	
Non-agricultural non-tariff barriers			■	
Subsidies to the industrial sector			■	
Food subsidies				■
Biofuel policies				■
Land reform				■
Public spending in rural infrastructure, health and education				■

Source: Authors' design.

Most of these policies affect agricultural markets directly, on either the output or input side. Figure 4 shows the policies that drive a country's agricultural bias. While these are representative examples, they are not necessarily exhaustive. The darker the shade of blue for the policy, the more direct the impact is on the agricultural bias, while the lighter shades are for policies that have less impact. The boxes in grey—while having an impact on farmers and rural household livelihoods—have a very limited and indirect impact on anti-agricultural bias.

The policies that affect agricultural bias have evolved over time. Historically, developing economies tended to tax their domestic agricultural sectors, while advanced economies subsidized their farmers. This trend started to shift in the 1980s, as structural adjustment policies in developing economies ended both many of the de facto taxes on agriculture and the subsidies that had favoured industry (Tsakok, 2011; Anderson & Valdes, 2008; Anderson & Martin, 2009). Developed countries also cut back on the use of border measures to protect agriculture, as well as their use of direct price supports, which combined to reduce the level of distortion on prices in international markets to the benefit of agriculture in developing countries.

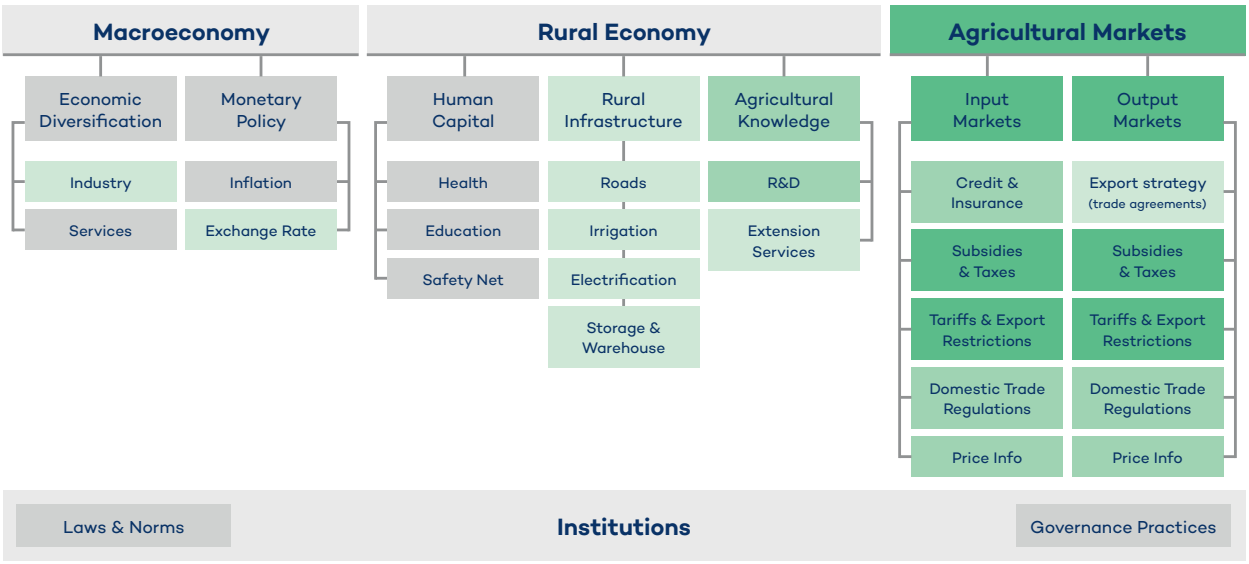
Figure 4. Sources of the anti-agricultural bias: historical overview



Source: Authors' design.

Today, the anti-agricultural bias that exists in the countries reviewed in the report *Transforming Agriculture in Africa and Asia: What are the policy priorities?*, and which have not yet transformed their agricultural sectors, comes mainly from market failures. Some of these failures are due to policies that distort agricultural markets, while others relate to an absence of policies that disadvantage small-scale producers and do not allow markets to operate efficiently (see Figure 5).[3]

Figure 5. Sources of the anti-agricultural bias: present



Source: Authors' design.

[3] In order to operate efficiently, markets require a number of regulations (intellectual property rights, competition policy) and institutions (e.g. for contract enforcement). In less advanced economies, some of these market regulations—and the institutions required to enforce them—are weak and contribute to declining farmer welfare, especially for smallholders who lack economic and political power.

3. Examples of Agricultural Bias in an Economy

This section shows how various policies, located in different policy categories, jointly affect the assessment of the level and direction of agricultural bias in a given economy. The examples below include the assumption that all other things remain equal within that same economy—what is known in economics as *ceteris paribus*.

Case A: Agricultural import tariff

Scenario: Agriculture is the only sector protected, using import tariffs

<table>
<tr><td rowspan="3">Agricultural markets</td><td rowspan="2">Input markets</td><td>Credit & insurance</td><td colspan="2"></td></tr>
<tr><td rowspan="2">Subsidies and taxes</td><td>Tariffs and export taxes
Agricultural tariff (output) 10%</td><td>Price information</td></tr>
<tr><td>Output markets</td><td>Export strategy</td><td colspan="2">X</td></tr>
</table>

In this first case, the agricultural sector is singled out for protection, which creates a pro-agricultural bias for the producer. The tariff protects domestic farmers by increasing domestic prices by 10 per cent compared to international prices. Its effect is to limit the possibility of a larger influx of lower-priced imports, which would otherwise drive down domestic prices and make it harder for that country's producers to compete. The result is a price benefit for domestic agricultural producers, though it penalizes consumers of those products. We can express the pro-agricultural bias in mathematical terms, showing a net result that is greater than 0, which indicates a positive bias for agriculture:

$$\text{Relative Rate of Assistance} = \frac{1 + 10\%}{1 + 0\%} - 1 = 10\% > 0$$

Case B: Agricultural import tariff plus input subsidies

Scenario: Agriculture is protected with tariffs and supported with a fertilizer subsidy

<table>
<tr><td rowspan="3">Agricultural markets</td><td rowspan="2">Input markets</td><td>Credit & insurance</td><td colspan="2"></td></tr>
<tr><td>Subsidies and taxes
Fertilizer subsidy 5%*</td><td>Tariffs and export taxes
Agricultural tariff (output) 10%</td><td rowspan="2">Price information</td></tr>
<tr><td>Output markets</td><td>Export strategy</td><td>X</td></tr>
</table>

**We assume that the value of the subsidy is equivalent to 5 per cent of farmer sales.*

Case B builds on Case A by adding a fertilizer subsidy. The policy mix provides an additional incentive for producers by reducing their production costs. The cost is borne by taxpayers, while consumers do not pay more for their food. The result is a stronger pro-agricultural bias:

$$\text{Relative Rate of Assistance} = \frac{1 + 10\% + 5\%}{1 + 0\%} - 1 = 15\% > 0$$

Case C: Agricultural import tariff, input subsidies, and industrial tariffs

Scenario: Agriculture is less protected than the rest of the economy but still subsidized

Macroeconomy	Monetary policy	Inflation		
		Exchange rate		
	Economic diversification	Industry	Industrial tariff 20%	
		Services		
Agricultural markets	Input markets	Credit & insurance		
	Output markets	Subsidies and taxes Fertilizer subsidy 5%*	Tariffs and export taxes **Agricultural tariff (output) 10%** **Industrial tariff (input) 20%**	Price information
		Export strategy	X	

In Case C, several policies interact, though at times they do so in opposite directions. Agriculture still benefits from a 10 per cent tariff and a fertilizer subsidy. This scenario also includes policies specific to non-agricultural products: Industrial goods are also protected, and at a higher level than agriculture, with tariffs of 20 per cent.

For domestic agricultural producers, these industrial goods include inputs such as tractors, which they require for farm production, while their outputs are not as well protected from foreign competition as industrial goods are. This leaves agriculture less well-off compared to non-agricultural sectors. It also makes agriculture less appealing to investors than the rest of the economy. The policies combine to produce a negative (or anti)-agricultural bias. In mathematical terms, the net outcome for the producer is a rate of assistance that is less than zero:

$$\text{Relative Rate of Assistance} = \frac{1 + 10\% + 5\%}{1 + 20\%} - 1 = -4.2\% > 0$$

Photo: Courtesy of Jonathan Torgovnik/Getty Images Reportage.

4. Defining Prices

Prices are a crucial part of understanding agricultural transformation. There are different types of prices at play, and which price is being observed when making policy choices is crucial. For example, the market price is easy to observe, but often agents (farmers or buyers) are responding not only to that price signal, but also to other factors such as a subsidy, incentive program or tax. These other factors modify the agent's expectations and create what economists call the agent's price. The agent's price is a better predictor of how agents will behave than the market price.

Similarly, the world price is a vital measure in economic analysis, but it is also in important ways a fiction. The world price is not a price that actual buyers and sellers expect in their market: there is no single "world market" where we can observe prices. Instead, we pick a proxy using a large trading centre, such as the Kansas price for a fixed grade and variety of wheat based on the International Monetary Fund's [IMF's] commodity price monitoring. Another option involves deriving a proxy price, using an average of prices from several centres. Here we introduce some different prices to highlight what each can tell an observer (see Figure 6).

Market Prices

The market price is the price paid by a buyer to a seller in an open transaction. A market price can be distorted by market failures or policy interventions, or it can be relatively undistorted. It is the price arrived at by two independent actors operating broadly in conditions of good information on available supply and demand and acting without duress and under the protection of rules that are known and enforced. Different markets might have different prices for the same good depending on where the market is located: for example, if is international or local, or if the market is wholesale or retail. Changes in market prices directly impact the welfare of both buyers and sellers.

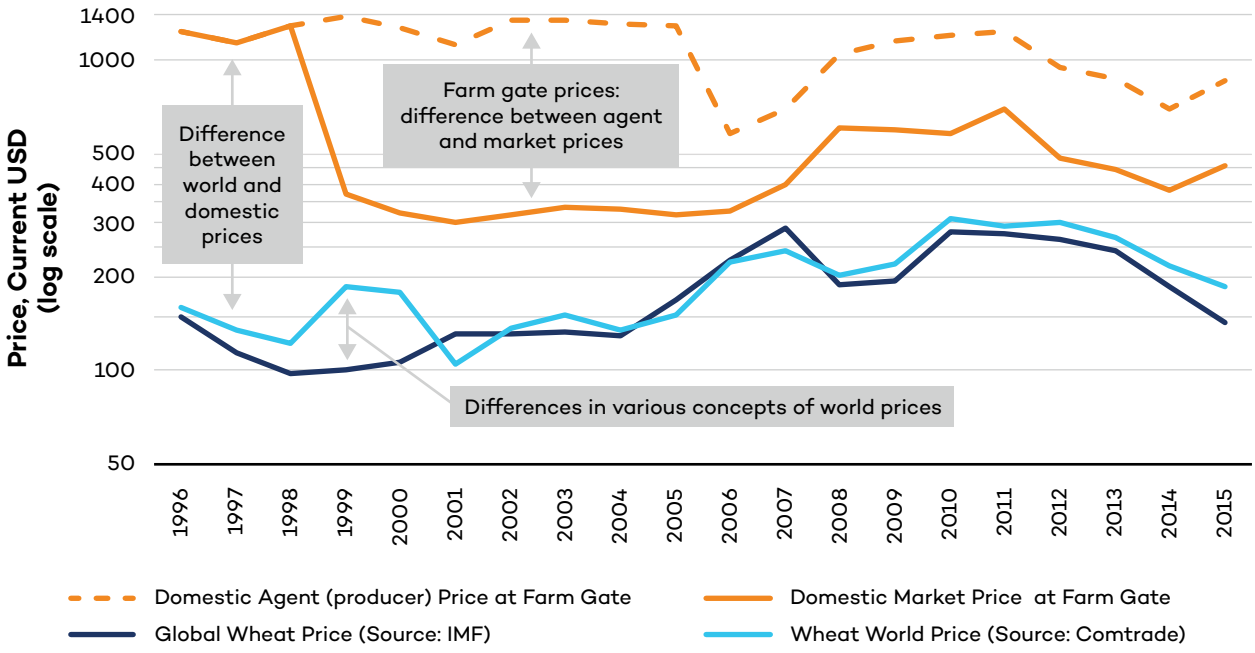


Figure 6. Price case study – wheat

Source: Authors' compilation of data sources. 1 Authors' computation based on OECD, Japan PSE database. 2 International Monetary Fund, based on Wheat, No. 1 Hard Red Winter, ordinary protein, Kansas City, USD/metric ton, May 1, 2019. 3 Authors' computation based on UN COMTRADE retrieved from WITS, May 1, 2019

The graph compares the evolution of world price with farm gate prices. The two world prices show similar dynamics but diverge during specific years when U.S. market dynamics differ from other main exporters. (The International Monetary Fund's [IMF's] global wheat price uses Kansas prices as their proxy, while we use Comtrade to derive a composite of different market prices to create an average price.) The two farm gate prices show the difference between agent and market prices over time. As a country shifts from tariff protection to subsidies, the market price comes closer to the world price but the gap between the producer (agent) and market prices persists. Current USD means the current year of the data point.

Agent Prices

Economic agents make their production and consumption decisions based not only market prices but also on what economists call the "agent's price." An agent is either the buyer or the seller; in agriculture, typically the producer or consumer. Agent prices capture the actual cost paid and/or benefits received by economic agents, including any policies that modify the market price, such as taxes or subsidies. For example, a consumer who receives a food stamp to spend at a food market has more purchasing power and can pay more than a consumer who does not. The producer benefits from this. Not all of these non-market factors are policy-based: gender, race, caste and age can all change the price an agent is willing or expected to pay.

Farm Gate Prices

The farm gate price is the price the farmer receives upon selling their product. It is one of various prices along the value chain. Other prices in the chain include the price that incorporates the cost of transportation to the export market or processor, the price paid on the wholesale market, the price at a terminal port if the commodity is to be exported, and the price paid by a contract holder on a futures exchange.

Photo: Courtesy of Jonathan Torgovnik/Getty Images Reportage

World Prices

There are several ways to derive a world price, such as by dividing the value of trade flows of a commodity by the quantity traded. The result is a unit value, or nominal price per given unit. Examples of such units include bushels or tonnes. No specific transaction in the world is made at this price, but it provides an average price that can serve as a reference, such as when measuring agricultural distortions in domestic markets. Another common way to identify a world price for heavily traded commodities is to use the spot price or a futures price on a given exchange, such as Chicago or London, or at a large export or delivery facility, such as New Orleans or Rotterdam. For commodities like rice that are not heavily traded or are traded in more dispersed markets, the price at a central trading place might not be relevant. Some commodities, such as dairy products, are particularly distorted by national policies in major markets and trading places. In this case, New Zealand's export price provides the world price reference, since it is a relatively undistorted producer and major exporter.

5. Country Case Studies

The work in this section is based on various quantitative and qualitative sources, including press releases documenting policy reforms. The main quantitative source involves a dataset published by the Ag-Incentives Consortium (www.ag-incentives.org) and primarily collected by the Monitoring and Analysing Food and Agricultural Policies (MAFAP) program of the Food and Agriculture Organization of the United Nations (FAO). MAFAP collects agricultural policy data, and the program also has various monitoring and analytical pieces at the country level. This data has allowed us to review and track how policies change across countries over time. In particular, the report *Agricultural Policy Incentives in Sub-Saharan Africa in the Last Decade (2005–2016)* has been a very valuable resource for our work.

MAFAP also focuses on working with countries as they develop their own approaches to tracking and assessing policies in these areas and developing them further in the future.

Additional information is available at http://www.fao.org/in-action/mafap/home/en/.

The country case studies revisit the findings of *Transforming Agriculture in Africa and Asia: What Are the Policy Priorities?* to identify key policy sources of anti-agricultural bias for 12 countries that have yet to realize inclusive agricultural transformation. These countries are Burkina Faso, Ethiopia, India, Kenya, Malawi, Mali, Mozambique, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. We limit the list to countries where data availability allows us to provide a more granular assessment—qualitatively and quantitatively—of the drivers of anti-agricultural bias.

As noted previously, while indicators and methods exist to measure the degree of anti-agricultural bias, these indicators themselves do not pinpoint the causes of the problem.[4] Indeed, a contributing factor toward a negative relative rate of assistance measurement could be the result of the presence of a detrimental policy or the absence—by design or oversight—of a basic policy that is a foundation of a well-functioning market. To diagnose the cause of a positive or negative agricultural bias requires answering the following questions:

1. Does the negative relative rate of assistance in agriculture mainly originate from policies tied to the agricultural sector or the non-agricultural sector? This question is answered by comparing the nominal rate of assistance in agriculture to that in industry.[5]
2. When focusing on agricultural policies, especially when the nominal rate of assistance is negative, are the main distortions and/or incentives homogenously distributed across commodities, or are they concentrated in a few products? Since the main source of a negative rate of assistance in agriculture tends to be a negative rate of protection, we check to see if this indicator points us to a particular agricultural commodity. If distortions appear to be homogenous rather than concentrated on a few products, what are the systemic market or policy failures faced by the agricultural sector overall?
3. After having identified the most positively or negatively distorted commodities, which actual policies targeting these commodities best explain the results?
4. If these policies are changing over time, to what extent are they contingent measures rather than long-term choices?

[4] For more on measurements of anti-agricultural bias, including relative rate of assistance and nominal rate of assistance, please see the introductory materials in this series.

[5] For non-agricultural goods, it is standard practice to focus on trade policies, and mainly import tariffs, for industrial goods when assessing the nominal rate of assistance for these sectors.

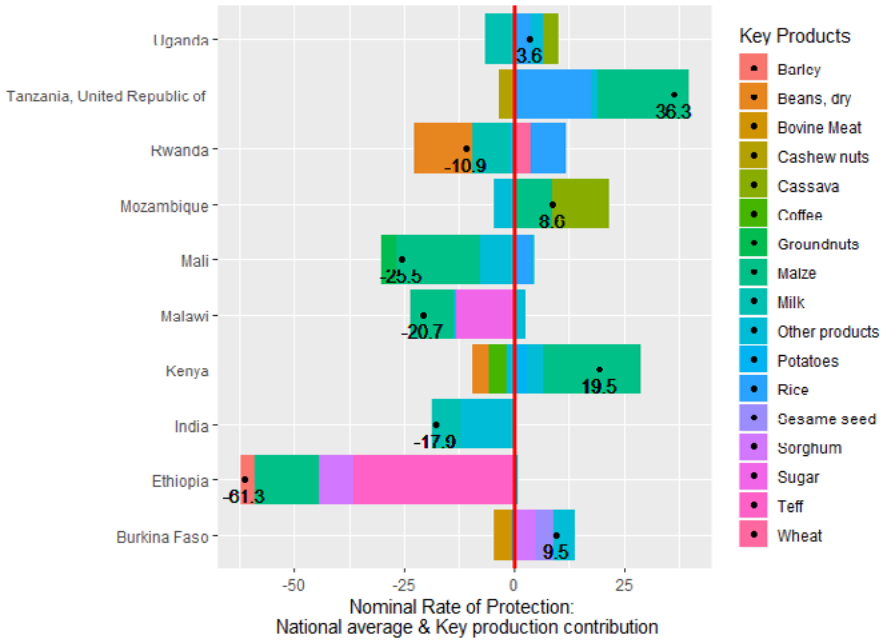


Figure 7. A heterogenous pattern of distortions for the agricultural sector of the focus countries, 2011–2015 average

Source: Authors' computations based on the Ag-Incentives database. Togo, Zambia and Zimbabwe are excluded due to missing data.

In the first section, we provide a cross country review of question 2, which shows how policies vary from one country to another and from one crop to another. The analysis shows some interesting patterns and also some important challenges for setting a consistent agricultural transformation agenda at the country level. Next, we revisit all four questions in relation to each focus country. While this exercise is not an exhaustive review of policies, it provides important insights to explain existing policies and identify the main policy drivers.

5.1 Anti-Agricultural Bias by Product

Figure 7 provides a snapshot of the market price distortions faced by farmers in 10 of our 12 countries of interest over the last four years of available data based on the Ag-Incentives project. We use the *nominal rate of protection*[6] as our indicator, which as described previously compares the farm gate price[7] for a commodity to a reference price, which is usually a world price.

For each country in Figure 7, the nominal rate of protection (NRP) for the agricultural sector is indicated by a black dot. The coloured bars indicate the relative contribution to the NRP by product, with bars to the right of the vertical axis indicating that the product has a positive NRP, while bars to the left indicate a negative NRP. The size of the contribution of a given product to the NRP depends on the product-level NRP and the size of each product in the value nation-wide of all agricultural production. This measurement approach cannot count products that face such high taxes that they are simply not grown, or only in marginal quantities. If a product is taxed at 100 per cent—an

[6] See *Measuring the anti-agricultural bias information sheet* of a discussion of indicators.

[7] See *Information sheet* on prices for definition.

NRP of -100 per cent—no producer will ever try to produce it: it will thus contribute nothing to the national value of production.

Figure 7 teaches three valuable lessons:

- In most countries, three or four products capture most of the distortions, helping identify where policy reform will have the most effect.
- Most countries have a mix of both positive and negative product-level NRPs.
- At the product-level, the following trends appear: cash crops such as cashew nuts, groundnuts and tea are taxed in many countries. Meanwhile, maize production continues to be highly distorted, though this distortion can be positive or negative depending on the country. Rice is never discriminated against and often benefits from a highly positive NRP—it benefits from the protection of regional Common External Tariffs (see further discussion on this in the next section, at the country level).

This variation in product-level NRP is important. A highly positive NRP for maize, as seen in Kenya, means that more maize will be produced by Kenyan farmers than if NRP were the same for all products. Policy incentives and disincentives to farmers may distort their production patterns and affect their choice of crops to produce, beyond just their decisions on quantities of production.

Farmers specialize by product, meaning that changing the balance of product-level NRP does not affect all farmers equally. Farmers' product specialization will often overlap with demographic variables, meaning that changes to the NRP for one product can cause differential distributional and political economy effects. Differential effects can occur at the following levels and forms:

- Region: different agroecological zones grow different crops (InterAcademy Council, 2004)
- Gender: men and women have different patterns of specialization by crop (Laborde & Lallemant, 2018)
- Ethnic groups: in many areas, ethnic groups tend to specialize in either livestock or crops (Michalopoulos, 2012)
- Small and large farmers: some crops are mainly the specialization of larger plantations, while other are mainly produced by smallholders and sold to local markets (Smalley, 2013)

5.2 Country-Level Diagnostics

This section reviews the 12 focus countries: Burkina Faso, Ethiopia, India, Kenya, Malawi, Mali, Mozambique, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe.

Table 2 provides a set of key indicators used in our assessment of the anti-agricultural bias, measured using the relative rate of assistance. Our focus is on the recent past, centered around 2015, but we also provide value for 2010 to check the trend over the last five years. This assessment of bias also incorporates the rate of protection in agriculture and non-agricultural sectors, with a specific focus on import trade policies. We also indicate recent evolutions in the relative rate of assistance.

Reviewing individual country experiences, we need to check first if the bias is coming from a difference in tariffs (if agriculture is less nominally protected than non-agricultural products) before digging into other measures. We follow this analytical process for each country.

Table 2. Contributions to anti-agricultural bias: selected indicators

Country	**Remove anti-agriculture bias priority** (laborde et al., 2018)	**Relative rate of assistance** (2009-2011)	**Relative rate of assistance** (2014-2016)	**Evolution rra** (over 5 years)	**Nominal rate of protection (nrp)** (2014-2016)	**Role of import tariffs in nrp**	**Mfn tariff - non-agriculture** (simple avg, 2015)	**Mfn - agriculture** (simple avg, 2015)	**Public ag expenditures** (as share of gdp, 2012)
Ethiopia	●●●	-42%	-67%	↘	-61%	low	17%	22%	
India	●●	-21%	-25%	⇢	-18%	low	10%	33%	
Kenya	●●	-16%	13%	↗	20%	high	12%	20%	6%
Rwanda	●	23%	-16%	↘	-11%	low	12%	20%	6%
Burkina Faso	●●	-9%	5%	↗	9%	high	12%	15%	9%
Malawi	●●●	-29%	-26%	⇢	-21%	low	12%	18%	4%
Tanzania	●●	2%	21%	↗	36%	high	12%	20%	
Togo	●●	-13%	-7%	↗			12%	15%	5%
Uganda	●●	-19%	-5%	↗	3.5%	high	12%	20%	3%
Zambia	●●●	-42%	-12%	↗			13%	19%	
Mali	●●●	-28%	-34%	⇢	-26%	low	12%	15%	
Mozambique	●●	-13%	1%	↗	9%	high	10%	14%	2%

Source: Authors' compilation from various sources: Ag-incentives.org; SPEED (IFPRI); TRAINS (UNCTAD); Laborde et al. 2017.

Note: "Remove of anti-agricultural bias" priority is based on the agricultural transformation project. Higher number of dots indicates a higher level of priority.

Ethiopia

Anti-agricultural bias in Ethiopia is driven by very low output prices for farmers, which equates to a large negative NRP while the rest of the economy enjoys significant protection. The average most-favoured nation (MFN) tariff rate is 17 per cent.

This negative NRP is not due to a lack of import tariffs on agricultural products, which average about 22 per cent.

The negative rate of protection on farm products is driven by teff and maize, at three-quarters of the overall cost of distortions, with farm gate prices at about 70 per cent, on average, lower than world prices. These negative prices largely overwhelm other policies linked to government support for agriculture.

Key Sources of Anti-Agricultural Bias:

- Imposition of an export ban for maize intermittently throughout the period reviewed (2010–2015), which penalized domestic producers' prices by reducing total demand for the commodity.
- Market distortions—including asymmetry of information between producers and wholesalers along with unbalanced market power—contributed to a lack of integration of domestic markets with international ones alongside poor price transmission between international and local markets.

India

Anti-agricultural bias is moderate in India. Although agriculture is highly protected compared to other sectors in terms of tariffs—averaging 33 per cent versus 10 per cent—domestic prices are still far below world prices. In 72 per cent of observations (15 commodities considered over 10 years), commodity prices were below export parity prices, with the main commodities being rice, groundnuts and cotton. This is due to the use of export restrictions, meant to protect domestic consumers by keeping these domestic commodity prices low.

Key Sources of Anti-Agricultural Bias:

- Export restrictions, especially in the form of export bans on rice and wheat in the 2000s, kept domestic prices low. Temporary export prohibitions and quotas were also put in place for milk powder, edible oil, peas and pulses.
- Beyond staples, export commodities such as bananas and mangoes receive low producers prices due to policies and institutions that result in a high level of domestic market fragmentation and limited competition.
- Facing low domestic prices, the government initiated a policy of minimum support prices for 23 commodities and subsidies for inputs. These subsidies were mainly for fertilizers, but government support was also provided for irrigation and credit. The government also provided high-yielding seed varieties at a subsidized price. These support measures did not offset the negative effect of the export restrictions.

Kenya

Anti-agricultural bias is present in Kenya, but to lesser degree than neighbouring Ethiopia. On average, agricultural tariffs are much higher than the economy-wide average, at 20 per cent compared to 13 per cent. Thus, anti-agricultural bias is not caused by differentiated tariffs.

Importantly, Kenya has a notable mix of active policies contributing to both pro- and anti-agricultural biases. For instance, a price-setting mechanism for tea creates significant positive support that stabilizes income for producers when world prices fall.

Key Sources of Anti-Agricultural Bias:

- Excessive market access costs within the country, such as poor road networks in rural areas, along with high margins[8] lead to lower prices for producers.
- During the 2000s, good organization of the tea value chain, with monitoring of all stages by the Tea Development Agency, contributed to positive price incentives for tea production.

Rwanda

Rwanda has no anti-agricultural bias. Average protection for agricultural products is 20 per cent, versus 12 per cent for all products.

Key Sources of Agricultural Bias:

- Rice producers are protected by a particularly high tariff— the East African Community Common External Tariff (EAC CET) of 75 per cent for the considered period[9]—and minimum farm gate prices. This allows them to enjoy an NRP of more than 100 per cent.
- Inputs, particularly fertilizers, are heavily subsidized.
- For exported products, an inefficient government price-setting mechanism and high marketing costs reduce producers' price for tea.

Burkina Faso

Anti-agricultural bias is present in Burkina Faso, though it is declining. Average economy-wide product protection is at 12 per cent, compared to agricultural product protection at 15 per cent, so the anti-agricultural bias is the result of other factors.

Key Sources of Anti-Agricultural Bias:

- The temporary suspension of import tariffs in the wake of the 2008 food price crisis reduced price incentives for rice producers.
- Subsidized sales of rice by state agencies lowered market prices and thus reduced price incentives.
- Farmers' bargaining power was low at the wholesale level due to the oligopolistic structure of markets.
- Privatization of the public cotton company, coupled with a price stabilization fund, benefited cotton producers, providing stable prices and moderate incentives.

[8] For the Kenya Tea Development Agency (KTDA) for instance.

[9] The EAC CET on rice has been reduced recently to 35 per cent in 2018. However, partner states use numerous exemptions approved on a year-by-year basis. EAC Gazette Notice No. 8 of 2018.

Malawi

The level of anti-agricultural bias in Malawi is high. Trade policy is not biased against agriculture: the average agricultural tariff rate is 18 per cent, compared to the economy-wide average of 12 per cent.

Key Sources of Anti-Agricultural Bias:

- Intermittent import bans have caused large variations in maize prices. Since 2010, the NRP for this commodity has oscillated between -38 per cent to +42 per cent.
- Minimum support prices for maize for farmers were not effective: maize was subject to -23 per cent of the NRP on average in the recent years.
- Poor rural infrastructure and high trader margins created disincentives for maize producers.
- A significant input subsidy program supports maize production but does not offset the disincentives.
- On the export side, tea producers have suffered from an overvalued exchange rate and a price-setting mechanism that systematically sets prices lower than world equivalents. There is an NRP of -52 per cent.

Tanzania

There is currently no anti-agricultural bias in Tanzania, a strong shift compared to 10 years ago. Agriculture is more protected than other sectors, with an average tariff for agricultural products of 20 per cent, compared to 12 per cent for all products.

Key Sources of Anti-Agricultural Bias:

- The implementation of EAC CET at 75 per cent contributed to price incentives for the rice sector.[10]
- On the export side, intermittent export bans and limited competition reduced farmers' bargaining power, penalizing the maize sector. However, this was partly offset by a government price support program. The NRP has averaged 53 per cent in recent years but has fluctuated by more than 50 points on a year-to-year basis.

Uganda

The level of anti-agricultural bias in Uganda is moderate. Tariffs protect agriculture more than the other sectors, at 20 per cent for agricultural products versus 12 per cent for all products and the structure of border protection is not the driver of the anti-agricultural bias.

A fall in external demand has negatively affected the price of some export products like maize.

Key Sources of Anti-Agricultural Bias:

- As in Tanzania, implementation of EAC CET at 75 per cent for rice largely protected rice production. Rice has an NRP of 70 per cent.
- Restrictions on cross-border trade for animal products has hurt livestock producers, creating a negative rate of protection, in contrast to the removal of such restrictions for most crops.
- Liberalization (dismantling of parastatals) of maize and coffee markets in the 1990s yielded volatile prices but contributed to shifting incentives from negative to positive.
- High market access costs, such as transportation, are still penalizing maize exports.

[10] See also Footnote 19

Zambia

The level of anti-agricultural bias in Zambia is high, yet agricultural tariffs are higher than the economy-wide average, at 19 per cent versus 13 per cent, respectively. Disincentives were particularly high for cotton, groundnuts, tobacco and maize. Export bans on maize are recurring, even if their imposition is temporary. Maize accounts for the largest portion of Zambia's agricultural production value. Its domestic prices are at 68 per cent below the world price, creating most of the anti-agricultural bias.

Key Sources of Anti-Agricultural Bias:

- Producers faced prices below world average prices in the 1990s and the 2000s, mainly due to the monopsonistic nature of agricultural markets and the overvaluation of the exchange rate. Liberalization of the maize market started in the 1990s but was not effective: the market remained concentrated with low competition: in addition, the government continued to intervene in the form of a food reserve agency that manages buffer stocks and is the largest distributor of fertilizers.
- Large input subsidy programs and minimum price systems did not offset the negative effects of other policies. A uniform pricing system has hurt poor farmers in non-border areas by failing to allow geography and domestic market access to be reflected in price.

Mali

Anti-agricultural bias in Mali is high and has been increasing since 2000. There is no bias from tariffs. The average tariff rate for agricultural products is 15 per cent, compared to 12 per cent for all products.

Key Sources of Anti-Agricultural Bias:

- For rice, the introduction of the West African Economic and Monetary Union (WAEMU) CET in the 2000s contributed to incentives for producers, but this was offset by tariff removals in the wake of the 2008 food price crisis, along with price ceilings in 2008–2009 to protect consumer access to food.
- Large input subsidies for both rice and maize contributed to lower production costs; however, poor infrastructure, high transportation costs and illicit taxes (illegal payments linked to road harassment) contributed to lower net output prices for producers.
- The mix of policies lead to varied outcomes depending on the crop, with a positive NRP of 21 per cent on rice and a negative rate of protection of 71 per cent for maize.

Mozambique

Anti-agricultural bias is moderate in Mozambique. Agriculture is protected, with tariffs averaging 14 per cent compared to 10 per cent for all products.

Key Sources of Anti-Agricultural Bias:

- For rice, the depreciation of the local currency vis-à-vis the USD benefited local producers, making imports more expensive. This effect was dampened and even offset by ineffective application of import tariffs (with various import flows avoiding taxation) and input subsidies, combined with low levels of price transmission between international and local markets.
- For cotton, which is mainly exported, a price floor system was set up to protect producers from price drops. However, it also prevented from producers from benefiting from high prices, thus disincentivizing production. A cotton development tax initiated on cotton trade also disincentivized cotton production. Cotton producers lost bargaining power with the reform of the domestic market, which resulted in lower competition among buyers.

Zimbabwe

Anti-agricultural bias is high in Zimbabwe. Agriculture is more protected than other sectors—average tariffs are 14 per cent for agricultural products versus 10 per cent for other products.

Anti-agricultural bias is driven by distortions on groundnuts, tobacco, cotton, soybean and maize.

Key Sources of Anti-Agricultural Bias:

- Marketing boards with monopsonistic practices and low minimum prices drove down producer prices, particularly for maize and cotton, until the mid 2000s.
- A persistently overvalued exchange rate during the 1976–2004 period also contributed to price disincentives.
- Direct assistance through input subsidies could not offset disincentives from the market power and exchange rate.
- Liberalization of agriculture in the late 1990s did not bring the expected benefits in terms of price incentives. Furthermore, the parastatal company that had controlled the maize sector continued to enjoy a monopoly over international maize trading.

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